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THE MISSOURI FARMER

COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE AND THE MISSOURI EXPERIMENTAL STATION

Let's Get Somewhere!

When this issue of The Missouri Farmer reaches our readers the old year will have closed its books and, like the water which has passed over the old mill wheel, will be gone forevermore—a page in the history of the past—a curtain drawn over the joys and heartaches of which it had its full share even as will the New Year upon whose threshold we stand at this moment. From a crop standpoint, so far as Missouri was concerned, it might have been much better—and yet, taking it all in all, we fared reasonably well when we think of those who dwell amid the cotton fields of the South and in other sections of the Country where the scourge of the drouth and insects fell with still heavier hand. But, after all, one of the finest things about life is that ever recurring spirit of hope which enables us to repair the failures of yesterday in the greater accomplishments of tomorrow. Nobody but a coward sulks and gives up the fight. So long as robust health remains there is no such word as fail in the dictionary of the real man—for the victories truly worth while are always bought by toil and sweat and oftentimes with human life itself.

In the beginning of this New Year, therefore, let's you and I realize that we have a real part to play in life—that there is more to it than eating three meals a day and doing our daily tasks in mechanical fashion—that life is a rare privilege which we should utilize by taking our place along-side of those who are doing things—who are making those dependent upon them happy—who are in the thick of the fight from sunrise to sunset and who are making the community in which they live and the World generally better—who are adding something to the sum total of human happiness—who play well their part though the part be obscure and humble.

In the meantime, get it out of your head that the men who win were born lucky. There never was a bigger fool idea or one which has done more to dull the keen edge of ambition. "You are a man of marvelous genius" admiringly remarked a magazine writer to Thomas A. Edison recently. The old grizzled, grease begrimed inventor looked up from his work-bench for a moment and then said with undisguised disgust, "Genius—fiddlesticks! The things I have done have come from sweating and working while other men slept"—and with that he began tinkering away once more at a new storage battery. And so I say to you that back of nine out of ten big red barns in Missouri—back of every fine herd of cattle or hogs—back of every alfalfa patch and well-tilled field in this splendid state is a farmer who thinks—a farmer who takes a pride in his work—who, some years ago, pulled off his coat, gritted his teeth and said, "I am going to win!"—and from the day when the Recording Angel first took up his pen to this hour that kind of men always have won and they always will.

So let's hitch up our belt a notch or two and sail into 1915 with a new-born determination to get somewhere! If there is a mortgage which has been haunting us, let's pay it off—or at least knock a big hole in it—and let's begin by being more kind and speaking more softly to our loved ones in order that they may join in the good fight heart and soul. Then let's take every pig and cow and horse and old speckled hen on the farm into the wholesome conspiracy. Let's all pull together. There's a pile of gold concealed in the soil of every Missouri farm—and hard work, enthusiasm and good judgment will put it to your credit in the local bank. But to win at anything our hearts must be on fire with the love of conquest. We must open the windows of our souls and let the sun shine in—and then the crow of every rooster will be a cheer for victory and the call of every quail a bugle sound spurring us on to the golden harvest fields that are to be.

So let's to work with a hearty zest and a will as never before—and to help you as much as we can, we promise you the finest farm paper from now until spring you ever read. While the storm howls outside—while the children study the lessons they will recite on the morrow—while mother sits contentedly in the old rocker and knits or sews—into the circle of this fireside where love dwells in peace we will come every two weeks with a message which will enable you to plan more carefully and to win more certainly the coming battle of the fields upon which, after all, depends the true happiness of humanity. —By Author of After Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VII JANUARY 1, 1915 NO. 1

WILLIAM HIRTH
PUBLISHER

HOW THE WAR WILL AFFECT AMERICAN AGRICULTURE

By Hon. Ralph W. Moss, Member of Congress, in Indiana Farmer.

The war now raging in Europe, involving the principal nations, presents the greatest crisis in the history of the world. No other convulsion among civilized people can compare with it in magnitude or possible destructive results. Happily we are outside of the zone of physical combat, but our nation cannot escape being most profoundly affected by this great catastrophe. What will be its probable effect on American agriculture?

The answer will in part depend on the duration of the war; but certain tendencies are manifest and it does not require the gift of phophecy to foretell some of the results which will flow from this great struggle. The southern farmer stands to lose heavily and it is not beyond the possibilities that this war will force the reorganization of his agriculture. All agricultural authorities have deplored the stubborn resolution of the average southern farmer to depend upon a single crop for his income. Cotton is the great agricultural staple of that section. This product must seek a foreign market, as less than forty per cent of our crop is taken by domestic consumption. More than sixty per cent of this crop is purchased by those European nations which are now at war. Cotton is also largely produced in Egypt and South Africa. These countries are not included in the war zone. We thus have the anomalous situation that all cotton-producing countries are in peace while the principal cotton consuming countries are at war. The paralysis of the manufacturing industries in the war zone destroyed the market for cotton overnight. The price fell from 14 cents to 9 cents per pound in a day. Practically speaking, there has been no market for spot cotton since the first declaration of war, and the new crop is estimated at more than 16,000,000 bales. The European war has therefore produced the most serious condition which the cotton farmer has faced since the Civil War. The inevitable rise in the cost of living and other expenses incident to the production of cotton only adds to the present disadvantages of the exclusive cotton planter. The government in conjunction with all public spirited men of the south is striving to mitigate this condition; but the normal balance is so greatly disturbed and the baleful influences of the war are projected so directly against the cotton market that no agency can seemingly prevent great losses as measured with normal conditions.

The Situation

Fortunately, for the farmers of the Middle West, every result of this war will be to increase the price of our farm products and thereby enhance the prosperity of our farmers. I have frequently remarked in recent public addresses that the present generations of farmers are the most favored of any men since the day of Adam. I had reference of course to the improvement of transportation facilities; our splendid markets; good roads; improved live stock; improved strains of seed grains; improved agricultural tools; rising prices for land and the wide diffusion of scientific knowledge of agriculture. These manifest advantages were never before placed at the command of an intelligent, self-governed people, but this European crime against the brotherhood of man has largely augmented even these wonderful advantages. The great nations now at war produce essentially the same agricultural products as do our United States farmers. These are the great food staples, without which nations cannot sustain life.

The world faces famine conditions in Europe while we have but a scanty grain supply in the United States.

In meat products, the world is not more fortunate. It is well known that those European countries now at war do not grow a full domestic supply of meat even under their low standard of living. The soldier will consume more meat on the battlefield than he would have done in the shelter of his humble home. It is certain that breeding and milk herds will be seized for slaughter. A sustained war will so diminish brood stocks of animals that Europe can not build up a normal suply of live stock in a generation. At the same moment, we have so depleted our supply of beef animals that we can barely feed our own people.

Turn any way you may, and you will be confronted with a demand for the products of our farms which will exceed our ability to supply for years to come. From this conclusion there is no escape. We are entering a long period of high prices for farm products which no governmental investigation can prevent. The prices of these products must rise until they reach the limit of the ability of the purchaser to pay. We are entering for the first time in the history of our nation a period when the necessities of life are to be measured out to men, not in proportion to their ability to consume, but in proportion to their ability to pay the prices which the hunger of the world will place upon an inadequate food supply. This is the inevitable result of this stupendous crime against the future as well as the present civilization of the world.

In this hour of temptation of high prices, let me urge you not to sacrifice your breeding herds or reduce them below the proper level. Remembr that high prices are here to stay for years and not for days. It is time to enlarge your operations and we should not cripple our future income by selling useful breeding animals even to appease the desperate hunger of the hour. Do not hesitate to go moderately in debt if necessary to enlarge your activities. The next legislature must enact a model rural credits law; we can, however, with perfect safety go forward under our new Federal Reserve act. All legitimate demands of productive industry will be met and there is no possibility of a money panic such as we have been familiar with in the past. We met the shock of this world crisis without a single commercial failure, except among those engaged in speculative buying. The demand is here; prices are good and will grow better; financial conditions are sound; currency will be supplied in ample volume to meet every legitimate demand from industry. It is a time for every man to get busy for he is certain to receive an ample reward for his industry.

Four Wheels—Bigger Yields

YOU CAN have the benefits of better planting and vastly better crops with the **Hayes** Four-Wheel. Every kernel planted *exactly the same depth*—every hill in *perfect* check—an even stand—*surer* germination and *quicker* growth—no missing hills, *no bare spots* in your fields; such conditions will mean *more* corn for you, *better corn, more money.*

This planter is *guaranteed.* It *must* be all we claim and all you expect. 180,000 users verify that **Hayes** Four-Wheels regulate depth of planting to the *fraction of an inch.* Corn all comes up at the same time, allows earlier cultivation, an earlier harvest, a *better quality* and *bigger quantity.*

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Covers where all ordinary open wheels fail—even in wet and sticky ground. Guaranteed not to clog. Short coupled, light draft and turns in shortest space. *Checks with absolute accuracy,* regardless of team's speed. Cross rows straighter than the way you drive.

The **Hayes** Drop *never misses a hill.* Simple, reliable and most efficient. Fewer parts, less breakage and delays. Has no clutch to miss and give trouble. *Never cracks or grinds the seed.* Will drop accurately any size or shape kernel. *No bare spots* in **Hayes** planted fields. No replanting necessary. Increased yields soon pay for it.

Free book "A. P." of Planter Facts tells all about the **Hayes.** Write for it today — a postal, or if you wish a letter, asking any questions on planting problems.

HAYES PUMP & PLANTER CO., Galva, Ill.

head of the State Soils Laboratory. It is of particular value to the Missouri farmer who actually has waste wood to burn.

Wood ashes contain a large proportion of lime which makes them of value in correcting acid soils. Oftentimes land intended for clover or alfalfa can be better prepared for the crop by a top dressing of fresh wood ashes, either hard or soft wood being equally satisfactory. Such a treatment will be of especial value on marshy and sandy soils.

If not allowed to leach out wood ashes are also rich in potash and so form a home source for a much needed element. Practically all of our potash supply has been imported into this country from certain of the countries of Europe now at war which fact has caused considerable concern with many here who purchase in large quantities.

Mr. Whitson sees no reason for alarm over the potash situation. He does not think that the war will absolutely prohibit the importation of potash from German mines for any great period and as he points out the American supply is already being diluted in order to make it last.

Whether or not it will pay to use ashes for agricultural purposes depends upon the distance they have to be hauled. When buying ashes the purchaser should satisfy himself that the material is neither adulterated nor full of coal residue.

GET IT FREE

We are giving Ropp's New Calculator FREE to every farmer or land owner who wants to put up a fence that will last. Ropp's Calculator should be in the hands of every farmer. It will instantly give the correct answer to any business problem that can be settled by arithmetic. We will also send you our free illustrated catalog on

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Which tells you why it is better than any other fence and where to get it. If you want a farm fence that will last, and stay trim and tight the year round, write for these FREE books today. 32

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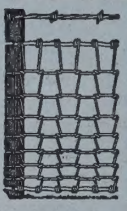

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KITSELMAN BROS. Box 48 Muncie, Ind.

Above-Ground Ice House Usually More Economical Than Cellar Type.

Since ice at best is a highly perishable product, requiring special equipment for its preservation, the farmer who wishes to locate an ice house should take advantage of such natural advantages as are offered by shade and exposure. A shady situation with a northern exposure has a decided advantage as a location for such a building.

In general design ice houses are of three types:

1. Those built entirely above ground.
2. Those built partly above and partly under ground.
3. Those of the cellar type, built entirely below ground.

The above-ground structure is by far the most common of these types.

The advantages and disadvantages of these three types may be briefly stated as follows:

Above-ground houses can, as a rule, be more economically constructed than either of the other designs. Excavations are expensive to make and difficult to insulate and drain properly. Insulation and drainage are two of the most important factors in the preservation of ice. It is true that the temperature of the earth varies less than that of the air, but the fact that the temperature of the earth 6 or 8 feet below the surface remains at or about 55 F. the year round makes it quite as important to protect the stored ice against the earth heat as against the heated air. It is more difficult to remove ice as needed during the season from pits than from structures above ground. Slight advantages are apparent at harvest time in favor of the cellar or the half-sunken types of house, and under some circumstances they are to be preferred to the other type.—Weekly News Letter, U. S. Department of Agriculture.

No Holes To Dig with APEX Steel Drive Posts

SIMPLY drive them into place with a few blows of the sledge while you stand in the wagon. Can you imagine anything easier? What could save you more work? You can save money, too—8 to 10 cents on the setting of each post. With steel posts you can burn fence rows clean—protect your stock from lightning. Write for literature.

APEX Fence Fits Rolling Ground

The swinging joint leaves the line wires flexible. It's easier to put up than any other fence that we know of. Does not bind, buckle, sag or snap. Stays are reinforced to double strength at every joint. Strong, rigid stays and thorough galvanizing make Apex fence last.

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about steel drive posts and building fence the "Apex Way." If your dealer does not carry the Apex line tell us your needs for fence, gates and posts.

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APEX TRADE MARK FENCE

SAVE YOUR WOOD ASHES

Don't waste wood ashes. Apply them, as produced, to acid osils.

This is the advice of A. R. Whitson,

A NORTHERN NUT FARM

The South has its pecan farms; California has its walnut farms, and the New England, Middle Atlantic and North Central states can soon have their shagbark farms, black walnut farms, and filbert farms. In more favored locations, there may also be northern pecan and hardy English walnut farms. We now know how to graft and bud all these trees and it merely needs the finding of the best parent trees. The pecans are already in hand, and there are some very promising English walnuts on the list. We already have one very fine black walnut, and a good shagbark or two. I know of one shagbark tree that has produced $10 worth at current prices. The nuts of that tree come out in whole halves (that is the important thing about these thick shelled nuts), and a meadow full of such trees would support a family. There are doubtless better ones to be found.

If you have a promising black walnut, shagbark, or hazel, send samples of the nuts and an account of its bearing record to Dr. W. C. Deming, Georgetown, Conn. He is secretary of the Northern Nut Growers' Association, an organization that is trying to gather the information to give the North a nut industry. They are offering $5 prizes for best black walnut, hickory, and filbert. Ask your neighbors about it and help America to discover herself. J. Russel Smith.

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The Missouri Farmer

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Need for Better Rural Credits

By Geo. B. Ellis, Managing Editor

What public demand is there for a better system of rural credits? The Missouri Farmer would like to have its readers satisfy themselves that there is a real demand, an urgent necessity for a better plan than we now have for making loans to men who want to buy land for homes; or owners of land who desire to increase the productiveness of the land by clearing off timber, putting in drainage and increasing the fertility; or for the necessary capital to buy the live stock and other equipment for handling the land in a profitable way. In the first place we may say that political platforms usually reflect the opinions of a large number of the people of the country and furthermore, when all the leading political parties of the country declare in favor of anything it is evident that there is an urgent necessity for it. All three of the great political parties asking the votes of the people in the presidential election of 1912 declared in favor of a better system of rural credits. They certainly would not have done this to catch votes unless a large element of voters were demanding it. A large element of voters would not demand it unless there was an economic reason for it.

The Big Farmers' Debt

The fact is the farmers of this country are doing a lot of business on borrowed money. According to the United States Department of Agriculture the farmers of this country were carrying a debt in 1910 of approximately $5,000,000,000. An investigation of the rates of interest farmers were paying in all the states showed the average rate to be 7.75 per cent. This rate included all loans made to farmers—short-time bank loans, farm mortgages, notes for machinery and feed purchased, commissions for renewals, etc. The farmers must therefore pay an annual interest charge of $387,500,000 before their taxes, hired labor, fertilizer, repairs, improvements, living expenses or anything else can be paid for. For the last few months the most widely discussed question in this country has been the so-called "railroad crisis." We have been told that the railroads were losing money. That they could not pay interest on the $20,000,000,000 of capital invested and keep their millions of laborers employed without an increase in rates. But what are farmers to do who are paying an interest rate of at least 50 per cent more than the railroads pay, and with more than twice the money invested? There is invested in the farms and farm equipment of this country approximately $41,000,000,000. If the farmers were allowed only 6 per cent on this vast capitalization it would take more than one-fourth the average value of all the farm crops produced to pay the annual interest charge. Investigation has shown that there are thousands of farms which are not producing a fair labor-income for the operators to say nothing about interest on the price of the farms and machinery necessary to run them. Another class of farms are making the current average labor income with from 1 to 3 per cent on the investment, while few farms show a sufficient income to pay the labor and reasonable interest and have anything left for profit. Does this show a condition that portends a satisfactory and profitable agriculture in the future? Profitable farming is the very foundation of the prosperity of this country and all other industries will languish when the farmer fails if that time should ever come.

Is There Danger Ahead?

Home ownership is an inborn trait of human character. The higher the civilization of a people the better is their protection in the privacy of the home. The control and ownership of land is today the greatest disturbing factor concerning the peace of the world. Governmental control over land for the benefit of rulers and subjects is the real cause of the greatest war in all history—the present war in Europe. The right of individual ownership of land, the right of men to enjoy the fruits of their own hard labor in the cultivation of the soil has been a disturbing factor in the peace of all nations since the dawn of history. The opportunity to own a home and to own the little patch of land he tills has been at the bottom of all the trouble the people of Ireland have had for ages. The right to own land by those who cultivate it is ninety-nine-hundredths of the cause of all the wars in Mexico. And when we realize that in this great country of ours comparatively new in its civilization that less than one-fifth of the number owning farm lands hold three-fifths of all land in farms it is time for us to stop and consider. Is it any wonder our statesmen are concrened about the future welfare of this country? What may we expect in a democratic country where the voice of the pauper in elections is equal the voice of the millionaire if the time ever comes when only a few people own the land? Had we not better study this great question seriously now before that time comes? The United States Census for 1910 disclosed these significant facts: Out of more than six million farms in this country a less number than one per cent (50,135) contain 23.6 per cent of all the land. If we take the three higher groups as classified by size of farm we find that 1,153,605 farms have possession of 516,024,603 acres of land while the other 5,207,897 farms have only 362,773,722 acres. The tendency is towards larger land holdings and fewer land owners and more land operated by tenants. In 1900 the Census figures show that 63.7 per cent of all farm lands was operated by owners, while in 1910 the per cent of owners had decreased to 62.1 per cent. In 1900 the tenant farmers were operating 35.3 per cent of the land but in 1910 they were operating 37 per cent of the acreage. In connection with these figures we should also consider the fact that the relative number of farms covered with a mortgage is on the increase. The number of mortgaged farms in 1910 was 17.7 per cent greater than in 1900, while the number free from mortgage had increased only 4.4 per cent. An increase of the number of mortgaged farms might possibly show a satisfactory condition were it shown at the same time that the relative number of land owners were increasing. That is to say we would consider it a promising outlook if the conditions were favorable for the tenant farmers and the young men who are just taking up farming on their own account to buy land and mortgage it for future payment. But what must we think of the future of our country when the tendency is for fewer land owners and an increase of the number of farm mortgages at the same time?

Millions of Idle Acres

Our wise men have been deeply concerned of late years because so many of our young men of the country are leaving the farm and are drifting to the already over-crowded cities. And well may they be. In all the history of this country the army of unemployed was never so great as it is today. On the other hand we have millions of acres of land in most every state in the Union capable of producing paying crops if put into a good state of cultivation. Then why is it our young men leave this opportunity and drift to the crowded cities? The first reason is that the laws of this country have permitted holding land out of use for speculative purposes. It has been more profitable in thousands of instances to hold land out of production just for its increase in value than it would have been to cultivate it. The time has come when the people of this country should look upon large tracts of land kept idle as a danger to our future welfare.

The first step or at least one of the first steps our government should take is to put land holding on a sound and permanent basis. To do that the poor man who is able bodied and willing to work should be furnished capital according to his needs and his ability to handle it and at such a reasonable rate that he can afford to use it. The theory that the government is founded for the protection of property rights as against human rights is wrong. No democratic government can stand long and prosper without recognizing the superior rights of man over the rights of property. It is not within the province of this article to discuss plans for better farm credits, we will do that in subsequent issues, but we might digress enough to say that we believe that the farmers' credit based on their reputation for honesty and industry if mobilized with the value of the land itself will be an entirely adequate basis upon which we can establish a farm loan plan at a low rate of interest. All that is necessary from either the state or national government is to furnish the supervision that will be a guarantee against fraud and thus without expense to the government a system can be put into effect that will furnish money to our food producers at the lowest possible rate of interest.

Why Better Rural Credits in Missouri?

Now for a moment let us look at this proposition from a Missouri point of view—looking at the proposition first from the side of the state's welfare. There are seventeen or eighteen million acres of timber lands in Missouri. While a large part of these lands should remain permanently in woodland there are several million acres that would be more profitable were they cleared up and put in cultivation. This would increase the resources and the taxable wealth of the state and as a result the state's revenues would be increased. Then there are a good many thousands of acres of wet lands that can be reclaimed and made profitable. True, some of these lands are being improved by corporations and large land holders but if we believe that the welfare of the state depends upon a general distribution of land ownership why not make it possible for farmers to buy these lands on long time loans at a low rate of interest and improve them and make homes for a greater population? It is a well known fact that much of our old farm land is so depleted in soil fertility that before it can be farmed profitably it will have to be built up, and the building up is a slow, expensive process and hence requires long-time loans.

Finally, we ask what are the conditions regulating farm loans that ought to be changed? First, farm loans are made for too short a time. Most loans are made for five years but few are paid off in that time. The renewal of the loan makes the farmer nervous because of the uncertainty of whether or not the loan will be called and also because there is most always extra expense for fees and commissions. Farm loans are made in this state at varying rates from 5 to 8 per cent and there is most always a commission that will increase the rate from one-half to one per cent. So the average current rate in Missouri for what is termed long-time loans is somewhere between 6 and 7 per cent. Under the present system the loan is usually made on the current valuation of the land irrespective of how the land is being farmed. Under a system of state regulation the farmer could be required to follow approved methods of cultivation or the loan could be refused.

Under our present system the borrower of $1000 at 6 per cent interest

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will in the course of thirty years pay out $1800 and still owe the original debt. Under a state regulated system the same payment of 6 per cent or possibly less would pay the interest and extinguish the debt in the same time. It is readily seen that this will furnish encouragement to the poor man, the tenant or the hired man to strive to own his own home.

It is sometimes urged that a low rate of interest will encourage speculation in land values but this is easily controlled by limiting the amount of the loan to any person and to make loans for certain purposes only. The first purpose of a loan should be for the purchase of land, and should be made only to those who will occupy and cultivate the land. When a party already owns land that must be improved to make it productive, such as drainage, clearing forests, etc., loans should be made for that purpose. It would be wise in certain cases to loan money for making improvements, particularly productive improvements such as silos, better barns and deep wells. The amount of live stock and the quality of live stock could both be greatly benefited by more capital and these should be included in the uses for which the loan is to be made.

These facts are before us: The population of this country is increasing faster than production. Under present methods much of our land is growing less productive. Unless we improve our methods and cultivate more of our waste land and make all our land yield more somebody in this country will go hungry. Which shall it be?

A FEAST FOR FARMERS

The authorities in charge announce that Farmers' Week in the Agricultural College promises to be bigger and better than ever this year. The program starts out with a big number the first night and in fact there will be a big number every day of the meeting. President H. J. Waters, of the Kansas Agricultural College, will deliver an illustrated lecture the first night on World Agriculture that will be full of interest and meat for thought for every one. President Waters is a Missouri product, reared on a Ralls County farm, graduated from our College of Agriculture and knows Missouri farm conditions better than any other man we know of. He will give you something to think about all winter. Hon. D. F. Houston, U. S. Secretary of Agriculture, Mrs. Harbert, president International Farm Women's Congress, Miss Louise Johnson, national authority on domestic science, Col. George Woodruff, an authority on rural credits and a host of other eminent men and women will take part in the program.

The State Corn Show has for several years been one of the attractions of the meeting worth going across the state to see and promises this year to be fully up to its past high standard. Regular courses of lectures will be given for men, women, boys and girls and there need not be an idle moment spent by any one for the whole time of the meeting. Remember the date, January 11 to 15.

The Ohio man reports, "a pet bull dog went mad and chewed up a Collie and a fine bird dog." He also writes, "Bliss Cabal, on the Mrs. Geo. King farm, lost two cows valued at over $250, from eating a few leaves of tobacco each." One of the cows died in an hour, the other lived two days and was treated by a skilled veterinarian. Cattle have been known to eat as much as a pound of tobacco and live, and two ounces has been known to kill within an hour.

FOR CHEAPER FARM LOANS

A number of plans are in operation in different European countries to give farmers the benefit of long time loans at a low rate of interest in order to encourage the land operator to become a land owner. Some plan will doubtless be agreed upon this winter by the Missouri Legislature and it is important that whatever plan is adopted that it be sound and also that it can be economically administered. The following plan proposed by Col. F. D. Gardner of St. Louis is presented for the careful consideration of our readers and a plan we think worthy of our most thoughtful consideration:

There shall be established in the State Department of Banking a Bureau of Farm Loans. A director should be appointed by the Governor and his salary fixed by the Legislature, the bureau to be under the direction of the State Bank Commissioner.

The bureau shall receive applications for farm loans, may appraise same, and may appoint in each county in the State a board of appraisers, to consist of county officials who already are in the service of the State. For instance, the County Collector, the presiding Judge of the County Court, and the district State Bank Examiner, the bureau to have the privilege of calling into consultation at any time the president or officials of any bank in any State or county from which the application is received.

When duly accepted and approved by the bureau, the bureau may issue, at convenient periods, quarterly or semi-annually, bonds or debentures against farm loans, not exceeding 50 per cent of their appraised value, loans to be used for the following purposes:

(a) To increase production from said land.

(b) To make useful improvements upon lands mortgaged.

(c) To make part payments of the purchase price, or to pay off indebtedness.

(d) Twenty-five per cent of said loan may be used for purchase of stock and machinery.

No loans to be made except on what is called the amortization plan, and may run as long as 30 years. For example: If the bonds were sold by the State at 4.3 per cent and to this were added ½ per cent of 1 per cent as a guarantee against loss, and to create a reserve, we would have a total of 4.8 per cent. The loan then would amortizise as follows:

Duration	Annuities
5 years	$22.40
10 years	12.40
15 years	9.10
20 years	7.50
25 years	6.50
30 years	5.90

If, therefore, the State sold the bonds for 4.8 per cent, and a reserve of one-half per cent additional, for guarantee and reserve, the loan would mature according to the desire of the borrower on the above basis. It will be seen that if the loan was for 25 years the borrower would be paying only a total of 6½ per cent annually. Or, if for 30 years, then 5.9 per cent annually. The borrower would have the privilege at any semi-annual period of retiring any additional part of the loan he desires and the interest should stop at that period.

State to Put Up $500,000

The State shall advance $500,000, which shall be deposited in the usual State depository, or may be invested in State bonds, the State retaining the interest on deposit or bonds. This fund is to be placed as a capital for the land banks described, or in trust, so to speak, for the guarantee of the bonds, and shall be exempt from taxation.

These bonds may be issued up to 30 times the amount of the capital, which would be $15,000,000. As the reserve increases there may be issued further 30 times the amount of said reserve.

The $500,000 deposit by the State is to remain in trust against the issue of said bonds until the reseve fund, as provided for above, has accumulated to the extent of $2,500,000, the $500,000 then to be refunded in the State, and the rest of the reserve fund to become capital stock, and certificates to be issued pro rata as loans were made to the original borrowers or their heirs or assignees, thus incorporating the idea of co-operation.

After the $2,000,000 capital has been established, and if no larger amount than this is required to issue bonds in the ratio of 30 to 1, as described above, the future reserve, after deducting losses (if any) may be refunded at the maturity of the loan of the borrower. The one-half per cent on the face of the loan charged annually should rapidly accumulate a fund, as there should be practically no losses and no expenses.

Loans should be made for amounts not exceeding $10,000, nor less than $250. Preference should be given to loans under $5,000. By utilizing present State banking machinery, the expenses of the bureau should be exceedingly small—not over, say, $12,000 or $15,000 a year. This amount should be added to the appropriation for the State Banking Department until the reserve had accumulated to the $2,000,000 mark. After that period, if the Legislature, so desired, the expenses of the bureau could be deducted from the reserve fund.

Object Sought by Plan

The bureau should have the privilege of utilizing all of the State machinery now in existence. For instance, the Attorney General's office and the county attorneys for attending to matters of titles and foreclosures, etc.

The object sought and gained by the plan is:

(a) To secure for the agricultural classes money on long time at low rates and small partial annual payments.

(b) Economical administration by utilizing State machinery now in existence and avoiding all overhead expenses.

(c) State management and administration, thus surrounding the investor with absolute security and a continuity of policy which State management would bring.

(d) The lack of necessity for payment of dividends on capital stock, or for profit to anyone.

(e) The prestige given by such a State institution would make the bonds salable in all European financial centers, where similar bonds of other nations are well and favorably known and sell as low as 3 per cent.

To make these bonds attract capital and easy of disposal four changes should be made in our State laws as follows:

First—Registration and guaranty of land titles by the State.

Second—An act which would exempt from taxation all rural and land bank bonds and debentures or capital.

Third—A simplified method of cheap and quick foreclosure.

Fourth—All land-bank loans should contain a waiver of all homestead or other exemptions.

The deposit of farm bonds should be made acceptable as surety wherever security or surety is demanded by the State. They should be recognized as legal investments for guardians, trustees, insurance, reserves, etc.

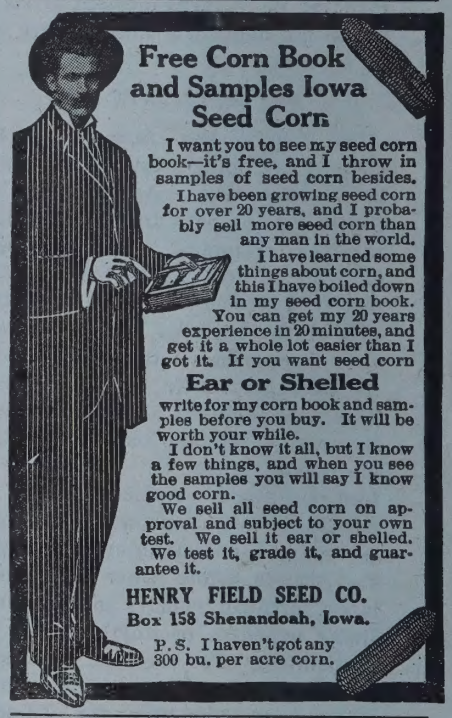
Would Increase Land Use

The above is plain, I believe, along the lines of self-help and, hence, should encourage thrift and the development of our millions of acres of unused, but tillable, soil, as well as for the improvement of the balance of the State, where low rates of interest are badly needed. It would keep the boys on the farms, and would make it possible for large farms to be subdivided through purchase. It would enable tenants to become owners and induce a genuine "back-to-the-farm" movement from the cities, supplying to the city man, who has small capital, additional capital to buy a farm, which he could then operate at a profit.

In addition to all these things, it would place Missouri in the front rank as the pioneer in inaugurating a real, effective farm-loan law. The urgent need of producing food supplies and lowering the cost of living is a matter that concerns the whole population of the State. The State, as a whole, therefore, is justified in inaugurating and putting into motion machinery such as I have mentioned above.

AFTER-THOUGHTS

A group of farmers were standing on the street corner in Columbia a few days ago, chatting about politics, war and mules. They were not dry goods box whittlers, or "hound dog" farmers. On the contrary, they were good farmers and good citizens. As they talked on a prominent local merchant came briskly along and about the time he passed the goup some other man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I have learned some things about corn, and this I have boiled down in my seed corn book. You can get my 20 years experience in 20 minutes, and get it a whole lot easier than I got it. If you want seed corn
Ear or Shelled
write for my corn book and samples before you buy. It will be worth your while.
I don't know it all, but I know a few things, and when you see the samples you will say I know good corn.
We sell all seed corn on approval and subject to your own test. We sell it ear or shelled. We test it, grade it, and guarantee it.
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Handy Steel Wagon
Save high lifts, get lighter draft, prevent rutting, save money in repairs—steel wheels do not dry out or rot. Write today for free catalog on wagons and wheels.
ELECTRIC WHEEL CO., 63 Elm St., Quincy, Ill.

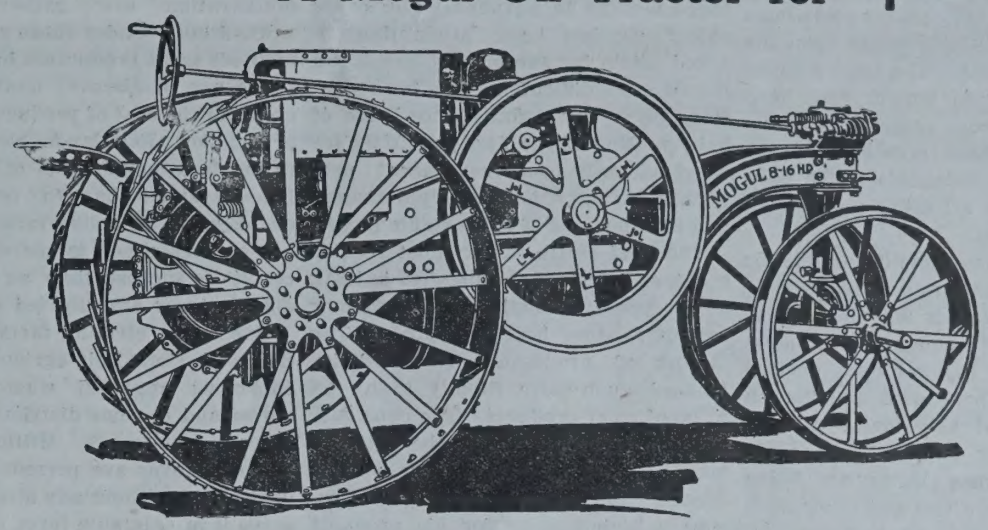
stepped up to him and started to talk to him about a business matter—and with quiet but firm emphasis he said: "I haven't time to talk to you now. If it is important you can see me after the store closes this evening."—and with that he cut a bee line across the street to his place of business.

The eyes of the group followed him and then one of them remarked, "Jones is a hustler, isn't he?" "You bet he is" remarked a stockman who plays the cattle feeding game successfully—"and so is every other business man in this town who is getting ahead and I don't mind telling you fellows that I think we farmers could profit by imitating them a whole lot more than we do. Speaking for myself, I know I kill too much time in town. Instead of putting in half the week in Columbia—pretending to have business which I could settle in a couple of hours most any day—I ought to be out on the farm looking after the live stock and a hundred other things. As a matter of fact, the average farmer takes things too easy. We don't stay on the job long enough or hard enough. We swell up and talk about how hard we have to work, but a whole lot of it is bluff. We may pitch in a little heavy during planting and harvest time, but the balance of the time we do a lot of loafing—and all of you fellows know it. We don't begin to get down to our knitting like the average busines man does in town—and if you don't believe it, just step into any good store or bank in Columbia and see. The men behind the counter will smilingly ask you, 'What can we do for you?' in a manner which plainly implies, 'Talk fast, we haven't got any time to kill.'

"Whenever we get down to brass tacks like the average business man does in town—when we try to make every day count out on the farm like they do at their desks—when we put in our surplus time fixing fences, gates or hauling out manure or filling up gullies and a hundred other things that always need to be done on the farm, we'll begin to have better bank accounts. In other words, we need to regard ourselves more as business men and less as just mere farmers."

As he said these things a sort of guilty smile passed around over the faces of the little crowd—and presently somebody remarked, "Well, I must be getting home"—and one by one they silently melted away. Of course, this indictment doesn't apply to thousands of hard-working farmers—but that it gets mighty close to many of the better fixed ones there is little question.

Our New Year's Announcement
A Mogul Oil Tractor for $675



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It will do all the plowing, disking and seeding.

It will draw manure spreaders, wagons, hay loaders, mowers or binders.

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Any farmer can buy this new Mogul 8-16 tractor for **$675.00, cash, f. o. b. Chicago.**

The man who can use one of these Mogul tractors pays, at this price, the least for which a good, reliable all-purpose 8-16 tractor can be sold.

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PRACTICAL FARM PAPERS—No. 3

Those who write for the farm press often have to write articles somewhat out of season; this for various reasons, and I suggest that all who get this paper too late for "hog killin'" this season, lay this article away for next year, as it is the result of long experience.

We shoot our hogs down before sticking, using a 22 rifle, and we scald in a 100-gallon cask, heating part of the water in kettles and part by hot stones. I see several sets of directions for scalding, and must say, that some are written by those who never helped butcher a hog in their lives, one of these being the man who gives 155 to 165 degrees, as the proper temperature for scalding water.

In many years use of a correct thermometer, we have tried all temperatures from 160 to 200 degrees. The first or 160 will loosen the hair on small hogs after a long time soaking, while it is possible to handle a large hog, on a cold day in 200 degree water without setting the hair or cooking the skin, but that hog has to be handled in a hurry. We find 178 to 184 degrees to be just right as at these temperatures we never have to wait long with the hog in the water, over heating the meat, and we have never had the hair to set. Less than 178 is rather slow in loosening the hair, and over 186 brings the danger line of hair setting pretty close unless the hog is moved pretty fast and exposed to the air often.

As soon as the hogs are cleaned and hung up, they are washed and scraped down twice, using hot water the first, and cold water the second time. We remove the entrails just as soon as we can, and in addition to this, we remove the fat from those entrails as soon as possible after they are out. This year we have more than three gallons of this "entrail" fat from four 350 pound hogs, lard as white and with as little smell, hot or cold, as leaf lard. It only took a little care to save this, and a little extra carelessness could have made axle grease out of about twenty-five pounds of lard, worth 16 cents per pound. As soon as all hogs are hung and the entrails out, we tear out the leaf lard, this especially if the day is not very cold, as it hastens the cooling process, and if it should get suddenly very cold, every farmer butcher knows that frozen leaf lard comes out hard.

When there is little or no danger of the mercury going below 24 degrees over night, and if the dog population permits, we allow the hogs to hang out over night, but this year, with almost zero in prospect, they were split down and removed to the store house. Our methods of cutting up pork do not differ much from those of farmers in general. We always wait until all animal heat is gone before cutting and for thirty years have used a saw in all cases as it does not split the bones as an ax does. We trim all meat close, and instead of making the old style round ham that looks so well, we find that by trimming to the new long shape ham, we can take off several pounds of extra fat. The shoulders are cut close to the blade bone, and on the face, as shoulders keep better in lard and sausage than in any other way.

I read an article a few weeks ago in which the writer said that he did not believe any man, who said that he had never lost a joint of meat in curing. Well, I know a dozen men who have not lost a joint in forty years, and with a memory extending back to 1860, I never recall such a loss on this farm. We lay the meat out flat as fast as cut up and sprinkle just enough salt over it to whiten well. In two or three days we pack it in a box or cask, first covering the bottom with pure salt half an inch. Beginning with the shoulders we rub every piece of meat thoroughly, flesh and skin, sides and shank, and keep this rubbing up until the meat has grown quite moist and salt sticks to it well. As each layer is packed down it is covered with salt, and some worked down in the crevices. The bottom of the cask or box should be inclined a little and at the lower edge a few small holes to allow the bloody brine to drain out. Large meat should lie in this first salt two weeks, then be taken up, old salt knocked off and resalted as at first, allowing it to lie ten days the second time. But small meat, say that from 180 to 210 pound hogs, can be taken up to smoke after three weeks lying in salt, no re-salting being necessary. In an experimental way we have used all the widely exploited sugar cures, dry and pickle, and have never found any to make as good cured meat as the plain dry salt process.

We smoke the old way using maple, hickory or walnut wood, the latter being the wood used by the Clay family in making the famed Ashland ham, and before fly time wrap the meat in paper and sack it, hanging in a cool dark room.

C. D. Lyon.

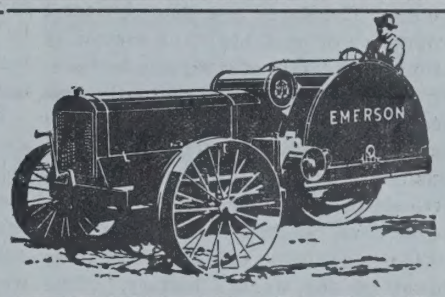
ARE YOU FEEDING WORMS?

Investigation has proved that wormy animals often consume double the amount of food that they should to make gain in weight, and in addition are first to be stricken by dangerous diseases. Hogs are especially susceptible and even though they may have the appearance of ordinary health, they are often loaded with worms.

Many breeders state that worms destroy more hogs than contagious diseases, and it is a matter of record that a million or more lambs are lost every year through stomach worms.

Considering the waste of feed, and the dangers of loss of stock if disease enters the herd, the wise thing to do is to get rid of the worms or they will get rid of your profits.

The Sal-Vet advertisement on page 16 contains a most liberal and unusual offer. You can test Sal-Vet—feed it to your stock for 60 days before you pay a cent for it, in order to prove it is all that is claimed for it. You take no risk whatever in accepting this offer. Sal-Vet is not only guaranteed to rid hogs, sheep, horses and cattle of dangerous worms, but to condition animals so that they will gain faster. All you need to do is to fill out the coupon in the advertisement and mail it direct to The Fell Mfg. Co., Cleveland, Ohio.



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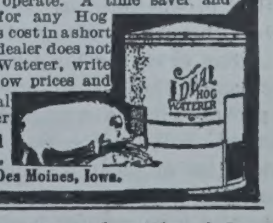
Reduces feeding cost 25 per cent. A Hog is two thirds water. They will drink often in cold weather if they have pure, clean, warm water, easily accessible day and night, enabling them to grow faster, keep healthier and put on more weight with less feed.

IDEAL Hog Waterer Cannot Freeze

Gives constant supply of pure, clean water. Keeps water warm in coldest weather. No Ice to Chop—no worry. An all-the-year around waterer. Durable, Sanitary, Automatic feed. Inexpensive to operate. A time saver and money maker for any Hog raiser. Saves its cost in a short time. If your dealer does not have the Ideal Waterer, write today for our low prices and

FREE Trial Offer



The National Manufacturing Co.,
1709 Locust St., Des Moines, Iowa.

MEAT PRODUCTION ON HIGH PRICED CORN-BELT LAND

Dean F. B. Mumford, College of Agriculture, University of Missouri.

The enterprise of meat production in America until a very recent period has in large measure been based upon the practice of grazing. The total amount of beef and mutton which has been made directly from pastures and forage crops has been greater than the amount of these materials which have been made from all other methods of feeding combined.

This method has made it possible for the American farmer to produce meat at a low cost, and it may be said in passing that for economy of production no method has yet been devised which can compete with grazing on cheap land. But the large grazing areas are being rapidly fenced in farms and grass lands are being plowed for corn, wheat and other farm crops. These lands have rapidly increased in value and while it is true that a large amount of beef and mutton is still produced on grass it is no longer true that these grazing lands are free or extremely low in price.

It is not safe to indulge too freely in sweeping economic generalizations concerning any phase of agriculture at this time. Agriculture and agricultural production is in transition. New conditions and new demands are constantly arising and these require entirely new points of view, and the adoption of new methods. But while we should be conservative we cannot shut our eyes to the progress of events. The facts are that the total production of beef, pork and mutton is falling off in spite of a rapidly increasing demand. There is actually less meat available for human food today than three years ago. The number of consumers has increased rapidly. The methods of slaughtering and curing meats have reached a degree of perfection unknown at any previous period of the world's history. The means of distribution are better than ever before. Every condition is favorable excepting only that of production on the farms.

Why have the farmers of America ceased to produce meat? In the face of an increasing demand and slightly higher prices, improvement in the method of transportation and the general concentration of the meat industry centralized slaughter houses, why have the meat producers found it impossible to continue or expand their business in order to meet this demand? There can be but one answer to this question. **Meat products under present conditions are not relatively so profitable as are other farm enterprises.** If beef products were today as profitable as grain growing there would be no scarcity of beef. This is a very simple answer and I believe is correct, but the reasons why beef production is now relatively less profitable than other farm projects is not so easy of explanation. Still more difficult is it to point out demonstrated methods of production which will insure fairly uniform and satisfactory economic returns.

Beef production may be made profitable either by insuring to the farmer a higher price for his products or by decreasing the cost of production. It is probable that a combination of both methods will be necessary before the enterprise of meat production on the American farm can become re-established on a permanent basis.

In an attempt to analyze the particular reasons which have led farmers to abandon in a large measure the production of meat animals we must recognize the fact that the instability of the market is a prime cause. It has never been possible for the cattle feeder to predict with any degree of certainty the price of fat animals, even three months in advance. The cattle raiser who has been attempting to breed cattle for the market has found it still more difficult to base his operations upon any definite knowledge of values. One of the first essentials for a permanently prosperous meat producing industry is the establishment and maintenance of more stable prices.

The beef cattle raiser must receive a higher price for the finished animal. Under present conditions, the farmer cannot produce beef at a profit. The factors of production have all increased much more rapidly than the price of meat products. The chief factor in beef production is the value of land. Land has doubled in value in a decade. Just how the farmer is to secure a higher price for his products without raising the price to the consumer is a question which is not the province of this paper to discuss. But it may be said that there is evidence to show that if the cost of distribution could be more equitably adjusted, the farmer might receive a higher price for his products without raising the price to the consumer. The farmer is not receiving a fair share of the price which consumers are required to pay for farm products.

It is also true that not all meat producers are following the most economical methods of production. It is certainly true that the practice of many farmers can be improved. Meat can be produced at less cost by employing methods which are well known but not universally practiced.

In attempting to discuss methods of decreasing the cost of production I should like to refer again to a statement made previously in this paper that the cheapest meat produced in America and other sections of the world has been and is now produced on pasture. The Argentine farmers are able to successfully compete with the American farmers because Argentine beef is produced primarily in connection with a system of grazing. This fact is significant, and we may well ask ourselves the question whether or not the value of American lands has increased to a point where we cannot longer consider grazing as a permanent system of agriculture. It is not necessary for us to assume that the highest priced lands should be seeded to grass in order that we may largely increase the grazing area and utflize the areas so developed for the purpose of meat production. It goes without saying that on the highest priced lands grazing must be abandoned for more intensive methods of agriculture. There are millions of acres of unimproved land in the Corn Belt states. At the present time, notwithstanding the high prices received for agricultural products, these lands still remain unimproved. In most cases they have remained in this condition because their cultivation would be unprofitable. Either the soils are covered with brush or timber, are too low in fertility, too rocky or for some other reason they are not cultivated. Most of this land could undoubtedly be developed as grazing land. The prices at which this land can be purchased are generally low enough, so that it would be a profitable venture to develop them as grazing areas. It seems to the writer that one of the most promising fields of agricultural endeavor in the Corn Belt states at the present time is the development of the unimproved areas for grazing purposes.

On the higher priced lands of the Corn Belt region the systems of farming are fairly well determined. The methods of farm organization and administration are rather definitely worked out. Under these systems and methods meat production has declined. If we are to discover methods of decreasing the cost of production on high priced Corn Belt lands, we must look rather to a modification of well established systems than to revolutionary changes. The conservation of our present resources is more certain to result in success than an attempt to discover new and untried methods.

One of the striking facts in connection with Corn Belt agriculture is the enormous apparent waste of corn stover and in some districts straw and other coarse forage. Millions of acres of corn stover are permitted to stand in the field without any attempt to preserve it in palatable form. If this material could be preserved and used for production of meat on the farms it would add very largely to the present supply without largely increasing the cost of our present farm systems.

Corn stover is, however, a coarse roughage. It is relatively innutritious. It is unbalanced and not wholly satisfactory from the standpoint of the best interests of the individual animal. It will, however, maintain animals in good condition during the winter season. The amount of corn stover that is now practically wasted in the stalk fields of the Middle West would successfully maintain in a satisfactory manner millions of cattle during the five months' winter feeding period. This material is the one greatest single asset in increasing the supply of meat products.

A general introduction of the silo in the Corn Belt region would result in materially increasing the supply of meat products. As the result of many years of experience with the silo I think it is a conservative estimate to say that an acre of corn preserved in the silo will on the average produce from 20 to 25 per cent more beef or mutton than will the same area of corn preserved in the ordinary way. A much wider use of the silo therefore would undoubtedly result in decreasing the cost of meat production in the Corn Belt states.

In using the cheaper materials for the production of live stock it will be necessary for us to modify somewhat our present systems of farming. It will also be necessary for us to emphasize the fact that the farmers' problem is not always to provide the most satisfactory conditions for animals, but a more fundamental problem is how to most profitably utilize all of the material resulting from the cultivation of the soil. If we consider his problem from this point of view, it may well happen that the most profitable methods of live stock production may not be those which produce maxium growth of maximum fat in a given period, but rather methods of production which will utilize the cheap, coarse products of the farm.

Instructors in animal husbandry in the agricultural colleges and the agricultural press have emphasized such methods of live stock production as shall result in surrounding the animal with the very best conditions for development and growth. The large use of silage, corn stover, straw and other similar products may not result in producing maximum growth or even normal growth but they may be so utilized in the production of meat that a very large increase will result in the total supply of beef and mutton along with an increase in the profits from farming. In this connection I desire to call your attention to an experiment conducted at the Missouri Experiment Station by Dr. P. F. Trowbridge and the writer, which has an important bearing upon this question. In this experiment two beef steers were used, one of them fed generously from birth to 42 months of age, and the other kept on a maintenance ration from two months to twelve months of age and fed generously until 38 months of age. The steer that was generously fed weighed 902 pounds at twelve months of age, while the steer that was fed on a maintenance ration until twelve months of age weighed only 213 pounds. The animal fed on a maintenance ration for ten months suffered severely from an insufficient supply of food. At the end of the period this animal showed symptoms of starvation. It was necessary to feed more generously to save the life of the animal. It is interesting to note that this particular animal had been subjected to adverse conditions more severe than would be at all usual on the average farm. The emaciated condition of the animal and the clearly insufficient supply of food resulted in stunting the animal.

If stunting the animal early in life destroys its capacity to grow or permanently retards its full development then this animal should have shown evidence of incapacity to grow and of permanent retardation of growth.

The facts are that the animal maintained on a low plane of nutrition when supplied with a generous ration for the second 12 months' period of its life gained 841 pounds in weight in one year as compared with a gain of 500 pounds made by the animal fed on a generous plane of nutrition during the same period. The total weight of the animal on a low plane at 24 months of age was 1054 pounds. The total weight of the generously fed animal at the same age was 1401 pounds. Estimating the prices of food on the same basis the total cost of food for the animal fed on a low plane was

(Continued on page 11)

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WHY THE AVERAGE FARMER DOES NOT MAKE MORE MONEY

So many factors enter into the consideration of this question that I do not think it likely that any one man can answer it accurately and satisfactorily. However, a summary of all the replies received to this question is likely to prove very instructive.

If I were called upon to answer this question with a single statement, I would say that it is due to lack of training and preparation for the business of farming. For it has truly been said that "A good farmer makes a poor farm better and a poor farmer makes a good farm poorer."

As manager of his farm, the farmer is called upon to solve many widely varying problems; and upon his ability to solve them correctly depends, in a large measure, his success.

"Experience is the best teacher," but the experience of the farmers of a state is worth more than the experience of those of a single neighborhood; and of the world, more than a single state. Failure to study and profit by the wider field of experience is one of the reasons for the small profits in farming.

Each farmer must decide for himself the kind of farming in which to engage; if he decides upon a system that is not adapted to his location, it will not be profitable. Or he may change, without good reason, from one system to another and thus have a lot of worthless equipment left on his hands. Lack of a definite system and plans for long time results often cause loss.

A system of farming that does not provide employment for the owner and help during the entire year may result in smaller profits. Dairy farming gives steady employment, likewise a steady income and the price of dairy products varies less than any other farm products.

The value of Wisconsin's dairy products exceeds the combined value of the gold output of Alaska, California, Nevada and Colorado.

A system of strictly grain farming often forces the farmer to sell his crop at low prices. Much of the 891,950,000 bushels of wheat raised in the United States this year was sold for less than 70c a bushel.

Failing to practice a rotation that includes a legume crop every three or four years, and failing to use lime on land that is too sour to grow legumes, is one reason for small profits.

Not knowing, or not fully understanding all of the conditions necessary for growing maximum crops is another reason.

Loss results from not saving and caring for farm manures; also from not re-enforcing manures with low-priced carriers of phosphorus.

In all systems of live stock farming, training and good judgment show on the right side of the ledger. Many small profits result from giving good feed to animals that are not built for profit. The scrub sire, whether pure bred or a mongrel, is a profit destroyer. Much loss results from not feeding a balanced ration or from depending entirely upon home grown feeds when the same amount of nutrients can be bought much cheaper. Feeding beef or dairy cattle without silage is one way to lose the profits. On many farms much feed goes to waste that could profitably be converted into wool and mutton. This year, on my father's farm, 23 Shropshire ewes brought a gross return of $253.

Some of the factors that make the average farmer laugh at the income tax are beyond the control of the individual but can be controlled by cooperation. Injurious insects cause enormous losses; losses from hog cholera often wipe out a season's profits. Feeds and fertilizers bought at retail come high. Shipping produce without being graded, and shipping on a glutted market result in much loss. Not being able to borrow money, for legitimate productive enterprises, on terms as favorable as those given to the large corporations, results in small profits for many farmers.

Failing to make social conditions in the country as attractive as those in the city results indirectly in small profits. The farmer who gives himself and family no time for recreation will eventually find his profits on the wrong side of the ledger, likewise the farmer who gives so much time to recreation that he neglects the management of his farm.

W. W. Lewelling,
High Hill, Mo.

HOW TO GET A STAND OF CLOVER

A short time ago I wrote an article for The Missouri Farmer suggesting to my brother farmers to keep more stock and more grass as a means of getting a better return from their land. I will tell you in this letter some of my experiences in securing a stand of clover. In the spring of 1882 I bought a farm on the Two Mile Prairie of Boone County, which is a little heavy and is inclined to "spew" or heave up with both wheat and clover. I decided to sow one of my fields to clover and accordingly I bought some seed. Just as I was starting to sow it one of my neighbors a well-to-do and big land owner came riding by and asked me what I was doing. I told him and he said, "My goodness, John, you are throwing your money away. Clover won't grow on this prairie. Take it back to town and swap it for timothy." Now clover seed was very high and money about the scarcest thing I had at that time, so I quit sowing but in the afternoon I went back to the field and finished sowing the seed.

Fortunately I secured a fine stand. The next year I cut a fine lot of hay and later cut a seed crop of four bushels per acre. My friend who advised me not to sow it bought $50 worth of seed and his son-in-law the same amount.

That was 30 years ago and I have never been without some clover until this year the drouth was too much for it, although I cut two crops last year. I know that my land is better than it was then and raises bigger crops. I have bought but little commercial fertilizer and don't feel it necessary where enough clover is grown. Besides I find clover a paying crop both to cut and to graze. I have had several fields to stand six or eight years but to do this it must not be grazed too closely. The second crop should be allowed to ripen and eaten by any kind of stock thereby leaving much of the seed on the ground. As a hog pasture clover is excelled only by alfalfa.

As to the time of seeding there is great difference of opinion. If I knew the weather would be dry enough to cover the seed in April or May with a harrow I would prefer to sow at that time, but our spring months are often too wet for that and I have adopted the plan of sowing in January or February, allowing the freezing and thawing to cover the seed. There is very little danger of freezing damaging the seed for freezing does not hurt clover seed until the weather is warm enough to sprout it. I have never failed to secure a stand since I adopted this plan, however, last spring's seeding after getting a fine start was killed by the excessive hot and dry summer. For pasture I would recommend equal parts clover and timothy. Orchard grass is good and while it is not relished as much by the stock as timothy or clover it remains green later in the fall and is a little earlier in the spring. I have been trying to grow alfalfa with poor success but I have now a small field that I believe is all right. I cut two crops from it this year and it has gone into the winter in good shape, the ground being covered with a good growth of late grown hay. Clover seed is very high now and many men are refusing to pay the price which I think is a great mistake as a bushel of clover seed can be made to cover more land than any other kind of seed and I don't feel that it is ever too high to justify our not using it for when we buy clover seed we buy fertility and the richest and best feed for young and growing stock.

J. S. Bedford,
Boone County.

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12 " 279.80
16 " 378.70
22 " 483.15
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Handy to operate—lightest running. 10 sizes: 2 to 25 h. p., capacity 6 to 200 bushels. Conical shape Grinders. Different from all others. Also make Sweep Grinders.
Write for Catalog and folder about the value of different feeds and manures.
T. P. BOWSHER CO.
South Bend, Ind. 30

EIGHT EWES KILLED BY DOGS

The Missouri Farmer:

I have just finished reading the December 1 number of The Missouri Farmer and write to say a few words in defence of your proposed Dog Law. Also to compliment you on the many really good things contained in this number.

I own a flock of 117 ewes, which I keep for the purpose of raising early fat lambs, and have always felt secure from dogs if the sheep were well corralled at night. However a few weeks ago three dogs got into my flock in the afternoon and killed eight head and tore the ears off several more. These ewes were all pregnant, three with twins. Last June I sold my lambs at home for seven cents and they averaged 90 pounds. I also raised over 100 per cent, so you see my possible loss is considerable, and I have paid a heavy dog tax. A few more raps like this would put me out of the sheep business.

I am not the only loser from prowling dogs around here. A man near owned a dog of this kind and this dog went one night a few miles where hogs were dying with the hog cholera and ate what he wanted then brought home a chunk of cholera hog for breakfast. Soon this man's hogs were sick. Another of these prowlers went mad last week and bit a little boy in the face before it was killed. The father of this boy sent the dog's head to Kansas City and the report came back that the dog was affected with hydrophobia, so this father had to hasten to the city to save his boy's life.

Does it not seem strange that these dogs are of more value than our sheep or our hogs or even our boys and girls? For they are a menace to the children who have to travel generally on foot to and from school. Let us have the dog law as proposed. Perhaps it has too many teeth the way it stands and may have to be modified some to get it through.

Right here I would suggest that The Missouri Farmer will tell us just how each member of the Legislature votes when the law comes up. And let us have at least a good dog, pure seed, and stallion law. I could give some examples favoring the pure seed law but I have already spread over to much paper.

J. B. Johnston,
Barton County.

THE MISSOURI FARMER

Devoted to Better Farming, Better Farm Homes and Better Citizenship.

Vol. VII January 1, 1915 No. 1

William Hirth - - - Publisher
Geo. B. Ellis - - Managing Editor

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Subscription Price 50 Cents a Year in Advance

The date on the address label gives month and year to which subscription is paid.

Agents Wanted. We want some one to represent us in every community and make up clubs for which we will pay liberal commissions. Write us for terms and sample copies.

We solicit communications from farmers and members of the family on timely and practical subjects. Photographs illustrating farm life or plans for buildings, live stock, etc., are appreciated.

To render service is our aim and we will endeavor to answer all pertinent questions or have them answered by competent authority. When answer is desired direct, always enclose stamp.

Entered at the postoffice at Columbia, Missouri, as second-class mail matter.

We wish you a happy New Year.

—o—

A man to be real happy must be prosperous and to prosper he must be willing to use all the means at his command.

—o—

It is now too late for best results to select the seed corn but it is better to select it now than to wait until spring. Every ear should be tested for germination so the farmer may know he is planting good seed.

—o—

How many of our readers know how much profit they made last year? Whether it was profit or loss it would be real interesting to know how much it was and what caused it. Right now is a good time to take an inventory of what you have and what you owe and at the end of the year you will know whether it is loss or gain. A little bookkeeping would show what caused the loss, may be, and then you could cut that item out next time.

—o—

There has been a whole lot of progress in farming in a hundred years but there will be more advancement in the next century. The Indian could make a hole in the ground with a stick and plant his corn but he did not expect much corn. When the Indian's corn failed he got his living fishing and hunting but we have past that period. We have better seed and better machinery to work with than the Indian had but we are cultivating the same old soil and most of it is a whole lot poorer now than then. Our future success in growing crops will depend upon our ability to make the soil richer, to improve the varieties of seed and to learn how to work the soil to best conserve moisture and fertility. Farming in the future will be a full sized man's job and only the fellow who is willing to accept the best of the world's discoveries can hope to succeed.

—o—

When the local road officers are not doing their full duty it is a good idea for the neighbors to get together and talk over what is needed in the way of better roads for the district. It will work wonders for a few men to go before the township board or county court and ask that the road money be spent intelligently. It will help if the delegates are ready to say to the officers that the local community is ready and waiting to co-operate for better road work. Few road officers will ignore a petition of this kind. We are spending a lot of money on Missouri roads that is not doing anybody any good, at least, it is spent in a way that we get no lasting benefit from it. Suppose the readers of The Missouri Farmer resolve that for the year 1915 they will use their best efforts to get a dollar's worth of work done for every dollar spent on the road. In order to do that the first step is to stop building wooden culverts. Cement culverts cost a little more but when built right it is for all time to come. Three years ago one district started along this line and today one hundred and fifty culverts have been built and only about thirty more to build then that expense will stop. Other districts can do as well if they will just make the right start.

—o—

Another matter that might be put under good headway by a very few people for the great good of most country neighborhoods is the movement for a rural high school. For a long time farmers thought a good high school in the country was impossible but in a great many places they are proving it can be done and we are pleased to say several of these places are in Missouri. It is a big expense for many farmers to send their children to city schools, and then anyway the city school is not always the best place to send a country boy or girl. As a consequence not many of the children from rural districts get to go to school farther than the eighth grade. The remedy is the rural high school where the boys can keep up their farm experiences and the girls have the protecting influence of home training while getting their high school work. The state Legislature will appropriate a lot of money this year for various purposes and if those interested in the rural school would have a rightful share of the money go to the support of rural high schools they must make their influence felt when the Legislature meets. The University and the normal schools have their budgets already made up and they will not be stingy about what they ask for. We are not offering any criticism for the boards governing these state schools for asking for money for extensions, improvements and support because these great school are a necessary part of our educational system. The schools that train the teachers for high schools and rural schools ought to be made the very best but while we are doing that we want to see the poor man's school keep pace with them. The last Legislature made a splendid start in giving aid to weak country schools and for rural high schools and the farmers should be just as ready to demand improvements for these schools as the boards are for the higher schools. The Legislature will appropriate all the money in sight, so it is necessary that we take an active interest and let them know what the people really want in order to get the best use of our own money.

In all matters of this kind it is better and will be more effective if neighborhoods will get together and discuss these questions and agree among themselves before the appeal is made to the lawmakers. It is better to act now than it will be to remain silent and criticise your member of the Legislature after it adjourns.

It is time now to begin to think about your supply of seeds for the spring crops. We have repeatedly shown that it pays to sow only the best and heaviest oats but how many of our readers select their oats any other way than with the scoop shovel? In our issue of February 1 we will discuss the best methods of oats seeding and will appreciate a report of any successful plan our readers may have used. What have been your results with drilling, broadcasting, disking and with using the fanning mill and treatment for smut?

We would like to have the experiences of our readers who have succeeded in making money out of poultry. When the poultry product of the state reaches the grand total of $50,000,000 a number of people must be making it pay and the nice thing about it is the more people we have who make the business pay the better will be the business. That is why we want you to write us and tell the readers of The Missouri Farmer how you make money out of poultry and eggs. Here is how it helps you: Your articles give you a wider reputation, and will help to advertise the poultry business of the state. The bigger our business the more competition in buying and if our product is first class it will soon command a premium.

A WORD TO OUR READERS

When we commenced the publication of The Missouri Farmer six years ago, we started out to give the farmers of this great state what they had never had before— a high class farm paper **of their own,** edited by Missourians who have a first hand understanding of Missouri farm needs and conditions. For years the farmers of Missouri had been without a publication of this kind—and they had to depend upon farm papers published in other states which often advocate ideas not suited to Missouri conditions. Every great Agricultural state needs a great Agricultural paper, which is exclusively devoted to the upbuilding of its crop and live stock interests—a paper which is ably edited, which understands the peculiar problems which confront its readers and which stands out squarely for progressive methods in every department of Agricultural activity. It would be impossible to measure the good which such fine farm papers as Wallace's Farmer or the Ohio Farmer have done for the farming interests of Iowa and Ohio—for these splendid publications are found almost universally in the progressive farm homes of those states and it is this state loyalty and support which made it possible for them to develop into the great publications they are today.

That the Missouri Farmer is beginning to fill this field in a powerful way in Missouri—if the hundreds of commendatory letters we receive are a true criterion is unquestionably true—but what we need at this time is the support of **every one** of our readers and to this end we appeal to **you** to send us a dollar bill at our risk for three years subscription **by return mail!** On January 10th, we will send out a letter to every reader whose subscription is in arrears and if we receive your remittance before that date it will save the postage for us and the annoyance to you. To this end, whether you originally subscribed for the paper yourself—or whether some friend sent to to you **—please send us your renewal promptly**—or, if you don't care to receive the paper any longer, drop us a postal card when we will stop it, for we do not wish to force the paper onto anybody.

For sometime, Mr. Ellis, the Managing Editor, has been conducting an inquiry on "Why Doesn't the Average Farmer Make More Money?" —and during the balance of the winter we believe this inquiry will develop into the greatest discussion of the kind that has ever appeared in any farm paper in the Country—and since it will be participated in by many of the most successful farmers in Missouri who will tell their views and experiences in their own way we feel sure that every thinking reader will find The Missouri Farmer more than ordinarily interesting during January, February, March and April when it will be devoted very largely along these lines.

The great European war will perhaps produce the highest price for the products of our farms during the next year or two that the American farmer has ever known—and if there ever was a time for the farmers of Missouri to try to make the most of their opportunities it is **now!** If there is a mortgage that is worrying you, you will never have a better chance to pay it off than during the next two or three years—and that The Missouri Farmer will be able to contribute substantially toward your success if you will give it an untrammeled opportunity there is little doubt.

The Missouri Farmer is preparing to make a powerful fight before the coming Legislature for a Farmers' Land Bank which will give the farmers of this state an opportunity to borrow money at lower interest rates and on a long time amortization plan. Are you not keenly interested in this question? So, too, it will urge a number of other matters vitally important to farmers generally. As a thinking farmer, can you afford to be without the paper which **leads** in these matters in Missouri—especially when it only costs you 33 1-3 cents a year?

Furthermore, The Missouri Farmer tries to stand in truth for "Better Farming," "Better Farm Homes," and "Better Citizenship." It breathes a sentiment of hope and tries to point the way to the finer and loftier things of life—as well as to give reliable information on all pertinent farm subjects. The things it stands for are good and wholesome for your son and daughter—for everyone who wishes to get not merely the highest profit but the greatest happiness out of farm life. It is our desire to build up a "Big Missouri Farmer Family"—a bunch of men and women who stand for the best there is in the rural life of this great state—and we need **you** in the circle. We have great plans in hand for 1915—but we need **your** help. To this end, please send us a dollar bill by **return mail!** The label on your paper tells when your subscription expired. Thus, if the label reads Nov 14, it means that your subscription expired in November 1914. **Surely every progressive farmer in this great state should take the only real Missouri farm paper published in Missouri!**

With best wishes for a happy New Year for you and yours, I am for "Big Crops" in 1915.

WILLIAM HIRTH, Publisher,
THE MISSOURI FARMER, Columbia, Mo.

P. S.—Be sure to send in your renewal before January 10.

BUCKSHOT BY THE PROFESSOR

Here's to you and yours during the year that is to come.

With greens to pull me through the summer and rabbits to feast on in winter the "high cost of livin'" can go way back and sit down so far as I am concerned.

If self binders, cultivators, plows and harrows could talk, the things a lot of them would be saying these wintry nights wouldn't sound well at a prayer meeting.

Some men take better care of their horses than they do of their families. Then there are a lot of others who don't take any care of their horses or families either one.

Old man Zero has my consent to do his worst. I'd rather have my bunions go on a strike than to have to fight army worms, hessian flies and chinch bugs all next summer.

When you see a farmer lugging home packing house hams and bacon you can bet your hat that he's one of the kind who insists that there "ain't no money in farmin'"—and there isn't for the fellow who sells hogs at 7c and buys them back at 25 and 30 cents.

Bears never work during the winter time. They eat a lot in the fall and then curl up in a hollow tree or a cave, go to sleep and don't wake up till spring. A lot of farmers "curl up" and quit working in the winter time too—but the trouble of it is they don't stop eating.

It takes a lot of different kinds of people to make a world sure enough. For instance, I saw some men arranging with Santa Claus to deliver kitchen cabinets, new bed room suits, dinner sets, furs, etc., as Christmas presents for their wives. Then I saw some others who were lugging pasteboard boxes which looked like they might contain about a gallon of "personal liberty."

Here's a happy New Year for mother, the kids and the "old man" who, for all his faults, is the salt of the Earth—for it's up to him to keep up the interest on the mortgage and to provide coffee and sugar and shoes and clothes for the whole bunch. May the New Year be full of happiness for all of you and may the local pill distributor have to "take to farmin' for a livin'" is my ardent wish.

Let's put in the long winter evenings from now on by doing a lot of reading on better farming methods. Let's see if we can't knock a big hole in the mortgage next year. The foreign war is going to mean a big price for everything the farmer produces—but unless you produce a surplus beyond your own needs it won't do you any good. So let's roll up our sleeves and see what we can do.

Here's hoping that old Santa Claus didn't forget mother at "you all's house"—mother who is usually the first one up in the morning and the last one to bed at night—mother who is never too tired to soothe your aches and mine—to speak kindly words of encouragement when others frown—mother who does more to make the World truly beautiful than any other single influence in the universe.

Suppose, among other things, we start into the New Year by sending The Missouri Farmer a dollar bill for three years subscription? Ought not all of us take pride in building up one fine, big Missouri farm paper? Certainly a paper like The Missouri Farmer is worth the small sum of 33 1-3 cents a year? You can get that much good out of a single issue if you try. If all of us would send the paper a dollar it would be a mighty fine New Year's gift—and I know the Publisher and Editor well enough to know that they would then give us one of the greatest farm papers in the Country. Now suppose we all do this today—for when we put a thing off we frequently forget it altogether.

A Telephone Pays—Every Hour

It pays in MONEY. It pays in PLEASURE. It pays in TIME SAVED. Put in a telephone, and you can talk to your friends' homes in the evening for a social chat, or get the doctor *quick*, or call for help. You will never feel lonely or "away off" if you have a telephone. In the daytime you can call up the town and find out latest prices for crops, order supplies, ask the railroad about shipments, or talk over matters with neighbors. Why be isolated, cut off from everybody, when a

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will put you "next door" to everybody, and save long drives through cold and wet. A FEW DOLLARS buys all this convenience. A FEW MINUTES' TIME taken to write us on how to secure good telephone service will put you in possession of full information. Write nearest house below and mention this paper.

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EQUIPMENT FOR EVERY ELECTRICAL NEED

JERSEY CATTLE BREEDERS MEET

The Missouri Farmer is pleased to see the progress that has been made by the Southwest Jersey Cattle Breeders' Association which body held its second annual meeting in Kansas City on December 19. Space forbids a complete report of the meeting but the following summary is given: The association urged generous support for the State Dairy Commissioner's office and recommended the plan of putting in operation local co-operative dairy associations. Also expressed the appreciation of the association for the work E. A. Ikenberry, county farm adviser of Jackson is doing in organizing cow testing associations. It is proposed to hold a dairy exhibit in connection with the American Royal Live Stock Show in 1915. The association favored the passage by the next Legislature of a pure seed law, a state statistical law and a law regulating the sale of commercial feed and condimental stock foods.

The association includes in its territory all territory adjacent to Kansas City and there is no other place in the United States better adapted to dairying than this section. In the heart of the grain belt and the alfalfa center, with splendid pastures and good water and a mild climate and good markets, what more is needed except that the farmers of this territory shall be awakened to the opportunity for money making both in producing dairy products and in breeding dairy stock?

The trouble is we have depended too much upon individual effort and not enough on co-operation and we are glad to see this association take the lead it has for organizing the dairy work. The president of the association is M. M. Sweetman and the secretary, J. M. Axley, Kansas City, Mo.

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An Engine For The Farm, Mill, Elevator, Lighting Plants, Etc.

Manufactured by one of the oldest, largest, and best manufacturing firms in U. S. Every part made of best materials and tested in our own factory. Every engine passing factory test must show liberal margin over rated horse-power.

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SIZES: Kerosene, 3 to 25 H. P. Gasoline, 1 to 25 H. P.

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Engine weighs only 190 lbs.

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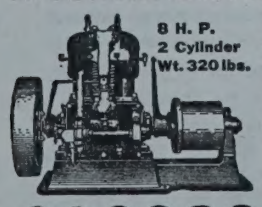
No jerky, explosive hit-and-miss running. They are the **most useful engines** for farm work, as they do everything the big fellows do and so many jobs big engines cannot do. May be attached to binders and other machines as power drive. Equipped with Schebler Carburetor and Friction Clutch Pulley. **Not a cheap engine**, but cheap in the long run. Sizes 4 to 20 H. P.



Before buying any engine, better investigate light weight engines. Ask for free Engine Book.

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READ OUR ADVERTISEMENTS

Read the advertisements in The Missouri Farmer carefully for they deal almost altogether with things designed to make farming easier and more profitable. Write to the advertisers and ask them to send you their literature. A postal card will bring it to you—and nearly all of it contains information of great value. An up-to-date farmer needs up-to-date tools and implements. It is one way to make up for a lack of farm labor. We guarantee every advertiser in The Missouri Farmer to be honest and reliable—and stand ready to protect our readers in this respect. If they were not reliable you wouldn't see their advertisements in The Missouri Farmer. Never fail to mention the paper when you write to an advertiser.

WILLIAM HIRTH, Publisher,
THE MISSOURI FARMER.

Good Holstein Bull Calves

If you are looking for something good in high grade Holstein bull calves better get in correspondence with D. D. Moss & Son of Columbia, right away. The calves they are offering now are out of their fine young bull, a son of the best Holstein cow on the University farm and they are from Josephine bred heifers of very high grade. This is your opportunity—look up their ad and write them.

What has been your experience with the silo? Has it been a paying investment for you? There are several thousands of dollars, possibly millions, invested in silos in Missouri and a great many farmers have written us that they pay. What have been your results? Won't you tell us all about it for the benefit of your fellow farmers.

A STALLION REGISTRATION LAW

E. A. Trowbridge, Secretary Missouri Draft Horse Breeders' Association

The first Stallion Law in the United States went into effect in the State of Wisconsin on January 1, 1906. The law was the result of a keenly felt need on the part of the close students of the horse industry in that state. It was thought to be a means of bringing to common knowledge among horse breeders, farmers and dealers a better understanding of market demands, better methods of breeding and closer knowledge of the type of horses. Thus its prime object is seen to have been educational. It had, however, another purpose—namely, the prevention of fraud in selling and advertising stallions.

This law was different from any that had ever been passed in America. It was different from any European horse breeding legislation, yet it was believed that its general effect would be to create an increased attention and give impetus to the industry such as government regulation has been observed to give in France and some other foreign countries.

The law has been in force since its enactment and its general provisions are:

1. Requiring an inspection of breeding and certificate of registry by the Secretary of Registry Board, of all stallions and jacks stood for public service.
2. Requiring an inspection for soundness of all stallions or jacks standing for public service.
3. Requiring the enrollment of all stallions and jacks standing for public service with the Registration Board together with record of their condition of soundness and breeding.
4. Requiring the issuing of an enrollment certificate for each stallion or jack, stating on face of same his description including his condition of soundness and breeding.
5. Requiring the classification of all horses and jacks as Pure Bred, Grade, Non-standard, Cross-bred, and Scrub.
6. Requiring the entire elimination from public service of horses and jacks affected with certain transmissible or communicable diseases.
7. Requiring the posting of copies of enrollment certificate on doors of stables where animals stand and copies of same in all advertising.
8. Requiring the recording of enrollment certificate with Recorder of Deeds in county where animal stands.
9. Penalty for violation of law.

The results of this law have been gratifying. The horse industry has been greatly improved. The number of pure bred and registered stallions has grown from 1067 or 35 per cent of total in 1907 to 1774 or 55 per cent of total in 1913. The average price of horses has risen from $107 in 1906 to $131 in 1913. This increase in price cannot be entirely credited to the operation of the law, yet it has had its effect. Over and above this, many cases of fraud have been discovered. Horses sold as registered in some cases have proven to be grades. Horses have been discovered with other horses' certificates attached to them.

The law has proven a good business proposition for stallion and mare owner alike, and for the state as a whole.

Stallion owners have been placed in a position to know whether the horses they were buying were as represented. Fraudulent pedigrees have been traced to their original source and damages secured in some cases. Men selling stallions in that state have realized the condition and do not try the questionable practices used by a few dealers in years past. The owner of the good stallion has been aided by having inferior horses labeled for what they really are. Mare owners have been able to see and study the breeding and other important features of the stallions in their locality and to intelligently select stallions for use on their mares.

The state has come to occupy an enviable position as one of the best horse producing states in the Union, a statement which could hardly be made of it ten years ago.

This law proved so satisfactory in Wisconsin that over a dozen states have since enacted such laws. The dozen states mentioned include practically all the Corn Belt states, namely: Wisconsin, Illinois, Indiana, Ohio, Iowa, Minnesota, Nebraska, Kansas and several far-west and far-east states.

These laws have varied in their provisions and have in some cases met with some opposition but generally the results have been satisfactory. It is generally conceded that the Kansas law is one of the best laws in operation. This law was written with the idea of having for its greatest result a better understanding by all of the types of horses and methods of breeding. This result has been noticeable in the extreme. It has also been the means of locating some men engaged in unscrupulous practice and in preventing their perpetrating further fraud on the people of Kansas. The approve the law and its effect.

Most Progressive Horsemen of Kansas

While the effect of laws in the above named states has been to prevent traffic in misrepresented horses, it has not entirely eliminated this class of horse dealers. On the contrary they have simply turned to states not having laws to hinder their fraudulent practices and redoubled their efforts. One dealer is said to have even gone so far as to write to a seceretary of a Registration Board in a neighboring state asking for a list of owners and addresses of affected horses with the statement that he had "a trade" in another quarter of his selling territory that called for this class of horses. This list, however, was not sent. Intimate acquaintance with the Wisconsin situation in 1906 gave the writer knowledge of at least a few "bad" horses that were sent across the border into neighboring states where they might be used without being molested. They were soon driven elsewhere, however, for these adjoining states soon had laws.

Missouri at the present time is bordered by states on the north, east and west, namely: Iowa, Illinois and Nebraska and Kansas—all of which have laws in operation. It would naturally seem that to some extent our state would serve as a "dumping ground" for the unfit horses, and reliable horsemen and others in close touch with conditions inform us that we have no idea of the fraudulent pedigrees and inferior horses being sold into our state.

In one particular case the writer saw a black three-year-old stallion sold through a public sale purported to be a registered Percheron, while a casual inspection showed his certificate of registry to have been issued by another and much less reputable organization.

Stallion laws to suit Missouri conditions have been discussed in the past. It has been pointed out that such a law would be of great eduactional value and would furnish an opportunity for breeders and horsemen to know more about the conditions in the state. It has also been suggested as a means of preventing some of the fraud which is reported to take place in this state.

Missouri is one of the best horse breeding states in the Union. The foundation stock and the opportunities are here to make it the greatest horse breeding state, when all classes of horses and mules are considered, but in order to realize this opportunity, careful methods and keen judgment are necessary. A most thorough knowledge of conditions will be essential to the greatest success in Missouri.

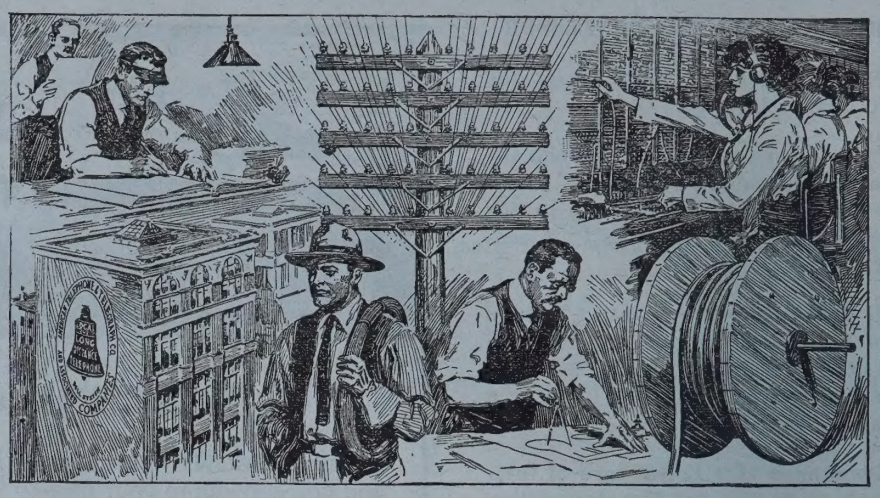
The Missouri foundation stock, which is the development of the saddle horses and harness horses, is second to none. The Thoroughbred, Trotting and Saddle horses have left a wonderful stock of mares in this state. The foundation stock which we have has already proven to be the greatest mule producing stock in the world. While Missouri does not have so many draft horses as some other states, there is no good reason why we cannot raise as good draft horses as can be produced elsewhere. Our climate is not excelled in the United States for horse production. Our people are horse lovers and our system of agriculture makes possible the economic use of young horses.

The most imminent need of a stallion law is, (1) to give the people of the state an exact knowledge of conditions as they exist; (2) to turn attention to this line of agricultural production; (3) to encourage the use of only good males for breeding purposes; (4) to locate the unscrupulous dealer and make it necessary for him to cease questionable practices.

It is not necessary that the law be drastic—in fact it seems advisable that it be quite the opposite, but that some sort of a law is necessary is quite evident. Surrounded on the North, East and West by states having laws, the State of Missouri together with Oklahoma serves as a "dumping ground" for horses not fit for use in these other states.

A Stallion Law can not be enacted unless the people of the state favor it. Such a law if properly constructed should work for our profit and for better horses and no one should take greater interest in it than the farmers and horse breeders of this state. The better our horses are the better our reputation will be among horse buyers and therefore more buyers will come into the state and better prices will be paid for what horses we have to sell.

Have you found some crop that makes you money? Write us your experience that we may pass it on.



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Imagine a manufacturing business having millions of customers scattered over the country, with millions of accounts on its books, most of them less than $30 a year, and including a multitude of 5-cent charges.

Consider it as having shops and offices in thousands of cities, and reaching with its output 70,000 places, more than there are post offices in the United States. Think of the task of patroling 16,000,000 miles of connecting highways constantly in use.

This gives you a faint idea of the business of managing the Bell System.

Not all the 8,500,000 telephones are in use at once, but the management must have facilities always adequate to any demands for instant, direct communication.

In so vast an undertaking, every branch of the organization must work in harmony, guided by one policy. The entire plant must be managed in the light of accumulated experience, and with the most careful business judgment.

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THE SHEEP AND THE DOG

To The Missouri Farmer:

I have been through the fire from every angle concerning legislation for the protection of sheep from dogs and am still ready to do my best for the best interest of all.

Your proposed bill as published in the December 1 issue is drastic and I think perhaps it is best to have it so to start with because it will be easier to modify it by eliminating some features than it will to make it more drastic.

I am sure if you should get the sheriff onto the job he would lie down on it and would be worthless, as you know the prosperous dog man is the best politician and the man of affairs is a poor man to work for a man at the polls.

The dog law that is going to be a success will be the one that will be worked as any other law relating to live stock. That is how many dogs have you on this farm? and no mention of the amount the taxes will be collected, but will sort of slide by as a piano, a wagon, etc. I would have it collected with the general taxes and make no mention of places to collect this dog tax. If the books are kept separate there is a general fight in the minds when the published collections come in and the dog man, which is every farmer, is hurt when he sees how much he has contributed to the fund while if the incident closes when the assessor passes the dog problem is solved and the poor dog will be kept down to a minimum. With the present dog songs and eulogies on dogs you certainly have my prayers to even mention dog laws, but still it is a good thing to talk about in the press and by constant agitation we may make it clear to many that the other fellow's dog is a menace to good farming. But still "my dog is O. K." It is the other fellow's every time.

Having been through the fire from all sides on dogs and dogs and sheep, it is unsafe to put the lime light on the dog on assessment day and settlement day. Thus you can see I would be opposed to setting aside a fund for losses on sheep as this would be and is considered class legislation. Besides an honest oath as to losses by dogs can hardly be obtained.

Should I mention to my neighbor I was needing a dog to drive hogs and the like each one would gladly give me his dog. But should the assessor, sheriff, deputy or I shoot this dog he would be a $25-dog and he would rather have the best horse on the place to die than to lose that dog.

I have handled sheep with an actual count of 524 dogs within a radius of three miles of my farm and find if the gun barks at a dog, every man, to a man, goes mad at you, even the man that refuses to feed the dog. So I take care of my sheep and stand my losses and don't mention it to the neighbors. Neither do I kill his dog by any means as through some channel he will find it out and he will hold it up against me as long as he lives in the neighborhood.

The farmer can not afford to lose a single neighbor even if he is seriously run over.

I am still in the sheep business and have for years yarded them at night and use bells on the sheep to attract attention. These bells are the small cow bells 2 x 3 inches at the mouth with an old piece of a harness tug for a bell collar. This collar is riveted just large enough to slip over the head when shearing time comes and being wide does not chafe the neck of the ewe. I have two dozen of these bells and when the stray dog passes this noise is simply more than he can stand for and be funny and so we at the same time take notice of his presence.

I consider the dog menace to sheep industry only a small one in the state of Missouri at the present time, even take off hog cholera, with loss from sheep raids. The dog is a night prowler by nature and very quiet all day. In fact if only neutral dogs were kept we would be in a manner safe. I find they are as tractable and watchful as an entire, besides they do not care for companions at night.

The operation is easily performed with no bad results as we know from experiment.

The dog in the picture is now nine years old and was made neutral when a pup, also his tusks were sawed off as he would tusk the pigs hams, and I would not stand for that. This boy can send this dog for the horses by clucking or for the cow by calling "hay Tray drive her up," or "shoo them up" for sheep, or hogs "suboy."

In fact I dont' know of a dog that will do more intelligent work and more courageously than this sterile dog. Just last week he showed his teeth to the tramp that stood at the gate while the mistress refused a hand out. E. E. Laughlin, Bates County.

The Dog and His Master

MEAT PRODUCTION ON HIGH PRICED CORN-BELT LAND

(Continued from page 6)

$76.31 for the 24 months' period. The total cost of food fed to the animal on a high plane of nutrition was $121.44 for the 24 months' period. The cost of each pound of live weight on the low fed animal was 7.2 cents per pound. The cost of each pound of live weight for the generously fed animal during the 24 months' period was 9 cents.

The important teaching of this experiment is that an animal maintained on a very low plane of nutrition during the first few months of its life does not lose the capacity to grow. The animal fed on a low plane of nutrition made larger gains for the same food and therefore at less cost than did the generously fed animal.

Attention is called to this experiment in this connection for the purpose of suggesting that we may maintain very large numbers of animals on straw, corn stover, or coarse roughage materials which have very little economic value, and we may do this without destroying to any considerable extent the capacity of animal to grow. It is not essential in beef production that all beef animals should be fed generously from birth. It is easily possible that our methods of beef production may be so changed that a considerable live weight may be secured by the feeding of a very cheap class of food stuffs.

Another important factor in the economics of meat production which must be taken into account in the discussion of the general problem is the comparative efficiency in the utilization of food of the meat producing animals. There is some difference in the nutritive value of beef, pork and mutton for human food, but the difference is relatively small and excluded from consideration because of palatability. We may assume that for all practical purposes a pound of pork is as efficient for human nitrition as is a pound of beef. A pound of mutton likewise is also essentially as valuable for human food as is a pound of beef.

If it is true that these materials have practically the same nutritive value then, other things being equal, the variety of meat which can be produced for the least cost on the farm will be favored in the adoption of methods of farm management which aim to supply the demand for meat.

With the methods of beef production which have prevailed, a pound of beef is produced at greater expense than any other meat product on the farm. It is of course very difficult to give an average figure which shall cover the food requirements for producing a pound of beef under varying conditions. But we will not be far wrong if we estimate that for the production of one pound of beef there will be required from 8 to 10 pounds of grain and 4 or 5 pounds of roughage. For the production of mutton there will be required 5 or 6 pounds of grain and an equal amount of roughage. For the production of pork we may safely estimate that 5 pounds of grain will produce one pound of pork. In pork production roughage or forage may be disregarded in this estimate, or, if pork is produced on forage crops, then the grain requirement included in above estimate may be materially reduced.

The area of land required to produce 100 pounds of pork or mutton is materially less than the area of land required to produce the same amount of beef. If the demand for food becomes more insistent and the requirements for greater production increase, then the farmer will more and more produce those meat products which require the least consumption of food.

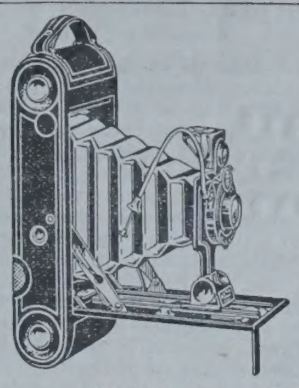
In many phases of animal production the costs may be greatly reduced by selecting the most efficient animals. It is a well known fact that some cows will consume a certain amount of feed in a year and produce 200 pounds of butter. There are other cows that will consume approximately the same quantity of food and produce 250 pounds of butter. If the higher producing cow consumes more food the relation of the food consumption to product will be in favor of the higher producing cow.

There are some horses that will consume a given amount of food and from this food will be able to extract energy of an amount and kind that will make it possible for the animal to trot a mile in two minutes. There are horses that will consume the same kind and amount of food and will be able to extract energy therefrom sufficient to make it possible for them to trot a mile in four minutes. In these examples, there is no difference to be noted in the food consumed or in the training which is received. The difference in the amount of product is due entirely to a difference in the efficiency of the animals. It is very plain that the cost of production may be greatly increased in these cases by breeding and selecting more efficient animals.

Is it possible for us to decrease the cost in meat production by similar means? Are there great differences in the efficiency of meat animals?

It must be said here that so far as our investigations go at the present time there is no very great differenec in the efficiency of meat producing animals so far as their ability to produce a given quantity of produce from a fixed amount of food is concerned. A scrub steer may produce as many pounds of beef from 107 bushels of corn as the well improved shorthorn, Hereford or Aberdeen Angus. The greater efficiency of the higher improved meat animal is not due to the fact that they produce more product from a given amount of food but that the product is of higher value. The well improved meat animal is not due to the fact that they produce more product from a given amount of food but that the product is of higher value. The well improved meat animal is able to improve the raw products of the farm and produce therefrom a product which sells for a much higher price on the market. It is clear therefore that the feeding of a better class of meat animals will result in decreasing the cost of production.

In conclusion, from the writer's point of view, the methods which are likely to result in decreasing the cost of meat production and thereby making it possible for the farmers of the Corn Belt region to produce meat animals on high priced land are to be found in developing unimproved areas of land for grazing purposes; by utilizing the by-products of the farm, particularly coarse roughage such as stover, straw and cheap hay; by the general adoption of the silo as a means of preserving corn and other crops; by feeding more sheep and hogs because of the well-known efficiency in the utilization of feedstuffs; and lastly, by the selection of more efficient meat animals.



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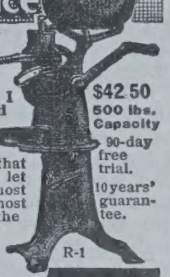

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GASES IN A SILO

Silos should be ventilated before being entered. The Journal of the American Medical Association cites a story of four men who were killed by carbon dioxide after entering a silo at the State Hospital, Athens, Ohio, last September. The men entered by a door well up on the side of the silo and jumped down to the surface of the silage six feet below. Two other men who were about to enter the silo a little later, discovered the four in an unconscious state. Assistance was immediately called and though physicians were at hand when the men were taken out, they could not be resuscitated. Accidents of this sort are infrequent, but men who work in silos should be careful to take no risks with gases that may have accumulated over night or during a considerable period in which the silo has been closed.

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The "greatest apple in the world" tops the market. There's satisfaction in growing it, because of its unequalled quality, and money, because of the demand for it. The man who has an orchard made up largely of Stark Delicious worries less about his other crops. The practical fruit grower knows that he has a reliable money-maker in Stark Delicious. Give it a place in your orchard right away. Write quick for New **Wholesale** Catalog showing Stark Delicious, Stark Early Elberta, and all fruits and ornamentals. Address

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(Home of Stark Delicious)

POULTRY THOUGHTS

Why is it that all of us do not succeed in getting pleasure and profit from the breeding of fowls? There may at times be good reasons why some of us are held back temporarily and in some cases permanently, but we doubt if there is any good excuse for complete failure except in few cases. We like to see people succeed in this world, if their undertakings are commendable and if we can encourage some reader who needs it and can help him to see and embrace his neglected opportunities, we will indeed be pleased. Each season of poultry shows, which at the present time are being held in almost every state, brings its share of disappointed breeders, those who have put forth their best efforts to produce birds that will win the coveted honors, but who have had to be content with a place in the rear. The fact that they have tried and failed depresses many of them more than if they had left their birds at home and shared the poor consolation of the fellow who never tries. We do not believe in any such policy. It is much better to try and fail than never to have tried at all. And the man who does not have that principle deep-rooted in him will never rise above the crowd, no matter what he undertakes. Your motto should be, "Where others give up is just where we get our second breath." It is the staying kind that knows no defeat which make the leaders in any line of endeavor. The world applauds him who realizes his aim. The trouble with most people is they are not willing to properly study their birds and the problems of mating. They expect to duplicate the results of the earnest, painstaking breeder without employing his method. If you were to read all the literature published on poultry husbandry you would still have a chance to learn something new every day. You must have the experience to be successful. Theory is all right as far as it goes.

E. L. Andrews, Maryville, Mo.

THE INDIAN RUNNER DUCK FOR PROFIT

The Indian Runner ducks are not so extensively raised by farmers as they are by the city man who raises a few fowls for pleasure and to supply his table with eggs and meat.

The casual observer seems to think they are for the fancier and only to be considered as show birds, when in reality they should hold an equally prominent place with the Missouri hen. The fowl that is easier handled or raised than the Indian Runner duck is not to be found, and as egg producers they have no equal. With a little extra care they will lay practically the entire twelve months of the year. Their eggs are a third larger than hen eggs and are pure, clear white in color and have a rich delicate flavor, and in the cities they bring a fancy price on the market. They are very much sought after by the fashionable class of people who are willing to pay good prices for them. Their clear, white shells give them a very fine appearance when served boiled.

These ducks were first produced and raised in India and were brought to the United States about twenty-five years ago, and have won for themselves a high position on the eastern markets, but only in the last eight or ten years have they been raised by the people in the middle states, and then mostly by those families who desired them for show purposes. But in the last four or five years a few people are waking up to the fact that there is money as well as pleasure in raising them. A flock of these birds is certainly a beautiful sight. In color they are fawn and white and they are very upright in appearance and swift in motion. There is no suggestion of the awkward waddle of the common duck. Their bodies are slim and racy looking, and the neck is a pure white while head, breast, back and body a light fawn, and primary and seconary flights of wing should be pure white. Legs and toes are orange color.

Their peculiar markings and upright racy appearance make them very attractive and to see them is to admire them. All this will appeal to the fancier, but best of all for the average man is their ability to easily surpass anything that has yet been produced to supply eggs for the table and market.

The standard weights for a mature bird are drake 4½ pounds and duck 4 pounds, but by careful selection of breeders they can easily be made to weigh 6 to 7 pounds.

They mature very rapidly, reaching market size in nine weeks. There is no bird that grows faster the first two months of its life than the Indian Runner Duck. While they can be raised quite successfully in confinement they thrive best on free range. A two-foot fence is sufficient to confine them. This fact alone together with their wonderful egg producing qualities make them worth while for the city man to raise.

Indian Runners require no water except for drinking purposes. The belief in the past that ducks could not be raised without a pond or stream of water has been a detriment to the extensive culture of these birds which has been overcome by the Runner's ability to thrive on only a panful to drink.

They are small feeders compared with other ducks and in summer if allowed to range they will find the greater part of their food in the fields. But they should be given a small feed especially at night to induce them to come home.

They should be kept in confinement until nine or ten o'clock in the morning or their eggs will be lost on the range.

If forced for egg production they commence to lay when about five months old and no other fowls are able to stay in the race with them. They are truly the Leghorns of the duck family.

Indian Runner ducks are the finest of table fowl, their meat is fine grained, tender and juicy and of excellent flavor. They have rather the flavor of a wild duck than of a tame bird. They produce an enormous number of eggs and they are very easy to raise, therefore one need only have a very few to start with and at the end of the season he will have a nice flock, which if properly handled will prove a source of income through the winter months.

If they are not where they can get it themselves they should be always supplied with grit in the form of sand or small gravel and oyster shells.

A good feed for them during the hatching season is a mash composed of cornmeal 35 parts, wheat bran 15 parts, middlings 15 parts, beef scrap 12 parts, and if they are kept confined add a liberal amount of alfalfa meal.

Their food for the first week or ten days should be bread soaked in skim milk or water and squeezed dry; feed on a clean board sprinkled with sand. Gradually change to one-fourth part corn meal, one-fourth middlings and one-half wheat bran, keeping sand where they can get it when wanted.

In my opinion the Indian Runner Duck is one of the most profitable fowls there is to handle.

E. G. Limerick.

White Holland Turkeys—Blue ribbon winners. Prices reasonable. Mrs. J. W. Ezell, Houstonia, Mo. 112

Envelopes—100 White, Printed, Name and address, prepaid — 39c. Journal, Traer, Iowa. 1215tf

Hay for Sale—I am a member of the Missouri Farmers' Exchange Association and can sell hay direct to feeders. In writing for prices please send bank references. Frank J. Dumond, Rose, Kansas. 12152

HOLSTEIN BULL CALVES FOR SALE

Having sold out our bull calves sired by our Chief Josephine bull we have now coming on a lot of toppy fellows out of our Josephine heifers and by Campus Josephine Lad who is a son of Pontiac Gerber De Kol with a record of about 18,000 pounds of milk in her four year old form and Grand Champion at Missouri State Fair. This is an exceptionally fine lot of calves and anybody will do well to get one of them for a herd bull. The price is $25. They won't last long at this figure.

D. D. Moss & Son, Columbia, Mo.

Poultry Show Farmers' Week

One attraction for Farmers' Week the poultry people should not overlook is the poultry show put on by the Boone County Poultry Association. A very liberal premium list is offered and if the show is up to its last year's record it will be time well spent to see it.

The University will conduct a poultry course of instruction during Farmers' Week that will be worth all the cost of a trip to Columbia will cost. Lectures will be given every day during the meeting by some of the ablest poultry authorities in the country. Demonstrations will be given daily in candling eggs, judging poultry for utility and vigor and killing and dressing. Remember the date, January 11 to 15.

Beekeepers Meet

At the annual meeting of the Missouri Beekeepers' Association, held in St. Joseph Missouri, December 7 and 8, 1914, it was decided to incorporate and a meeting is called to be held in Columbia during Farmers' Week.

The bee industry is of much greater importance to the state than most people are aware of but it could be enlarged several times without overstocking the honey market. A lot of honey is shipped into this state to supply our markets that ought to be produced right here at home.

In 1910 there were 40,110 farms keeping bees with 203,569 conolies reported and an estimated value of $584,549. There was a total of 2,105,815 pounds of honey produced that year.

The officers of the Missouri Beekeepers' Association are:

J. W. Rouse, President, Mexico.

W. F. Cox, Vice-president, Garden City.

J. F. Diemer, Treasurer, Liberty.

Austin D. Wolfe, Secretary, Parkville.

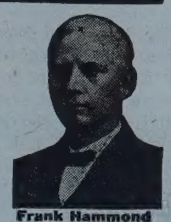
German Servant Girls Wanted

Several high-class families in Columbia want good, dependable German servant girls. In order that they may keep each other company it is desired to get two or three girls from the same neighborhood. Good homes and good wages. We refer parties answering this advertisement to the Publisher of this paper as to the character of the homes responsible for this advertisement. Address Box 11, Care Missouri Farmer, Columbia, Mo.

148 Chicks From 150 Eggs

Osceola, Mo.

I surely praise the Sure Hatch incubators. I have a 150 egg size. The first setting I put in 152 eggs and broke two the first week which left only 150 at hatching time. I got 148 chicks and never tested the eggs. We surely have had fine luck with our machine the past two years. Would not sell it and be without it for any money. My neighbors have other incubators and I beat them all. NELLIE GARDNER



Frank Hammond
President

Women and children find it easy to succeed with the Sure Hatch Incubator

We can give you the names of tens of thousands who make a handsome, steady income with very little effort, and would not bother with hens or with any other incubator. The

Sure Hatch

Is Automatic in Operation

Our **Uncle Sam Poultry Book** will help you to succeed. It tells all about how to handle the business the best way. It is a compilation of official reports by U. S. Government experts. Tells what to do and what not to do. Many illustrations. Free with every **Sure Hatch.**

Any one can succeed with it, even if they have never seen an incubator before. It is a plain, simple, strong machine, so built that it can't go wrong. Will hatch in cold weather when others fail. We send with each machine complete instructions for operating that are very easily followed.

We guarantee it 10 years and send it to you freight paid, on 60 days trial. Satisfy yourself by actual test that it is a quality machine in every respect. Your money back promptly if it is not all we claim for it.

Poultry turns kitchen waste and other farm waste into ready money; and you can depend upon the Sure Hatch to bring you the chicks at the time of year you want to hatch them to get the best price for them.

Write for our Free Illustrated Catalog, giving full information on Sure Hatch Incubators and Brooders, with much valuable information about poultry.

SURE HATCH INCUBATOR CO., Box 49, Fremont, Neb.

All Metal

That's why we can guarantee this incubator for 25 years.

Presteel Incubator FIREPROOF

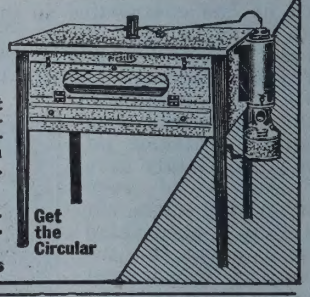
The simplest—easiest controlled heating system ever devised.

Clean, Sanitary and Odorless

In service among experienced hatchers everywhere. Can't warp. Find out about them. Ask for free circular.

MOLINE PRESSED STEEL COMPANY

Dept. E32 East Moline, Illinois



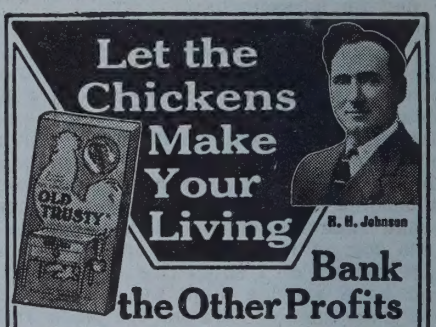
Get the Circular

FAWN AND WHITE INDIAN RUNNER DUCKS

Most profitble of fowls. Healthy, fast maturing, steady layers, require little attention, and the birds I offer are specially bred for these good points. Have never been beaten in show room. Prize stock is dependable stock—it is good to start with and a good performance may be counted on, with reasonably good attention. Write to me—I'll be glad to tell you more good points about Indian Runner Ducks and quote prices on them. Also have Golden Laced, Silver Laced and White Wyandottes—blue-ribbon winners wherever shown.

E. G. LIMERICK, Route 3, Columbia, Mo. 'Phone 10-Y

Let the Chickens Make Your Living



B. H. Johnson

Bank the Other Profits

Let me send you the Old Trusty Book and show you how the chickens can help you make two incomes instead of one. This book gave the ideas to 580,000—why not to you?

Old Trusty

The People's Favorite

Three or four times more people buy the Old Trusty than any other make. It's because success is sure with the Old Trusty. We guarantee it to do its part or you trade back. Price still less than $10 and freight prepaid east of Rockies. Only a trifle more delivered on Pacific Coast. Simple, easy to operate, no red tape instructions. First hatch pays you back its cost.

WRITE Get the book at once, whether you want to buy or not. It's free. Address—

M. M. JOHNSON CO.
Clay Center, Neb.

Highest Average Hatches Every Month in Every State.

Be Sure to Write Today.

Join World's Champions

13 more championships won by owners of Belle City hatching outfits. Makes

Belle City

21 Times World's Champion

Free Book "Hatching Facts" tells whole story. My $800 Gold Offers come with Free Book—Money-Back Guaranty Hatching outfit shown in actual colors, Jim Rohan, Pres

Freight Prepaid. 1, 2 or 3 Months' Home Test

Belle City Incubator Co., Box 166, Racine, Wis.

POULTRY Ducks, Geese, Turkeys, Pigeons and Dogs. We are the most extensive producers of thorobred poultry in the world. Our fowls have won the leading prizes at America's largest Fairs and Expositions. Breeds are reared on separate farms. **Send ten cents** for Color Plate **Poultry Book and price list.** It tells how to make money with poultry; how to build poultry houses; how to hatch and rear chicks; how and what to feed for eggs. Every fowl shipped is selected by **Expert Licensed Poultry Judges.**

UNITED POULTRY FARMS, BOX 47 HOPE, IND.

LIVE STOCK NOTES

By R. P. Royce, Fieldman

WINTER AND SPRING SALES

Durocs

Jan. 20. Sheley & Clatterbuck, New Bloomfield, Mo.
Jan. 21. L. L. Spencer, Centralia, Mo.
Feb. 5. Dr. C. E. Still, Kirksville, Mo.
Feb. 8. J. A. Porterfield, Jamesport, Mo.
Feb. 23. Chas. L. Taylor, Olean, Mo.
Feb. 24. Sheley & Clatterbuck, New Bloomfield, Mo.
Feb. 27. C. D. Caldwell, Milan, Mo.

Poland Chinas

Feb. 3. W. G. Lockridge, Fayette, Mo.
Feb. 10. H. L. Faulkner, Jamesport, Mo.
Feb. 11. Dr. John Gildow & Sons, Jamesport, Mo.
Feb. 17. W. E. Williams, Silex, Mo.
Feb. 19. W. A. Baker & Sons, Butler, Mo.

Hampshires

Feb. 1. W. J. Brinigar, Blythedale, Mo. Sale at Council Bluffs, Ia.

Saddle Horses

Feb. 3. E. D. Moore, Columbia, Mo.

Jacks

Feb. 3. A. E. Limerick, Columbia, Mo.

Our live stock representative, R. P. Royce, will attend the above sales, and will be glad to render any assistance possible to readers of this paper. Mr. Royce will furnish detailed information concerning any of the sales, will handle bids for our readers who are unable to attend in person or will make selections. This service is given without charge to our readers.

Live Stock Men Meet

The Fifth Annual Meeting of the Missouri Cattle, Swine and Sheep Feeders' Association will be held January 13, 14 and 15, 1915, during Farmers' Week at Columbia, Mo. A good program is promised in which leading stockmen, marketmen and Animal Husbandry investigators will take part. A special invitation is extended to all Missouri stockmen to attend.

H. O. Allison, Secretary.

New London, Mo.

Mr. R. P. Royce, Columbia, Mo.

Dear Sir: I received you letter of yesterday, relative to the boar which you purchased for me.

I received the boar in splendid condition, and I am certainly thankful to you for your efforts in buying said boar. I think he is quite a good hog and looks like he will, with proper care, develop into a very large one.

I made this remark to Mrs. Megown that I thought it was as good a selection as I could have made, had I been there and personally looked them over.

I have about sold all of my spotted boars—having sold all of the gilts that I could spare some time since. I still have some very fine Big Type (black) boars and gilts for sale that I am selling worth the money.

Yours truly,
B. B. Megown.

Sheley & Clatterbuck's Duroc Sale

It is with distinct pleasure that we call to the attention of our readers the advertisement of Sheley & Clatterbuck, New Bloomfield, Mo., in which they announce their bred sow sale to be held at the above place, Wednesday, January 20.

Ever since this firm entered the business, a number of years ago, they have been recognized as having one of the very best herds in the whole country, and their sales have always proven to be events of the greatest interest to breeders and farmers in this and other states.

The foundation for this herd was secured from the most prominent herds in the Corn Belt, and the matter of price was given very little consideration when they found what was wanted. This does not mean that they were extravagant in their purchases—they simply believed that blood would tell and they were willing to pay the price. The wisdom of this policy is shown in the class of young stuff produced in this herd and by their winnings in the show ring.

We know of no other firm that has as many good boars in service as will be found in this herd. At the head of the herd stands the great boar Beauty's Model Top—conceded by all to be one of the best boars of the breed. Beauty's Model Top is the only Duroc boar that was made champion at the Missouri State Fair two years in succession, namely, in 1911 and 1912. Besides being a great individual he has proven to be a prepotent sire and his get have been conspicuous winners at various state fairs. Assisting him is another grand champion, Instructor. It will be recalled that Instructor was grand champion at the Illinois State Fair a few years ago. This boar was purchased to use on Beauty's Model Top sows. S. & C.'s Valley Chief, whose picture is shown below, was the first prize aged boar at the recent Missouri State Fair, and is proving to be a valuable sire. S. & C's Valley Chief was the sire of Sensation Chief, the second prize under year boar at the same fair.

The fourth boar in service is Col. Prim—a boar without a show record, but with a breeding record that is first class.

The offering this year consists of fifty head—practically all sows that have produced one or more litters.

In the lot will be daughters of Beauty's Model Top, Col. Prim, Col. S., John's Ohio Chief, Kelly's Pilot Wonder and other great boars. There will also be offered several sows that this firm had out last year in their show herd, including the great sow, Edna's Beauty, the first prize aged sow at the 1914 Missouri State Fair. Edna's Beauty is by Beauty's Model Top and out of the great producing sow, Edna Browning.

This sale will be one of the best events of the season and we cannot urge our readers too strongly to take advantage of the opportunity to secure high-class breeding stock. This firm does not expect sensationally high prices, and extend an invitation to all Missouri farmers to be their guests that day. Write for catalog, mentioning this paper, look over the offering and plan to be there. We will have more to say in our next issue.

Our representative, R. P. Royce will attend this sale and will be glad to assist any of our readers in any way possible.

Kinloch Duroc Sale

When Dr. C. E. Still, proprietor of Kinloch Farm, Kirkville, Mo., announced his intention of entering the Duroc business, it was an event of considerable importance to Missouri. For years Dr. Still had been identified with pure bred Jersey cattle, and his Kinloch herd became known far and wide as one of the foremost breeding establishments in the country. So when he decided to establish a herd of Durocs live stock men knew what to expect—and they were not disappointed.

Dr. Still is a firm believer in good blood—he made a success of his Jersey herd by using the best he could find, and he knew he could make a success of his Duroc herd by following the some principle. Accordingly he set about selecting a herd boar that would immediately place his herd in the front rank. After much study he finally selected Illustrator, the grand champion boar at Illinois State Fair in 1913. Illustrator is generally conceded to be one of the greatest boars that the breed has produced. He is a remarkable hog in every way—combining extreme size, quality and bone to a very rare degree; indeed, he is hard to fault. He is backed with a pedigree that combines the very best blood lines, and best of all he has successfully passed the test that entitles him to the claim of greatness—by siring prize winners. Illustrator has the distinction of siring more prize winners at the recent State Fairs of Iowa, Illinois and Missouri than any other boar. Illustrator Chief, champion boar at Missouri, is a son of Illustrator.

Dr. Still did not stop with securing a boar—but gathered together one of the most notable collections of brood sows that was ever on one farm. These sows represented every important line of blood known to the breed, among them were champions, daughters of champions, and dams of champions.

In this sale, which will be held Friday, February 5, there will be offered about forty-five head of sows, all bred to Illustrator. There will be daughters of Col. Gano, Chiefs Col., Superba, Defender, Advance Chief, Cherry Chief, Proud Col., Orion's Model, Volunteer, L. E.'s Col., John's Ohio Chief, Top Col., Disturber, Golden Model 30th, Proud Professor, and other noted boars—truly a remarkable offering.

This will be Dr. Still's first Duroc sale, and he wants to place his catalog in the hands of every reader of this paper, and to every one who writes for a catalog mentioning this paper he will send a colored picture of Illustrator.

We feel that it is needless for us to go into more detail—there is so much that could be said—but we would urge every reader to write Dr. Still for his catalog and to arrange to attend this sale. Remember the date, and watch this paper for further particulars.

Mooresville, Mo.

Mr. R. P. Royce, Columbia, Mo.

Dear Sir: Yours of the 19th received. I want to say right here in the beginning that I appreciate your personal effort as well as that of The Missouri Farmer to make my sale a success. There is no doubt in my mind that anyone who really has something worth advertising can get splendid returns from The Missouri Farmer. It is not the amount of reading matter nor the frequency of publication that makes a paper valuable, either to the reader or the advertiser, but quality is the whole thing. It is better to have no knowledge at all than to have wrong knowledge. I will say this for your paper: It has more reading matter that is of real value to the farmer and breeders and LESS READING MATTER THAT IS DETRIMENTAL than any publication that comes to me.

Since it is located at the seat of our agricultural college and experiment station, and since many of those connected with this institution are frequent contributors to it and since Geo. B. Ellis is the editor it ought to reach and no doubt does reach the most progressive class of farmers in the state. This is the class that the advertiser of good, pure-bred live stock must reach in order to get returns.

With best wishes for your future success and that of The Missouri Farmer, I am

Sincerely yours,
W. T. HUDGINS.

Bruns' Jersey Bulls

Elsewhere in this issue will be found the advertisement of Wm. H. Bruns & Son, Concordia, Mo., calling attention to a number of high class young bulls and heifers that they are pricing worth the money.

This is one of the older herds in the State and is maintained on a high production basis. Careful records are kept of the production of the cows and only those which prove profitable are retained. It is therefore possible for buyers to know what they are getting.

This young stuff is sired by The Owl's Champion whose grand dam was Rubano's Fancy, with a record of 21 lbs., 10 oz. in 7 days.

We are glad to recommend this herd to our readers and trust that those interested will write Messrs. Bruns for prices. Kindly mention this paper.

The Lockridge and Pemberton Poland China Sale

On Wednesday, Feb. 3, Will G. Lockridge and J. M. Pemberton, both of Fayette, will hold their first public sale of Poland China bred sows and gilts.

Both these men are too well known to need any introduction from us. Suffice it to say, that their herds have been recognized for a number of years past as ranking with the better herds of this state.

The sale will consist of about fifty head and be largely from the Lockridge herd, Mr. Pemberton putting in about fifteen

THOMAS. E. DEEM
AUCTIONEER
Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased.
Dependable service at a reasonable charge. Address, Cameron, Mo.

ALBERT J. HOUSTON
AUCTIONEER
Pure bred live stock and heavy farm sales my specialties. Terms reasonable. Satisfaction assured.
SALISBURY Phone 1516 MO.

Harry W. Graham
AUCTIONEER
PURE BRED LIVE STOCK
Seventeen years experience with America's best breeders.
Chillicothe, Missouri

GALLOWAY CATTLE
Young stock for sale at all times. Herd established 25 years.
J. & W. R. CLELLAND,
New Hampton, Mo.

ChoiceAberdeen-Angus
Established 30 years. 100 head in herd. I am offering good useful Bulls and Heifers of excellent individual merit and breeding. Prices reasonable. Our customers make them popular.
D. L. Sutherland & SonsWindsor, Mo.

Aberdeen-Angus I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.
J. D. Blackwell Fayette, Mo.

ANGUS CATTLE
HERD FOUNDED 1914
Seven early calves—3 bulls and 4 heifers, sired by Dean's Eric 139686. Every one the right kind, and priced to sell.
V. E. LAWRENCE, SALISBURY, MO.

Whiteford Herefords
A strictly high-class herd of best breeding and individuality. Headed by the great bull PARSIFAL 202628
HUGH WHITEFORD, GUILFORD, MO.

IDLEWILD SHORTHORN CATTLE
Milk and Beef Type. Dual purpose in name and in fact. Herd 50 years old. In one family, on one farm. The type is fixed. I have a strain that I believe rivals the famous Duchesses. Fine beef cattle that are heavy milkers. And deep milkers of fine beef type. Call, or this blood is safe by order.
W. P. Harned, Vermont, Mo.

PEABODY FARM SHORTHORN CATTLE & BERKSHIRE HOGS
We are offering 10 good young bulls, well bred, 3 roans, 5 reds, 6 to 13 months old. Also a few extra good young boars, two of them fit to head first-class herds. Choice young Bronze Toms and Barred Rock Cockerels.
JUNE K. KING & SONS
MARSHALL, MO.

ELM LAWN HERD IMPROVED CHESTER WHITE SWINE Choice boars and gilts of September and October farrow for sale at reasonable prices. Everything recorded free.
W.B.Taylor and Sons,Weatherby,Mo.

RAUSCHER'S CHESTER WHITES!
One of the Oldest Herd in the West.
Spring pigs, either sex, pair or trios not related. Sired by some of the best boars in the State. Size, quality, and bone. Prices reasonable and every pig guaranteed. A dandy September boar for sale.
H. Rauscher & Son, Kahoka, Mo.

MISSOURI VALLEY HERD O. I. C. SWINE
We have a fine bunch of fall pigs from mature stock on the "bargain counter" for quick delivery. Everything guaranteed as represented. Call on or write
J. M. Dryden, Phelps City, Mo.

head of extra good gilts—the tops from his herd.

The offering will be very strong in A. Wonder 143421 and Hercules 68356 blood. There will be listed twelve spring gilts by A. Wonder. They are the real good kind —with plenty of size, bone, and quality, and will be bred to The Giant, the mammoth young Hercules boar Mr. Lockridge is putting at the head of his herd. This is one of the most promising young boars the writer has seen the past year, and we doubt if many breeders can show a boar with more size.

There will be six spring gilts by the well known Iowa boar, Hercules, that are litter mates to The Giant. The gilts are all safe to the service of A. Masterpiece 71730, a son of the great A. Wonder 143421.

Ten spring gilts from the Pemberton herd are by Big Johnston, and are bred to Jumbo Wonder, also a son of A. Wonder. Eight fall yearlings by a Long King boar and bred to The Giant are going to look mighty nice by sale time. Besides the above mentioned there will be six big useful tried sows and about fifteen spring gilts by Missouri Orange, Col. Orange and Long King's Model, bred to one or the other of the above mentioned boars.

This stuff has all been handled well, has had the run of a large bluegrass pasture and will be presented in good thrifty condition—just right to go on the farms of this state and make good.

We have seen this stuff and take pleasure in calling the attention of our readers to it.

The sale will be held in a well lighted and heated sale barn. Fayette is on the Hannibal division of the M. K. & T. R. R. —twenty-five miles south of Moberly, twelve miles south of Higbee, and twelve miles north of Boonville.

Please mention this paper when sending for the catalog, and watch our next issue for more detailed information.

L. L. Spencer's Duroc Sale

L. L. Spencer, the popular Duroc breeder of Centralia, Mo., claims January 21 as his date for a bred sow and gilt sale. Mr. Spencer will offer a nice bunch of growthy gilts, and in as much as his sale follows Sheley & Clatterbuck's on the 20th, buyers should keep the Spencer offering in mind. Attend both sales at the cost of one. Watch this paper for more details.

J. M. Dryden calls attention to his O. I. C. fall pigs which he is making "bargain counter" prices on. Mr. Dryden's Missouri Valley herd is one of the good ones and he has built up a reputation for his herd through his fair and liberal dealing. Everything he offers is guaranteed to be as represented or your money will be refunded. Now is a good time to buy fall pigs—they cost less and the express rates are not high.

Have you written Smith Bros., Thompson, Mo., regarding the bred sows they are offering? In a recent letter they have the following to say: "We are about sold out on boars and we are now ready to make a drive on sows bred to Beauty's Model. We have one aged sow, three yearlings, seven fall yearlings, some of which have raised a litter, and a number of spring gilts, all sired by Col. Bob and bred to Beauty's Model. We are breeding several sows to Col. Bob, and about ten to a son of Beauty's Model out of a Top Col. sow, second dam by Cherry King, third dam by Orion Chief, and fourth dam by Chief Surprise, a litter mate to Ohio Chief. He is one we have selected for our show herd for 1915."

This firm has an excellent herd and we commend them to our readers.

Crosby's Clydesdales

Elsewhere will be noticed the advertisement of F. L. Crosby, Mexico, Mo., proprietor of the Highview breeding farm. Mr. Crosby calls attention to the outlook for the draft horse business for the next few years, and announces that he is in a position to furnish young stallions and mares that have been prize winners.

What Mr. Crosby says is true, and the opportunity to get into the draft horse game was never brighter. Importations have been entirely shut off since the war began, and practically all the available horses in the various countries have been pressed into service. When it is stated that the life of a horse in the armies is only about ten days, it can be readily appreciated what a demand will be made on this country.

In view of the above it would seem that Missouri farmers should give this matter serious consideration. And we take pleasure in recommending the "Crosby kind."

Hugh Whiteford, Guilford, Mo., who advertises Herefords in this paper, is planning a sale in the near future, and those of our readers who will be in the market should write him for his catalog. The Whiteford Herefords are right in every way.

V. E. Lawrence, who advertises Angus cattle elsewhere in this issue can supply any one looking for a good young bull of correct beef type, at a price that is very reasonable.

White's Durocs

A. White, Jr., Palmyra, Mo., reports the sale of a high class spring boar sired by Golden Model 34th, to H. E. Reed, Macon, Mo.

Mr. White has a number of other excellent spring boars left that are right in every way. He also is offering the trade a high class lot of spring gilts sired by Crimson Wonder Again, Crimson Col. I Am, Golden Model 34th, L. E.'s Valley Chief and Col. Dominant. We have seen this lot of gilts and assure our readers that they will be pleased with them. If in the market for something good, Mr. White would be glad to quote you prices.

Three Shorthorn Bulls

I offer three April bull calves, straight Scotch breeding, being by Lord Collynie and out of Orange Blossom dams. The broad-backed, thick-fleshed kind. Priced to sell.

J. F. Richards & Son, Bevier, Mo.

HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndyke Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

M. E. Moore & Co., Cameron, Mo.

JERSEY CATTLE

Bulls ready for service. They are sired by the Owls Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

Jersey Cattle

For Sale—30 head of cows and heifers from 2 to 4 years old. Also four choice bull calves.

J. B. SMITH, PLATTE CITY, MO.

SUNSET JERSEYS

Special Offering: Seven magnificent young bulls, 10 to 15 months old: seven beautiful bred heifers,soon due to freshen. Dry weather prices. Herd headed by the $5000 Blue Belle's Golden Roseboy 85230. Send for circular giving description of herd, production, breeding, etc., and mention your wants. Also Big Boned Spotted Poland Chinas. A herd of 200 head. All ages for sale. Free circular. The Ennis Farm, Horine Station, Mo. (Just south of St. Louis).

A Pure-bred Jersey

bull counts for more than the dam in grading up. You should be developing some 400-pounds-of-butter cows. The pure-bred bull is worth all he costs on grade or full-blood Jersey cows. Like begets like.

THE AMERICAN JERSEY CATTLE CLUB
324 W. 23d St., New York City

Save The Calf The Milk Money

Make two profits where you are now making one. Raise calves without milk. Beef and milk are valuable.

Blatchford's Calf Meal

The complete milk substitute since 1800. Less than half the cost of milk—prevents scouring—promotes early maturity. Write for new data—giving you actual figures.

Blatchford Calf Meal Factory, Dept. 4211 Waukegan, Ill.

HEAVES CURED. Thousands of cases successfully treated by Veterinarians with Curo Heave Compound. Curo Heave Compound now sold direct $3 package CURES any case or money refunded; $1 package CURES ordinary cases Booklet Free. CURO CO., DETROIT, MICH

SHELEY & CLATTERBUCK

ANNOUNCE THEIR ANNUAL

Duroc Bred Sow Sale

TO BE HELD AT

New Bloomfield, Mo., Wednesday, Jan. 20.

Fifty Head of Tried Sows

Our offering this year will consist of about fifty head of very high class tried sows, representing the very best lines of breeding. A number of the sows listed are prize winners, others are the dams of prize winners—all are good. Included in the offering is the great sow EDNA'S BEAUTY, first prize aged sow at the recent Missouri State Fair; DECEMBER GIRL, by Beauty's Model Top, is another prize winner included. There will be a number of BEAUTY'S MODEL TOP sows, some by COL. PRIM, and others by COL. S., JOHN'S OHIO CHIEF, KELLY'S PILOT WONDER, Etc. Practically the entire offering will be bred to one or the other of our two CHAMPION boars, BEAUTY'S MODEL TOP, and INSTRUCTOR.

The catalog will be sent to all who apply, mentioning The Missouri Farmer.

SHELEY & CLATTERBUCK

New Bloomfield, Mo.

E. Z. Russel and A. C. Buckingham Auctioneers

R. P. Royce will represent this paper and will execute mail bids sent to him in care of the above firm.

TEN CHOICE DUROC SPRING BOARS

I offer for sale at reasonable prices ten spring boars, two by Illustrator, three by L. E.'s Valley King, four by College Gentleman and one by Chief of Cols. Also a number of spring gilts bred to Crimson Chief Again.

W. C. WATSON — — — — — NEW LONDON, MO.

DUROC BOARS $20 EACH

Guaranteed to be good individuals or no sale
By COL. WONDER II, GOLDEN MODEL 34th and CRIMSON CHIEF AGAIN.
No risk to run; all sold on approval.

W. H. and GEO. E. THOMSON, Columbia, Mo.

15 DUROC SPRING BOARS & GILTS

We still have 15 boars and a number of open gilts which we will price to sell quick, and are booking orders now for 25 pigs, farrowed Nov 10th.

J. C. Garrard & Son McBaine, Mo.

White's Champion Duroc Jerseys

75 spring boars and gilts by three champions—Crimson Wonder Again, Golden Model 34th, and Crimson Col. I Am. A few tried sows. Prices reasonable.

A. WHITE, JR. Box 422 PALMYRA, MO.

GREATEST DUROC BARGAIN EVER OFFERED

For the next 30 days I will sell extra choice Duroc spring boars, sired by the champion COL WONDER at $25 and $35 each. The best lot I ever raised. First come first served. Send check with order. These boars are right, and represent the best bargains ever offered the breeders and farmers of Missouri.

CHAS. L. TAYLOR - - OLEAN, MO.

DUROC BRED SOWS

A number of tried sows, fall yearlings and spring gilts sired by the great brood sow sire COL. BOB 95711 and bred to the first prize Senior Yearling and excellent breedng boar BEAUTY'S MODEL 152503.

W. O. & B. A. SMITH, Thompson, Mo.

ADENHILL DUROCS

Serviceable Spring Boars

Sired by Champions Tatarrax Again, Crimson Col. I Am and Col. Wonder II. Priced reasonably. Also spring gilts of same breeding, ready to breed for spring litters.

R.L. Hill, Adenhill Farm Columbia, Mo

PRAIRIE VIEW STOCK FARM

Spotted Poland China spring boars and gilts, also a few bred sows. Write me your wants.

J. A. Winebrenner, Tipton, Mo.

Dooley's Spotted Polands

Big bone spotted pigs now ready to ship—$25 single pig, $45 pair, $65 trio. Pairs and trios no relation. Also registry furnished. Send check with first letter.

Edgar Dooley Etterville, Mo

CHAMPION ILLUSTRATOR BRED SOW SALE

Kirksville, Mo., Friday, Feb. 5th.

Illustrator is the World's Champion Sire. No one boar produced so many winners at the big State Fairs of Iowa, Illinois, and Missouri in 1914, as did Illustrator. The blood of Illustrator will help your herd.

I take pleasure in announcing that on Friday, February 5, I will offer at public sale between forty and fifty DUROC SOWS bred to the champion Illustrator. These sows represent the very best of breeding and individuality. In the sale will be included daughters of COL. GANO, CHIEF'S COL., SUPERBA, DEFENDER, ADVANCE CHIEF, TIPPY COLONEL, MISSOURI MODEL TOP, CHERRY CHIEF, PROUD COL., DISTURBER, TOP COL., L. E.'s COL., JOHN'S OHIO CHIEF, FORREST CHIEF, GOLDEN MODEL 30th, PROUD PROFESSOR, and other noted boars of the breed.

BLOOD WILL TELL, and this sale will afford a rare opportunity for breeders and farmers to secure blood that will strengthen their herds.

I extend a cordial invitation to all my Missouri friends to attend this sale and I want every Duroc breeder and farmer to have a copy of my catalog which will only be mailed on request. In writing mention The Missouri Farmer.

The Champion and Breeding Champion

KINLOCH FARM

Dr. C. E. Still, Prop. Kirksville, Missouri

Cols. Kraschel & Allen, Auctioneers. R. P. Royce, Fieldman.

A. WONDER 143421 and HERCULES 68356 OFFERING

50 Big Poland China Bred Sows and Gilts From the Herds of

WILL G. LOCKRIDGE and J. M. PEMBERTON, Fayette, Mo.

WEDNESDAY, FEBRUARY 3rd.

On the above date I will hold my first public sale of bred sows and gilts. The offering will include **12 A Wonder Spring Gilts,** bred to my great young boar, The Giant 72083 by the famous Hercules. **6 Hercules Spring Gilts,** bred to A. Masterpiece 71730 by **A. Wonder 143421. 10 Big Johnston Spring Gilts,** bred to **Jumbo Wonder** by **A. Wonder. 8 Fall Yearlings** by **Long King's Model 68365,** bred to **The Giant. 6 exceptionally good tried sows. 15 Spring Gilts** by **Missouri Orange, Col. Orange,** and **Long King's Model.** Bred to the above boars.

If you are looking for the kind that will make you money you can not afford to miss this sale. They are all the big kind. Write for my catalog mentioning this paper.

WILL G. LOCKRIDGE, Fayette, Missouri

R. L. HARRIMAN, A. W. HAMMOND, GEO. C. CRIGLER, Auctioneers. R. P. ROYCE, Fieldman.

ANDREWS' SPOTTED POLAND CHINAS

We now offer 75 summer boars and gilts sired by our great herd boars, SPOTTED KING and SPOTTED JUMBO. We are long on hogs and short on corn. Priced for quick sale.

ANDREWS STOCK FARM — — — — LAWSON, MO.

Sold Out of Spotted Hogs Now

Have some extra Big Type (black) boars and gilts by A Wonder, Big Orange and Mo. Orange. I am closing out all of my black hogs. Prices to move quickly. Write me.

B. B. MEGOWN, New London, Mo.

LONG BRANCH BIG TYPE POLAND CHINAS

Headed by King David 179495 by Long King and by Leader 201105 by Grand Leader a pair of great boars that are siring the right kind. A fine lot of spring boars and gilts. Get my prices and descriptions. Herd immune.

HALLECK BLAND, Rfd. No. 5 CENTRALIA, MO.

"OAKWOOD HERDS" of Shorthorns and Poland Chinas

Young stock of all ages for sale. Special prices on my big-type Poland Chinas. Quality and breeding the best. Satisfaction guaranteed or your money back.

H. S. Williamson Rfd, 6. Centralia, Mo.

SPOTTED AND BLACK POLAND SPRING BOARS

We now offer a choice lot of spring boars and gilts. Weigh around 150 to 175 pounds. Spotted or black. Strictly big type. $25 F. O. B.

Hall & Rapp Rocheport, Mo

Dean's Mastodon Poland China Hogs

A very fine lot of strictly big-type Poland China spring pigs. Best of breeding and quality. Satisfaction guaranteed. Telephone and R. R. station, Dearborn, Mo.

CLARENCE DEAN WESTON, MISSOURI

SUPERIOR HERD BIG-TYPE POLANDS

We have at all times anything you want in strictly big-type Polands. Special prices on spring boars and gilts in pairs or more—not related. Write us your wants.

Freeman & Russ Kearney, Mo.

GILDOW'S MAMMOTH POLAND CHINAS

Special bargains on 75 big, stretchy spring boars and gilts. Unexcelled breeding. Our hogs have size with quality and fill both the show ring and the pork barrel demand. Write today, we want to sell quick.

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BAKER'S REAL BIG-TYPE POLANDS

Our winnings at the State Fair prove that we "have the goods." Spring boars and gilts of excellent breeding and individuality at very reasonable prices. Also a number of fall boars, big, stretchy fellows.

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MISSOURI FARMERS, DO YOU RECOGNIZE THE OPPORTUNITY?

The war in Europe means that the United States will furnish the Draft Horses and Draft Breeding Stock for the world for years to come. There was never a better time for you to get into the game and Missouri farmers should take advantage of the opportunity. I have Prize Winning Stallions and Mares of all ages for sale at lowest prices.

F. L. CROSBY, Highview Farm - - - - - - - Mexico, Mo

"Last spring my sows were very wormy and out of 110 pigs, we saved only 53, and even these were in bad condition and would not put on weight until I fed them Sal Vet. After that they started to gain.

"This fall I fed Sal Vet to the sows and the pigs came stout and hearty. Out of 153 we saved 123 and they are all doing finely. I would not think of being without Sal Vet. H. F. Hodgins, R. F. D. 4, Lawrence, Kans.

"I have been feeding Sal Vet to my hogs, and want to say that it is O. K. Last week I sold forty-six nice, fat hogs, but my neighbor across the road has lost all kinds of hogs; he buried thirty-five in one day. I have not lost a single one yet. Have thirty-five still on hand, and they are all nice and healthy."

S. A. Wilkerson, Stanberry, Mo.

"I am glad I found Sal Vet. Our pigs to which we have been feeding it, weigh 100 pounds apiece at four months old, and an old mare to which we are feeding it, is looking much better, and is much better, after discharging an enormous quantity of pin worms."

James W. Raw, Rt 2, Marceline, Mo.

"Enclosed is check for my Sal Vet. My hogs are now healthy, and are doing fine. There has been some hog sickness around here, but my hogs have escaped so far."

Alvin Day, Cornland, Ills.

"Your Sal Vet is vertainly all to the good, and you may always count on me to be a booster. When the Sal Vet arrived, our hogs were either all sold, or dead with the cholera. There were five little runts alive, which were considered as good as dead, but, thanks to Sal Vet, they are the best looking hogs of their age in the neighborhood. My one regret is that we did not get Sal Vet sooner, as I feel that we could have saved the whole bunch." LeRoy A. Barrett, Oswego, Ills.

I'll Rid Your Stock of Worms

I'll Prove It Before You Pay

I Want You to Know The Value of SAL-VET

—I want you to feed it at my risk—I want to prove to you on your own farm that SAL-VET will rid your stock of worms, put them in healthy condition, easier to keep on no more feed—more profitable in every way—and less liable to disease. I don't want you to send me a penny in advance—just mail the coupon. I'll ship the SAL-VET just as agreed, let you feed it 60 days—and if it does not do what I claim, then I'll cancel the charge. Is not that a fair, open offer?

TRADE MARK

SAL-VET

REG. U.S. PAT. OFF.

The Great Worm Destroyer — **The Great Live Stock Conditioner**

—is the medicated salt which contains no antimony, fed just as you would feed common salt. There is no dosing—no drenching—no trouble—all animals need it—take to it readily—and so doctor themselves. You will find animals that you do not suspect of having worms just full of them. Stock that have been run-down will take on new vigor, grow thrifty and profitable. Stock kept free from worms will be healthier; will do better, act better, and be in better condition to resist dangerous diseases. As proof of this read a few of the thousands of letters from stockmen who feed SAL-VET — who depend on SAL-VET to help them make greater profits — and to prevent loss.

READ!

"Before I started to feed SAL-VET my hogs were sick, and I had lost six of them, since feeding SAL-VET I have lost none, although some of them were pretty sick before they had access to SAL-VET and had lost their hair. However, they pulled through all right and now have good appetites and are thriving."

ERNEST TRIEBEL, Route No, 2, Clearwater, Minn.

"After feeding SAL-VET to sheep, hogs, horses and cattle during the past winter, and found it a reliable conditioner and worm destroyer. My stock never looked so healthy and thoroughly conditioned as now."

U. H. SUMMER, Brownville Jct., Maine.

"My hogs are doing finely; have kept SAL-VET before them for two months and while there has been lots of disease amongst hogs in this section, none of mine have been sick."

GEO. A. ELINE, Route No. 20, St. Matthews, Ky.

"I have fed SAL-VET to all my stock; it has put them in fine condition, and improved them wonderfully. The cholera has been killing hogs all around my home, but I have not lost a single one. I have never used so effective a remedy."

SANFORD GERST, South Boston, Va.

"I enclose check in payment of the SAL-VET sent recently. Four times this sum would not begin to pay for the benefit I derived from feeding SAL-VET."

W. H. WALLACE, Franktown, Va.

"I have great faith in SAL-VET. Since feeding it, I can certainly see a great improvement in my stock. I have fed a number of different stock foods and remedies, but have never found any as good as SAL-VET. I am recommending it to my neighbors and others who lost hogs with the cholera."

C. G. FIELD, Hiawatha, Kansas.

READ!

"I am feeding SAL-VET to 750 lambs and about 100 hogs. During this time there has been no sickness whatever among this stock. I consider SAL-VET cheap insurance."

THOS. J. LILLY, Wheeling, Mo.

"SAL-VET is certanly a great medicine. I have been feeding it all winter, so far and since I started, my stock are better than ever before."

ALBERT MEANS, Walthill, Nebr.

"Have been feeding SAL-VET to some of my horses which were very thin and in a run-down condition. They have now picked up in flesh and spirits in spite of the heavy work incident to this time of year."

ELI FURLAND, Artesian, S. D.

"I had a yearling colt which was not doing at all well. I had fed turpentine, tobacco and other worm remedies, but all failed. On the evening of the 19th of February, I gave this colt a dose of SAL-VET and the following day I had plenty of evidence of its value. It is doing the work, all right."

HARRY BRENNEMAN, Rt. No. 5—Ottawa, Ohio.

"I am well pleased with SAL-VET. I never knew a horse could have so many worms and live. SAL-VET surely brings them—big and small. Horses to which SAL-VET is fed, act 100 per cent better, and what we formerly thought was colic and meanness, was nothing but worms and worms."

J. E. TERKEURST, 271 Dauphin St., Mobile, Ala.

"The more I use SAL-VET the better I find it. My sheep and hogs were never so thrifty and healthy as now. We butchered this week, and did not find a single worm, while our neighbors' hogs are wormy and dying. I have been recommending SAL-VET to them and they are now ready to use it too."

WESLEY CHAMBERS, Bussey, Ia.

(208)

Look for this Label

on all SAL-VET packages. Don't be deceived by imitations. Don't buy "Sal" this or "Sal" that. Get the original genuine **SAL-VET.**

Fill Out the Coupon Below Today

You take no risk whatever in accepting this no-money-down offer. Just fill out the coupon, tell me how many head of stock you have, and I'll ship enough SAL-VET to last them 60 days. You simply pay the freight charges on arrival, and when the 60 days are up, report results. If SAL-VET has not done all I claim, then I'll cancel the charge, and you won't owe me one penny. Address

Sidney R. Feil, Pres.

THE FEIL MFG. CO., Chemists

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PRICES

40 pounds.....	$ 2.25
100 pounds.....	5.00
200 pounds.....	9.00
300 pounds.....	13.00
500 pounds.....	21.12

No orders filled for less than 40 lbs. on this 60 day trial offer. Never sold by peddlers nor in bulk; only in Trade-Marked SAL-VET packages. Shipments for 60 days' trial are based on 1 lb. of SAL-VET for each sheep or hog, and 40 lbs. for each horse or head of cattle, as near as we can come without breaking regular sized packages.

Send No Money-Just the Coupon

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Ship me enough SAL-VET to last my stock 60 days. I will pay the freight charges when it arrives, agree to report results promptly in 60 days and at that time pay for it if it does what you claim. If it does not, you are to cancel the charge.

Name .....

P. O. .....

Shipping Station..... State.....

Number of Sheep..... Hogs..... Cattle..... Horses.....

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE MISSOURI FARMER

COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE AND THE MISSOURI EXPERIMENTAL STATION

Future Land Values

We believe that we are standing on the eve of a revolution in American Agriculture. Beyond any question, one of two things must happen—either the average farm must be made to earn more money or the present value of farm lands will go down. This fact is as true as the eternal verities. Up to this time, the wealth of the average farmer has come from an increase in land values rather than from what he has made in his farming operations. Of course, there are exceptions but we state the rule. The farmer who inherited his farm or who bought it when land was cheap years ago deserves no particular credit for being worth $20,000 or $30,000 today—for his good fortune is due chiefly to the evolution of land values which, in many states, was as much as 100% during the last census decade.

Now, however, we face a new situation. Unless we are very much mistaken, land values will not advance in any marked degree during the next decade. Certainly not as much as during the last. In other words, in our opinion, it is up to the farmer to demonstrate that his land is worth the amount of money invested in it—and unless he can do this, sooner or later, the leveling process of values will be inevitable. But here is a second proposition which is also vital and which must be reckoned with: If Jones, by the employment of modern methods, is able to make his farm pay while Smith, by slip-shod methods, keeps on running behind—then it is merely a matter of time until the Smiths are going to have to give way to the Jones type of farmer. Mind you, we are not saying that this situation threatens to undermine the business of farming. Agriculture is the Nation's great basic industry. The farmer feeds and clothes humanity and Agricultural husbandry will ever remain the World's most fundamental avocation to which society will in the future, as in the past, we compelled to pay a more or less adequate tribute. But we have, nevertheless, reached a point where we will have to prove that farm land is worth its present price—and in establishing this fact it is bound to be largely a battle of the "survival of the fittest."

Nor is there anything in this situation to become alarmed about. On the contrary, it will prove the salvation of American Agriculture—the dawn of a "New Day" in which the farm will come into a wider and broader sphere than it has ever known before. When we prove that we can make land return a good income on an investment of $150 or $200 per acre we are sending a message of hope to thousands of stalwart young farmer boys whose only chance to ever own a farm of their own is to buy and pay for it at present prices—and no message will ever have been fraught with gladder tidings for it will spare them from a life of thankless toil amid the roar and hectic glare of the great cities which are already overcrowded.

So, too, it will mean that fine farm homes with modern conveniences and big red barns will flourish as never before. It will mean that consolidated rural high schools in which the country boy and girl are given an equal opportunity with the boy and girl in town will become living realities all over Missouri and throughtout the Nation. It will mean that good public highways will no longer remain merely a pleasant dream and that a score of other things which will make life on the farm more enjoyable and profitable will at last be definitely written across the horizon of the future. In the aggregate, these things will cost many millions and so long as farmers are merely breaking even their realization will be impossible. In other days the farmers of Europe faced this crisis and won—and what the European farmer has done the American farmer can do, once he makes up his mind.

All over Missouri there are hundreds of farmers who are playing the farm game successfully—who are putting money in the bank and greater fertility into their soil while thousands of others are borrowing funds with which to buy feed. It is the mission of this paper to tell you how they do it—and a more important task does not exist within the commonwealth. Upon its solution depends the future value of your farm and the enjoyment which you and your loved ones will get out of farm life.

—By the Author of After-Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VII FEBRUARY 1, 1915 NO. 3

WILLIAM HIRTH
PUBLISHER

CATTLE SITUATION FROM VIEW-POINT OF THE FEEDER

S. P. Houston, Malta Bend, Missouri, before the Missouri Cattle, Swine and Sheep Feeders' Association, Farmers' Week.

It is a difficult matter to form a definite idea or make a forecast with reference to the cattle situation that will hold good, for the simple reason that the "viewpoint" of one upon a problem of so great a magnitude as this must necessarily be, is circumscribed by the scope of the individual horizon; hence from the narrow confines of my own perspective, I shall be unable to give you much that will be of substantial benefit, but if I were permitted to beg, or to borrow from those who have opportunity of wider vision, then I might hope to give a more intelligent conception of the situation.

The year 1914 has been a memorable one for the cattle feeder viewing it from any angle that we may—and the wonder is, that there are enough of us left to tell the tale, or constitute a quorum for future operations.

Optimists that we all are, we began the year with every promise and hope that the recurring months would bring us a generous reward, but we had not reckoned with the fates that shape the destiny of men, and likewise of nations; for ere the roses bloomed, the grass began to wither beneath the slanting rays of a torrid sun, and in the wake of this came a myriad of pests to share the scanty supply of summer forage—and, as a result, our feed bills mounted upwards—beyond all our calculations, and the profits which we confidently expected to gain vanished in the same ratio. Then when we were in a measure reconciled to the situation, we were aroused by the rumbling of giant seige guns, which announced to us that war with all its horrors was again abroad in the world; and no sooner had we settled down to the task of supplying bread for the hungry millions, than some avaricious importer, under the beneficent privileges of an indulgent government brought to our shores the germs of the dreaded and disastrous "Foot and Mouth Disease," which has proven so highly infectious, and has spread so rapidly that the immediate damages are reckoned up in the millions, while the resulting injury to future business is beyond computation.

So runs the story of our business during the year that is past. But notwithstanding all of these adverse conditions, cattle sold on the open market for the highest average price ever known to this generation. Yet, this is but cold comfort and scanty consolation for the average feeder, the condition of whose bank account indicates that he did not share in the record prices, but rather did he contribute to the record without a fair remuneration.

Let us turn from the year that has brought such great disappointment and disaster to the fraternity to the one that is before us—young with hope and with its possibilities yet unmeasured. Its conditions are more complex and the finish more uncertain. But, the "still small voice" impels us to "stay in the game, for there is yet another and a better chance to win."

The trend of the cattle industry during the past decade indicates, unmistakably, a growing scarcity of beef animals, and added to this is the significant fact that seven-tenths of the world is now engaged in the most destructive war that ever blotted the pages of history, consuming not only the beef but the breeding herds that must be the foundation of future replenishment. It is estimated that it will take Europe thirty years under normal conditions to again establish the cattle situation which obtained there six years ago, and during all these years there must be a greater demand upon the depleted supplies of other countries, where no sufficient surplus exists, to meet the condition of an unnatural emergency.

It is lamentable, but nevertheless true, that the average man does not give much credence to the figures and estimates made by the agricultural department of our government with reference to the live stock industry, as too often the figures are a year old before they are available as a matter of general information. So, I give them to you for what they are worth and in dealing with the future of the beef making industry I trust that no one may be influenced to his injury by anything I may have to say.

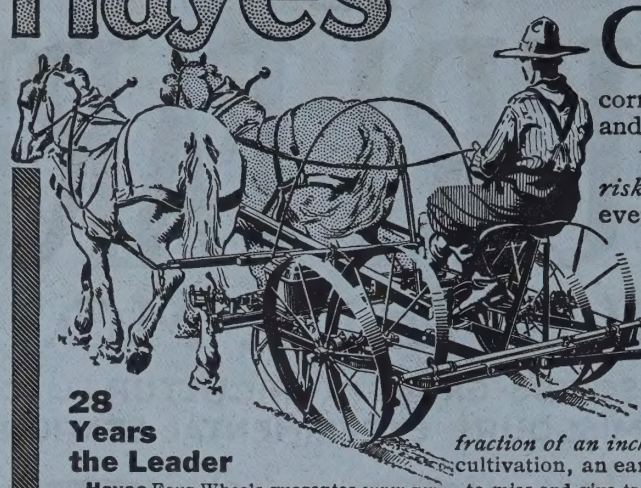
The latest figures from the Department of Agriculture indicate that the shortage of meat animals since the census of 1910 is 9 cattle, 7 sheep and 3 hogs for each 100 of the estimated population in January, 1914. This means that it will take 18¼ million head of meat animals more than we have today, in order to give the present population the same meat supply that we had four years ago. Hence, it would seem that the only factor with which the producer has to reckon with in the near by future is the ability of the consumer to pay the price, and had it not been for a widespread industrial depression and a consequent stringency in money matters, we would not be forced to accept so violent a recession in the prices of products today.

So, in the last analysis, the future market conditions will be largely responsive to the activity of the channels of trade and industry. That the steadily vanishing meat supply is a matter of vital concern to both the producer and consumer cannot be denied, but the hypocritical craze to reduce the high cost of living by reducing the price of the products of the farmer and the feeder is not an unmixed evil, for no greater calamity could befall the world today than to force the agricultural and live stock interests into a period of low prices. War is now raging among the great nations of Europe. Crops have been destroyed or remain unharvested. Millions of people in Europe must be fed, and food production in Continental Europe and parts of Great Britain is almost at a standstill while consumption of meats and other food stuffs is vastly greater than production. Our nation is pressed to feed its own people and our export surplus is small even at prevailing high prices and the demand promises to be far greater even if the war is of short or long duration. The matter of price is likely to prove a secondary consideration. The people must be fed. Where is the meat coming from? Food authorities say that the supply of food animals in Europe cannot last six months longer.

So far as the quality and economic production of beef is concerned, the feeder is not loafing on the job, but rather is he using his best efforts with the means at his command to increase supplies and thus lower the cost of living. Contrary to the common rule of trade, high prices have not stimulated greater production, but rather have they induced the selling of the increase from our herds at a premature age, and it does not take much study of this matter to realize what the effects will be if the country ships stock to market prematurely in poor condition and lacking weight and finish. It would be a big mistake if farmers were to market hogs without fattening them, as their killing value would be lacking and their market value during the winter packing season would be affected accordingly. The fostering care and kindly encouragement which our national government has given the live stock industry in recent years has been conducive to raising prices rather than calves; that the agricultural experiments both by the states and national government along the line of soil cultivation and conservation have been made at the expense of the cattle industry, is a very potent and pertinent fact; and in so doing they have left the cattle producer to shift for himself, either to survive or perish, or in any event, he must keep out of the track of progressive civilization and pitch his tent beyond the Great Divide. So a plan to augment the number of beef animals upon the farms that would be profitable and productive has not yet been suggested, and the average farmer figures that he cannot afford to take the chance of producing cattle on high priced land—hence, he prefers to sell the crops

(Continued on page 18)

Hayes Four Wheels—Bigger Yields



GOOD seed and good soil is only the *starting point* in raising a big corn crop. You can no more afford to plant with an old, worn out corn planter or a complicated new one full of fads and fandangles than you can to plant *poor seed.*

You can't afford to waste your time and labor or *risk your entire crop* with a planter that covers unevenly, misses hills or does not check accurately.

Uneven depth of planting means a bigger loss than many realize. It's *especially bad* in cold, backward seasons; often amounts to several times the cost of a planter in a single year. Avoid planting part of the corn so deep that no matter how good the seed or how rich the soil *many of the hills never come up*—or leaving other hills uncovered so that the sun and wind *destroy or stunt their growth.*

Hayes Four-Wheels regulate depth of planting to the *fraction of an inch.* Corn all comes up at the same time, allows earlier cultivation, an earlier harvest, a *better quality* and *bigger quantity.*

28 Years the Leader

Hayes Four-Wheels guarantee *surer germination and quicker growth.* Wheels pack the dirt from the sides to hold moisture and leave a ridge on top so that the corn sprouts quickly and comes up several days sooner. The ridge gives greater surface for the sun's heat and prevents washouts in hilly fields. This method *assists the budding sprout,* protects its vitality and makes stronger and healthier stalks.

Hayes Four-Wheels *cover where all ordinary open wheels fail*—even in wet and sticky ground. Guaranteed not to clog. Short coupled, light draft and turns in shortest space. *Checks with absolute accuracy,* regardless of team's speed. Cross rows straighter than the way you drive.

The **Hayes** Drop *never misses a hill.* Simple, reliable and most efficient. Fewer parts, less breakage and delays. Has no clutch to miss and give trouble. *Never cracks or grinds the seed.* Will drop accurately any size or shape kernel. *No bare spots* in **Hayes** planted fields. No replanting necessary. Increased yields soon pay for it.

Thousands in use for years with practically no repair expense and every one giving *time-saving, money-making* service. No complicated parts to get out of fix. Strong construction, *practically exempt from breakage.* No expensive and aggravating delays in the busy planting season. Easy and simple to operate and can be trusted to unskilled help.

Think these things over and start investigating NOW. Learn the overwhelming advantages in **Hayes** Four-Wheel construction. *Ask any* **Hayes** *user.*

Learn the experience of farmers who *have* increased their yields by big margins with the use of the **Hayes**—who *have* finished planting earlier—who *have* begun cultivation earlier. Every **Hayes** user will tell you the work is easier—faster—better; the results more satisfactory—more profitable. So much depends on the work of the planter that a farmer cannot afford to get anything less than the *best service.*

Can be furnished with perfect working Fertilizer or Cow Pea Attachments, Stub Runners or Disks.

WRITE! This planter is *guaranteed.* It *must* be all we claim and all you expect. Send for Free Book "AP" of Valuable Planting Facts. Write today, then you won't forget.

HAYES PUMP & PLANTER COMPANY, GALVA, ILL.

LOOK at the LOCK

and you WILL SEE WHY "SQUARE DEAL" Fence is the best fence to buy. Before you buy another rod of fencing, see for yourself why the SQUARE DEAL LOCK makes this the favorite field and stock fence of discriminating farmers everywhere. See how firmly it double grips the one-piece stay wires to the wavy strand wires without cutting, breaking or slipping—how it combines solid strength with remarkable flexibility—how its self-draining shape prevents rust—how it makes

Square Deal Fence

especially strong where others are weak. See the one piece stay wires that prevent sagging, bagging and buckling—save posts, time and trouble. See the wavy strand wires that give springiness, elasticity and life, keeping SQUARE DEAL FENCE tight and trim the year 'round. We want to send you our FREE catalog telling all about SQUARE DEAL FENCE, prices, etc. Land owners write for it NOW—TODAY and we also will send you FREE and postpaid (if you have not sent for one before) a regular 50c edition of ROPP'S NEW LIGHTNING CALCULATOR—160 pages of money, time and labor-saving ideas—the GREATEST book of its kind ever published. WRITE.

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They cost less to use than wood posts and outlast a generation. Can be driven into any soil, gravel or soft shale rock. Made of elastic carbon angle steel—the strongest and toughest post material known. Use Apex Posts for your next fence—save work—save 8 to 10 cents in setting each post—have better looking fence—burn fence rows clean—ground the lightning and protect stock.

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Read the helpful hints on fence building that we have outlined for you in the "Apex Way."

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The Missouri Farmer

VOLUME VII FEBRUARY 1, 1915 NUMBER 3

Why The Farmer Does Not Make More Money

Dr. E. H. Bullock, Edina, Missouri

That the average farmer has not been making a fair rate of interest on his investment has long been an established fact. The farmer knew this was the condition, but how to remedy the condition he did not know. The banker knew the farmer was not making a fair rate of interest on his investment, but how to help the farmer and with safety to the bank he did not know. Often the banker was compelled to refuse his farmer customer money, when the farmer's very existence seemed to depend upon the loan of the money for which he was asking.

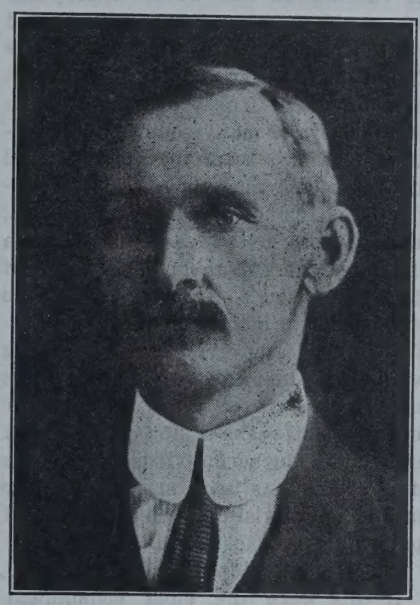
The conditions which exist in the loan business of our country are far from just to the farmer. He is compelled to pay the highest rate of interest and at the same time furnishes the best possible security. Why is this condition? Simply because the farmer can and does stand for it. Not because it is just. What line of business could exist, but the farm business of this country, add ten billions of wealth to this nation, do it on a borrowed capital of six billion dollars, on which was paid an annual sum of five hundred and ten million dollars interest? This is the condition that exists in the United States today. The farm wealth of this country is forty billions of dollars, we add ten billion dollars to the wealth of this country every year, on a borrowed capital of six billion dollars, for which we pay a rate of eight and one-half per cent interest. The lender getting for his security almost seven times the value of the loan. Do these figures stagger you fellow farmers? Well they are true. True as it is possible to make State and Government reports. No wonder we are astounded when we stop to think of it, when we stop long enough to take an inventory of ourselves. We wonder, can we do it? The answer from twelve million farmers all speaking in unison, is, We have done it and we can do it again..

Farmers Make 3 and 4 Per Cent

Stupendous as all these figures are, and vast as the farm values are, and although the farmer adds twenty-five per cent of all there is invested in farm interests to the wealth of our nation annually, we are only making between three and four per cent annually on our investment. Where does the other twenty-one per cent go? Do you ask? The echo answers. Will some of the business men as they call themselves, from the banker to the barber, please tell us? Why don't the other fellows call us business men? It must be because we let the other fellow get over eighty per cent of the wealth after we have raised it.

The average farmer is compelled to sell the fruits of his labor at wholesale, and at the same time buy the necessities of life at retail, a condition under which no other line of business could exist. We pay eight and one-half per cent interest, while other lines of business pay four and one-half per cent for their money.

At this present writing, some of the warring nations of Europe are, or have been, seeking war loans in New York, with a fair show of obtaining the same at a rate of about one-half the rate of interest that would be charged the honest farmer—the farmer who is now raising the bread, and in many instances sending it without money and without price to the starving mothers and children, whose husbands or fathers have been murdered by the horde like armies of land-mad despots. These rulers of Europe offering as security, what may be in the future, the bonds



Dr. E. H. Bullock

of a fallen nation or the blasted hope of a military despot, while we, fellow farmers, offer for security **our homes, our farm homes** if you please, the basis of all true values. We offer in addition to our homes our stalwart citizenship, and the determination to succeed that knows not the word fail.

Hardships of the Pioneer

Forty years of memory, as we turn backward the pages of time, brings very forcibly to the writer's mind the hardships endured by the farmer in the pioneer days. Had not the virgin soil been rich with the accumulation of humus for centuries, the pioneer farmer must certainly have perished from hunger, so crude were his methods of farming. He had but to tickle the face of nature, as it were, and abundant harvests would burst forth. But prices were low and transportation means were slow and expensive, and at the end of each year most farmers sold their crops to pay the taxes, interest and store bills. And the family went without. Went without what, do you ask? Went without all of the luxuries of life and in many instances went without the bare necessities of life. Then how did they live? In many instances they did not live. If the western prairies could speak a thousand times, a thousand voices of the dead would cry out from as many unmarked graves, telling of the pangs of hunger that racked their bodies before death ended their suffering. These were the pioneer days in the states West of the Missouri River. The states East of the Missouri River never knew the hardships of the far West.

All this has past and gone. Where want once held sway there now exists farm homes that almost rival the Temple of Solomon in all his glory. Many farmers have become wealthy. Many have made only a bare living. Those who have become wealthy are usually those who had some money with which to start. With strict economy and good management, they have succeeded.

Must Do More Thinking

The time has come when we must do more thinking. We must apply business principles to our farming if we would make more money. Too many of us farm hap-hazard. We do not have enough system. We do not seem to know "The Game." A parody on one of Will Carlton's poems might read with more truth than poetry:

Some men farm for great things,
Some men farm for small,
Some, it is not recorded,
Why some men farm at all.

Many farmers do not make money because they are farming their land to death. They have cropped their land in one kind of crop without changing, until the land has passed the stage where its productiveness continues to be profitable.

A farmer remarked to the writer in May, 1914: "You are planting three and four grains of corn to the hill." "Yes," replied the writer. "In my opinion that is about right." "My land won't stand it.," said the first speaker. Then, replied the writer, "It is time to change your land." "Oh, I reckon," replied the first speaker, "but I thought I could get more out of it in corn than anything else. I can't get a stand of clover or timothy on it any more."

This soil robbery farming, no system of rotation, and too much one-thing farming, is one great reason why we are not making more money. The farmer must learn that he can not continue to take crops out of the land and put nothing back, and reap a profit on his investment. He must also learn that he must do more diversified farming. He must have more different kinds of crops growing. Must not depend upon one or two kinds of cops. When the farmer depends upon one or two kinds of crops and they fail, he has no chance of success. If he depends on five or six kinds of crops it is seldom more than two of them fail the same year.

Raise Clover and Alfalfa

Fellow farmers, don't plant rolling land in corn more than three years without changing it. A change in two years is better. Raise more wheat, sow more clover. Be sure and sow some alfalfa. It will grow on most any land that will raise good corn. Alfalfa is the only crop you can grow, take all you raise off the land, continue the crop for twenty years, and have the land better than when you sowed it. If you don't believe it, try it! If you try it you will try more and will never be without it. The slogan of the Missouri farmer ought to be: "Alfalfa on every farm and hog cholera on none." The alfalfa on every farm will go a long way toward keeping the hogs on every farm in such a condition of health that they will seldom take cholera, especially if reasonable care be taken to prevent it.

Rotate and Diversify Crops

Experience has demonstrated beyond all doubt that crop rotation, diversified farming, the proper use of barnyard manures and fertilizers, proper tillage, good seed, good stock, and last but not least, good common sense, insures farm prosperity.

Think, fellow farmers, think.

"Think for thyself, one good idea,
But known to be thine own
It's better than a thousand gleaned
From fields by others sown."

The farm labor question is another reason why we are not making more money. People of all trades and callings go to the farm to get a living when their job in the city fails them. I say these people go to the country to get a living. They get it, but they seldom earn it. The writer has had men from the city employed who could not do a decent job of calling hogs. These fellows wanted about thirty dollars a month and board, a horse to drive on Sunday, and as little work as possible. Some farmers might make such help a paying investment. The writer never could.

The man who has worked in the city until he has passed the age of thirty or thirty-five is seldom a profitable laborer on the farm. Farm help to be profitable must know how to do reasonably good work. He must know how to care for all kinds of stock at all times, must know how to use and regulate farm machinery, must know how to prepare soil and plant all kinds of crops. One day's blunder although it may be unintentional on the part of the farm hand, may cost his employer ten times his wages for a month. There are too few men who are worth paying enough to make them profitable workers on the farm. I'd rather pay a man for what he knows than for what he does, but we must have knowledge and action both in farm help in order to have a success. If a farm laborer is intemperate, better let him go. If he is profane, better let him go, for a profane man nine times out of ten will abuse the teams. If he is not congenial and talks back, or argues a better way, let him go. When he thinks you can't get along without him, be sure to let him go.

On the other hand, let's remember that the farm help longs for homey surroundings. See that he has a good room, a comfortable bed and treat him as you would like to be treated. Let's not treat him as we were treated. I heard a farmer say to a hired man not long ago, "I never worked as a farm hand in my life." "I knew you hadn't," was the reply he received from his employe, who, by the way, was an excellent man, who knew his work well, and who was above all else a gentleman.

We are our brother's keeper, and the employer and the employe must have interests in common for both to receive that for which they are striving—success.

Fellow farmers, these are a few of the reasons why, to my mind, we are not making more money. To remedy these conditions is another thing.

I think the County Agricultural Bureau is doing more, with the County Farmer Adviser, to solve these problems of the farmer than all else. I believe the time is not far distant when we shall do much better farming and make more money than we have been making. I believe a new era is dawning for us. I believe in my fellow man.

SERUM ALONE AND SIMULTANEOUS VACCINATION FOR HOG CHOLERA

J. W. Connaway, Veterinarian, Missouri State Experiment Station

Judging from letters that have come to my office, many farmers in various parts of the state have got the impression that I have had a bill introduced in the legislature to prohibit the use of hog cholera virus in what is called the "simultaneous method" of vaccination. This impression has been spread by the concerted action of a number of serum manufacturers, through circular letters and newspaper articles. Some of these circular letters have been forwarded to me by the farmers. These circulars give a brief argument for the "simultaneous method" which they assert confers a "life immunity" (?). They also contain arguments against the "serum alone" method which gives a temporary immunity. These circulars all end with an appeal to the farmers to write their Representatives and Senators to vote against the bill. The following is a sample: "If in favor of the "serum-virus" or simultaneous vaccination, and not in favor of the pending bill, write your Representative and Senator strongly protesting against such enactment; or if acquainted, make a personal appeal to defeat such measure." (signed—— Serum Co.)

Notwithstanding the impression that has been made, I do not have any bill of any kind before the legislature nor am I sponsor for any bill. I have not written nor spoken to any member of the legislature or anyone else asking them to introduce or ask for any specific or general legislation on these matters. If such a bill has been introduced, it has been done on the initiative of the member himself, or suggested and backed by his agricultural constituency. And in this matter I am inclined to think that the "serum-virus" vendors have themselves stirred up the farmers in a way they were not looking for, and that a quite different kind of "protest" will be made by the farmers from that asked for. The following letter just received is a fair sample of others on file: Mr. ..... of Ash Grove, Green County, writes under date of January 18th as follows: Dr. J. W. Connaway, Columbia, Mo.—Dear Sir: "I see you are going to present a bill to do away with the virus. Now I think that will be a good thing to do. But I think it would be a good thing to hold the bill back awhile to let the farmers send in petitions to their Representatives. I could get a large petition here, as I am certain they would sign it almost to a man. I have used both serum and virus. And I would not have a drop of virus on my place again. I have tried both kinds of vaccinating and I like the single treatment best. I have had about 800 hogs vaccinated in the last year. One of my neighbors vaccinated 90 head, with the double treatment, with serum from two different firms, and has lost all but 35 head; and a veterinarian did the work for him. I do not think it is right for a man to be compelled to treat his hogs because his neighbor is careless, and have to vaccinate with virus and keep cholera on the place."

This farmer and his neighbors have evidently had the same kind of experience that farmers have had in many other parts of the State.

Farmers Are Thinking for Themselves

Here is a letter from Saline County. Dr. J. W. Connaway, Columbia, Mo.—Jan. 18, 1915. Dear Sir: "I don't want to trouble you with unnecessary complaint, but it seems to me that there should be necessary legislation concerning the use of the simultaneous method of hog cholera vaccination. Either prohibit it entirely, or require some means of quarantine whereby the cholera would not get scattered all over the country. This past summer cholera broke out near a neighbor, who thinks the simultaneous method is the only system, and practices it when there are no sick hogs in the country. After vaccinating he turns his hogs out and lets them run at large; some die and are left for dogs and crows to devour. (This man is well liked by the neighbors except for this one thing). Last season he vaccinated as usual. Cholera broke out among his neighbors' hogs and has been sweeping the country ever since. It is raging here now. I succeeded in saving enough hogs for meat and now have 12 brood sows and one shoat. Some of my neighbors were less fortunate. One in particular who lost every hog.

"Before we began to use virus we had an epidemic of cholera once in 8 or 10 years. Now it has assumed a more monstrous form, it is a continuos epidemic. We farmers trust there is some means by which we may be free of cholera. I would secure you a list of signers to this letter if I only had the time." (Sig.)

To Get Rid of Cholera

These two letters are sufficient to introduce the vital subject I want to write about, and it is not on prospective "legislation," but on the matter which is uppermost in the minds of all the swine growers and feeders of the State, and which is expressed clearly and briefly in the closing paragraph of the second letter quoted, namely: **"We farmers trust there is some means by which we may be free of cholera."**

The farmers, as a unit, sincerely desire to have their farms and herds **free from cholera** but they are badly confused in regard to the means by which they may attain that end most speedily and most economically. In this and succeeding articles I wish to show how they can rid their farms of cholera, and remain practically free from it. There is much rubbish in the form of false teaching and bad practice that we must eradicate before we can eradicate hog cholera. And I want to go into this matter thoroughly and without prejudice, and determine whether any particular measure or measures that have been proposed or put into practice meet the requirements demanded by the farmers: namely, that of **"getting rid of hog cholera."** We would be further on the road to success if the farmers and veterinary sanitary officers had kept before them this essential requirement instead of having been led off on side issues.

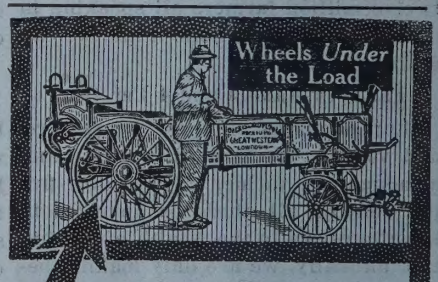
Let us take up first, vaccination; as that is one of the important questions now at issue. Vaccination has its proper place in any right scheme of hog cholera control. And I regard the "anti-hog-cholera serum" as one of the most valuable discoveries that has been made in recent times, so far as veterinary science is concerned. But the part it should play in the control and eradication of hog cholera has been so greatly exaggerated by some veterinary sanitary officers; and the exploitation of the "serum-virus" or "simultaneous method" (by commercial serum companies, and veterinarians financially interested) has been so great, that many farmers have been led away from right principles and practices of sanitation, in the belief that they had in "vaccination" all that was necessary to save their hogs, **and get rid of the disease.** But the facts are that wherever the greatest amount of vaccination has been done, and where the most "virus" has been used by the simultaneaus method, there is found the greatest amount of hog cholera infection. These are facts which the farmers of many counties will verify. It would seem that if the large use of serum and virus were an efficient means of **eradicating** cholera, there would not be so much of the disease in the neighborhoods where it has been used so freely. It was the experience of many neighborhoods, before the discovery and use of hog cholera serum and virus, that intervals of five or even ten years would occur between outbreaks of hog cholera. But now under the serum-virus regime, the disease remains upon many farms, or is an annual visitor, and each crop of pigs must be vaccinated.

Hog Cholera Increasing

If this were the most economical way of protecting our swine, and if under this system the growing of swine was stimulated and made profitable, I would not object to it. But what has been the result of the "vaccination wave" that has swept over Missouri in the past few years? Only a few years ago Missouri raised between five and six millions of hogs in one year, now the number is probably not more than four millions. Has this been due to a lessened demand for meats, and lower prices? That can hardly be the answer. The swine raisers and feeders says: "cholera." Many feeders ship in hogs from distant localities, from Arkansas, Oklahoma, Texas, Mississippi, when every one knows that it is possible to raise in the home county all the hogs that may be needed to eat all the corn that can be raised in the very richest county of the state. Besides feeding-hogs of a far better quality can be raised on the home grounds than can be purchased at a distance. But the losses from cholera due in no small measure to the commercial exploitation of serum-virus vaccination has brought about these conditions. The discovery and use of the exceedingly valuable anti-hog-cholera serum has thus apparently been more harmful than useful when looked at from the large point of view of protecting and building up the swine breeding interests of the State. We raise far fewer hogs than we once did, and I believe that the commercial use of hog cholera "virus" is largely responsible for it. The blame should not rest upon the "protective serum" and its proper use: namely, as an aid in a proper system of cholera prevention and eradication, and I am confident that the new state serum laboratories will be able to supply all the serum required for this legitimate purpose.

Serum Alone Method

Some of the readers of The Missouri Farmer may not have clear in their minds what is meant by the single or "serum alone" method; and the "simultaneous method" of vaccination, and the advantages and disadvantages claimed for each. We will consider these matters as fully as may be necessary. The same kind of "anti-hog-cholera serum" (that is the protective substance obtained from the blood of hogs made hyper-immune to cholera) is used in both methods. In the **"serum alone"** method as the name indicates, nothing is injected into the hog except the "protective serum" which does not contain any virus or disease producing substance, and the hog does not get sick from the vaccination. This gives what is called a "passive immunity"; that is, it is not a permanent or "life immunity." The protective substances are gradually eliminated and the hog again is liable to contract the disease if exposed to it. The duration of the immunity in swine injected with "serum alone" varies, according to the strength of the serum and the condition or individuality of the animal injected. In the practical application of the method the immunity usually runs from sixty to ninety days. This is sufficient time as a rule to carry out proper measures of disinfection. But in some cases it may be deemed advisable to prolong the immunity period in a herd by a revaccination, if further time is needed in carrying out proper measures of sanitation, on all infected premises in the neighborhood. The important point the farmers must keep in mind is not the permanent immunization of all the hogs they raise but the eradication of the germs of the disease or virus of hog cholera from every farm in the neighborhood, and this can be done by the use of "serum alone" for temporary protection, and proper co-operation in carrying out quite simple, inexpensive and effective sanitary measures on the farms and small stockyards in the neighborhood. It will not be necessary, as has been charged by the commercial serum man



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referred to above, to vaccinate 4 to 6 times a year. In fact no vaccination at all will be needed on most of the farms in the neighborhood, if my plan of "simultaneous sanitation" is applied. And on the farms where even "serum alone" is deemed to be necessary only one vaccination, or at most two will be required, and that will be far cheaper than to attempt to establish and maintain a permanent or "life immunity" in the herd, by the "simultaneous" or "serum-virus" method of vaccination; for such an attempt means the permanent infection of the farm, and the continual tax of semi-annual vaccination of each new crop of pigs, and an annual revaccination of the breeding herd. Moreover a danger focus is maintained on such farms from which cholera is liable to be spread to neighboring farms, as will be seen when this method is more fully described. In my next article I will discuss the Simultaneous or Serum Virus method of vaccination.

A BIGGER OAT YIELD

Have the farmers of Missouri made any profit on the oat crop in the last five years? Below thirty bushels per acre will not pay expenses and if the oats do not bring a good price it will take more than thirty bushels for the farmer to come out even. If we go back to 1909 and take the statistics for the whole state for the six years the average yield of oats in Missouri has been 25.4 bushels. In that time we have had three extremely dry years which cut the yield very much. If we take then only the three best years in the six we find we made an average yield of only 30.5 bushels as compared with an average of 20.3 bushels for the three drouth years. All these averages are really too high because it is the rule of the state board of agriculture to estimate only the part of the crop harvested for thrashing. In dry years many acres pastured and cut for hay would yield less than the average and hence the real average is below the official figures.

I shall not discuss the effect of the season on the yield of oats because that is not a factor we can control. The soil is another factor that is very important but little can be done along that line between now and oat sowing time except to thoroughly prepare the seed bed. I know some farmers say that "hogging" in a crop of oats is just as good a plan as any but I would not want to risk it. With new land or land in a good state of fertility and full of humus so that it does not run together it may sometimes do as well as any to "shovel in" the oats but on most of the old land a thoroughly prepared seed bed will produce much better results.

In this state the oat crop is often cut short by hot and dry weather in June or the crop may be injured by rust. For this reason we should sow early maturing varieties. The Kherson and Texas Red Rust Proof are two of the safest varieties to sow. The latter variety is one of the best rust resisting varieties we can grow. Few farmers appreciate the value of a good fanning mill in the selection of seed oats. Various trials have been made in Canada and in the United States which have proved the superior value of the heavy seed. We can not select our seed oats by hand like we do seed corn but we can discard the light seed by the use of the wind mill.

Where the seeding is a little late it is best to sow with a drill. It takes less seed with the drill and the drilled oats will withstand dry weather better than the shallow covered grain sown broadcast.

Perhaps the greatest mistake Missouri farmers are making with the oat crop is in their neglect to treat the seed for smut. Smut seldom destroys a crop entirely and on the other hand it is hardly possible to find a field of oats any year without considerable smutted heads. It is very common to find 10 to 25 per cent of the heads destroyed. There is no excuse for this whatever because we can prevent the smut at very little cost and labor by treating the seed with commercial formalin which costs only about 50 cents a pint and this is sufficient for mixing with 40 gallons of water and will treat several bushels of oats. The usual method is as follows:

"Mix one pint of commercial formaline with 40 or 50 gallons of water in barrels or other convenient vessels. Formalin may be obtained from any drug store. Immerse the oats in this solution, stirring well so that all will be thoroughly soaked. Pour off the solution, dump the oats out and stir occasionally until dry. Another method employed is to sprinkle the oats with the solution until they are well soaked, and then heap them up in a pile and cover with blankets or sacks. Leave them in this pile for five or six hours, or even over night, and then spread out to dry. Stir frequeutly until thoroughly dried, after which they may be sacked and set aside until seeding time.

"Machines for treating oats and wheat for smut are on the market. In these the grain is passed through a tank containing the formalin solution and then dumped out on the floor to dry. Such machines are not expensive and are very satisfactory.

"Formalin is poisonous, but in this weak solution it will not injure the hands and is perfectly safe to handle. Since the formalin volatilizes rapidly, oats thus treated that are not needed for seeding may, after thorough drying and airing, be safely fed to stock."

How to Burn Cholera Carcasses

The burial of hogs dying of cholera is not advised by the department of animal pathology at the Nebraska Experiment Station. The germs of the disease will last a long time in the earth under favorable conditions and are liable to cause a new outbreak. The safest way to dispose of a carcass is to burn it.

Burning may be easily accomplished in the following manner: Dig two trenches a few inches deep intersecting each other at right angles. At the intersection of these, cornstalks, cobs, or other fuel may be laid. Over the trenches may next be laid strips of metal to support the carcass. Before being placed over the supports, the abdominal and thoracic cavities should be opened and be liberally sprinkled with kerosene. Then the hog should be placed belly downward over the fuel. As soon as the material in the trenches is ignited, it will rapidly spread to the kerosene and fat and the body will be quickly consumed.

If a large iron wheel is handy, it may be substituted with good results for the trench and iron bars.

Beef Situation Not Alarming

Although the beef cattle situation in this country is much disturbed, Dean C. F. Curtiss of Iowa State College does not see any occasion for alarm. He believes that out of the uncertainties will come the establishment of the beef industry on a sound basis, as a regular feature of successful farming and largely independent of the speculative features that have attended buying and selling of cattle in the past.

"We must continue to produce live stock as the chief output of the American farm," says Dean Curtiss, "because it is essential to the permanency and prosperity of agriculture. Our people might get along without home grown meats, but our farms would not thrive long without growing live stock to help maintain soil fertility. Where a comparison was made in Iowa, stock farms produced an average of 14 bushels more of corn, 8 bushels more of oats and 1 ton more of hay per acre than grain farms of the same type. The average income from stock farms in Iowa is $8.88 per acre and from stock farms, $13.17. The profits were even more largely in favor of the stock farms."

Every farmer who sends us a dollar for three years subscription makes it possible for us to give our readers a better paper. It takes more than "good wishes" to carry forward a good idea in this world—and the men worth while in any community are the men who help—who do their part in every good cause.

Studebaker
WAGONS BUGGIES HARNESS

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I bought the wagon from Mr. Gruner and have hauled as high as 50 bushels to the load.

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4 "	82.80
6 "	139.90
8 "	190.40
12 "	279.80
16 "	378.70
22 "	483.15
Saw-Rig	
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8 "	227.10
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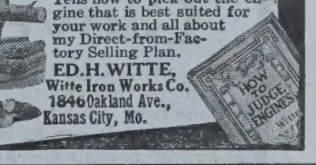
When it comes to durability and ease of operation, no engine, regardless of price, can show a better record than the WITTE.

Engine Book FREE
Tells how to pick out the engine that is best suited for your work and all about my Direct-from-Factory Selling Plan.

ED. H. WITTE,
Witte Iron Works Co.
1846 Oakland Ave.,
Kansas City, Mo.



TOWER CULTIVATORS

Greatly increase the yield of corn, beans, cotton, potatoes, and are the *leaders in surface cultivation.* They spare all the crop roots, but destroy all weeds. They furnish the best dust mulch which holds moisture. A larger yield of corn and root crops results because of earlier maturity.

"Tower is on the tongue"

Write for our free "Corn Book" which tells how to grow big corn crops.

J. D. Tower & Sons Co.
11th Street, Mendota, Ill.

BETTER FENCES, MORE LIVE STOCK, GREATER PROFITS

Fifty per cent of our Missouri farms are not fenced as they should be, fifty per cent of our farms are not stocked up with live stock as they should be to return to the farmer the greatest profits. Every farm should have a hog-tight and horse-high fence all around it, and should be fenced off in ten to forty acre fields according to the size of the farm. All the cross fences should be hog tight and horse high so any kind of stock can be turned into the fields. The different fields should be so arranged that stock can be turned from one field to another by simply opening a gate. By having our farms thus fenced we can at all times get the full benefit of our crops and the growth of grasses. We often have storms which blow down our grain in the fields and leave it in such shape it can not be harvested, and if our fields are fenced as they should be and we have the proper amount of live stock on the farm that we should have, and are ready to turn in on these damaged crops, we will receive almost the full benefit of them. There is always more or less grain and other feed crops left in the field after it has been harvested, and then if you have a bunch of pigs, sheep or other live stock you can always clean up a field after it has been harvested and a nice little profit be derived from this cleaning up.

The time is here when no farm can be successfully handled without a sufficient amount of live stock to consume all the feed stuff raised on the farm. A farmer who raises grain and hauls it to the market reminds me of a wood hauler who buys himself a good team and a good new wagon and set of harness and starts to hauling cord wood to market, hauling from one to one and one-half cords at a load. He makes very good wages and a little money for a year or two, but soon his team becomes worn out and his wagon is worn out and neither team nor wagon is able to carry but a common wagon-box full of wood to town and the wood hauler has not made enough clear profit to buy another team and wagon, and all he can do now is to chop up a wagon-box full of stove wood and haul it to town to buy a few groceries for the family. The same thing has happened and will continue to happen with the farmer who does nothing but grow grain and other field crops on the farm and haul them all to market. Your good fresh farm will produce you good crops on the start and you will make some money for several years, but by and by the good farm land will become poorer and poorer until the crops will not pay the expense of trying to grow them. The expense for hauling the crops will not be much because you will not have much to haul away. A few years later all you will have to do is to dig a few sassafras roots and gather a few dew berries and carry them to town to get a few groceries.

There is only one way to run a farm without live stock and that is to bring back on the farm five tons of good manure for every ton of grain and feed stuff you haul off of the farm. There is a great deal of pleasure and education in growing good grain and other farm crops, but there is just double the pleasure and education in growing both the crops and the live stock at the same time.

The time is here and always will be, when any kind of good live stock will pay well to breed and grow on the farm. There is good money in breeding and raising cattle, there is good money in breeding and raising horses and mules, there is good money in breeding and raising hogs and sheep. I know a few men who do nothing but raise grain on their little farms and feed nothing but geese and turkeys and they are making their farms better and making good money.

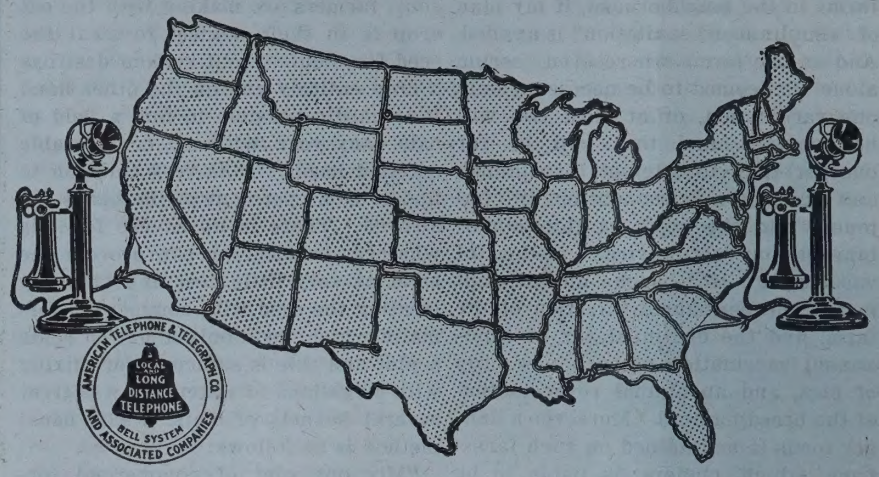
The low price for meat is gone never to return. So you can choose the class of stock you like best and breed and raise them at a good profit, but it is a very good plan for the average farmer to breed and raise a few of each. Cattle and hogs go well together on the farm, and the different kinds of livestock all do well in the same pasture and go very nicely together on the farm. Cattle and sheep will eat a great many weeds and grasses which horses do not like and the hog comes along and cleans up all the waste grain which has been spilt in the mud. So all the livestock work hand and hand on the farm and each one makes a little good easy money for the owner and at the same time it is building up the farm and making it better from year to year.

By the way, I almost forgot to mention the animal that is the greatest money-maker on the farm. It is nothing but a few good jennets. I have bred and raised nearly all kinds of good livestock on the farm and all have made some good money, but the old jennets have made more good easy money than anything I have ever handled.

I have a neighbor (and a fine family they are)—eight girls and three boys and a good father and mother. The father happened to get hold of a couple of good jennets about the time his oldest daughter was sixteen years old. The old gentleman took good care of these two jennets, bred them to the best jacks he could find, and by the time his oldest daughter was ninteen and was going to get married the old gentleman had raised a splendid young jack. He sold the jack for $1250, gave the bride $1000 and had $250 for the wedding expenses. And as the remaining seven daughters became old enough and married off the good old father had a jack to sell each time and gave each daughter $1000 for a wedding present. This good old gentleman had only a small farm and he has told me several times that if it were not for the two old jennets he never would have been able to so happily marry off his daughters.

L. M. Monsees, Pettis County.

The Telephone Unites the Nation



AT this time, our country looms large on the world horizon as an example of the popular faith in the underlying principles of the republic.

We are truly one people in all that the forefathers, in their most exalted moments, meant by that phrase.

In making us a homogeneous people, the railroad, the telegraph and the telephone have been important factors. They have facilitated communication and intervisiting, bringing us closer together, giving us a better understanding and promoting more intimate relations.

The telephone has played its part as the situation has required. That it should have been planned for its present usefulness is as wonderful as that the vision of the forefathers should have beheld the nation as it is today.

At first, the telephone was the voice of the community. As the population increased and its interests grew more varied, the larger task of the telephone was to connect the communities and keep all the people in touch, regardless of local conditions or distance.

The need that the service should be universal was just as great as that there should be a common language. This need defined the duty of the Bell System.

Inspired by this need and repeatedly aided by new inventions and improvements, the Bell System has become the welder of the nation. It has made the continent a community.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy *One System* *Universal Service*

POTASH FOR FERTILIZER

I am not quite willing to accept the dictum of those who do not see any danger in the cutting off of our potash supply by the European war, as twelve years or more careful experimentation and observation has made me a more extensive user of potash every year.

Some years ago while at institute work in a northwestern state, I frequently heard the college men say that potash does not increase crops on our soils, yet in a dozen or more institutes men said that they had increased the yield of potatoes 50 to 100 per cent by the use of a few bushels of wood ashes per acre.

In a southern state I saw cotton at the rate of a bale to the acre growing on a strip where a fence had stood two years and was accidentally burned down, while outside this fence row the cotton would not make more than a bale to four acres.

That was about the time that kainit was loudly exploited as a remedy for cotton wilt, and I saw that regardless of its value for this purpose, every dollar spent for kainit returned three to six times its value in cotton.

Again in one sawmill district south I found one man who hauled all the ashes he could get within four or five miles, applying them to his cotton land and that man trebled the yield of those about him who stuck to that universal southern formula—2—8—2.

Of course the ashes contained a small percentage of phosphoric acid and lime, but it was the 3 to 5 per cent of potash that was mainly responsible for the increased crop yields.

On my own farm I have been experimenting with potash for fourteen years, or since 1901, and from the results attained on all crops, wheat, oats, corn, tobacco, garden stuff and berries, potash has always paid us several times its cost.

For three years past I have used a 2—6—6 on nearly all my corn crop, at the rate of 100 to 150 pounds per acre according to the quality of the soil, and have enough of that grade contracted for use on my crop this year.

Every year we have checked our work with 16 per cent acid phosphate, 2-8-2 and other formulas, all giving good returns, but the more potash the more crop in all cases. C. D. Lyon.

Built Like a Hand

There are many practical reasons why this "Dan Patch" is the perfect driving glove.

There is your size with snug fit and complete protection yet built to give bare-hand freedom.

Hansen's Gloves

have proved for thousands of farmers that work can be done best, easiest and fastest when hands are in healthy, happy condition—and for this you need Hansen's.

Our 500 styles include gloves for women and boys. All should know the joy and *saving* of a Hansen. At your dealer's or ask us.

O. C. Hansen Mfg. Co.
131F. Detroit Street
Milwaukee, Wis.

Write for Free Book of Gloves

All Sizes. Colors—tan, chamois and dove.

CARE OF THE COW AND CALF

Starting with the cow six or eight weeks before time to calf, I turn her dry, during which time I see that she has plenty of nourishing food, as well as good shelter during the winter months. Of course if she is dry in the summer and the pasture is good, she could not do better, but if the pasture is poor I bring her to the barn and feed her with the cows that I milk, or if dry in the winter I feed her the same as the cows I milk with the exception of grain, which I do not feed so heavily. I feed the cow the same kind and quantity of feed for two or three weeks before calving, until three or four days afterwards, when I commence to increase the feed according to the amount of milk she gives.

When the calf is born I give it a chance to suck two or three times, unless a heifer with her first calf, when I leave it with her a day or two. Then I take it away and shut it up out of the mother's sight, and turn the cow with the others to be milked.

By handling the calf this way I find that the mother does not worry or miss her baby like she does when the calf is allowed to suck her longer. In a great many cases you would never know the cow had had a young calf. After the youngster is once taken away, I never let it get back to its mother but endeavor to keep the cow quiet and comfortable so she may turn all of her energies to producing milk.

Sometimes the calf refuses to drink from a pail at first but I persuade it by letting it suck my fingers until I can work its head into the pail. After it has once got a taste of the milk there is no more trouble. Oftentimes the first day they are stubborn and will not try to suck your fingers or drink, but in that case I just let them go until they get hungry, which will not be longer than twenty-four hours.

I give the calf for the first three weeks its mothers warm milk or until it will eat grain such as bran and corn chop with a little oil meal. Then I gradually change from whole milk to skim milk and continue with the skim milk, grain, hay, or grass until it is five or six months old.

The amount of milk fed at one time is governed by the size of the calf, which will run from six to ten pounds at a feeding, for Holsteins. After the calf has become accustomed to the sweet skim milk there will be no bad effects from feeding sour milk, yet I believe sweet milk is better.

By handling my cows and calves in this way I have had the best of success. While it is more work to milk all the milk and feed the calf, the difference in the increased milk production will more than pay for the extra trouble.

Then again by feeding the calf skim milk, which can be skimmed with a separator or stand and skimmed by hand, you get the butter fat from the milk which is not essential for the growth of the calf, especially after it begins to eat hay and grain.

I had a heifer that found her first calf about noon the 20th of May. She was brought to the barn at night and milked, and turned out with the other cows until morning when she was put in with her calf, which had been kept up. The calf was allowed to suck all it would, then the mother was put in the barn with the other cows and milked and not put with the calf again, but turned out to pasture and handled the same as the cows giving milk. From that morning on she has not fretted or bellowed for her baby and has given her milk down like an old cow.

The main thing with the cow is to make her give profitable returns for the feed she consumes. If the farmer would raise the calves by hand he would be dollars and cents ahead. Of course it is easier to let the calves do the milking but at this stage of the game we should not look for snaps.

H. T. Hook, Columbia, Mo.

MUST SAVE WHAT WE MAKE

Why does not the other business of the world pay? During the year 1913 something like twelve per cent of the business ventures of this broad land of ours proved a success according to Bradstreet's report. I believe a greater

Farm Home of Frank B. Brummett, Jasper County

percentage of our farms are on a paying basis. Let us determine this fact from our own neighborhood. Let us stop and ask ourselves this question: "If not nine times out of ten the farmer is not at fault instead of the farm?" We can all find farmers in our own neighborhood who are very successful while others are only holding their own, and still others going behind year after year. It is so with all our business men throughout our land.

Perhaps the worst evil among farmers at large, especially of the Corn Belt, is of a continued cropping of the farms year after year without returning anything back to the soil. We are continually taking from it year after year and not putting anything back. Here in Southwest Missouri I can show you farm after farm that has been cropped constantly for forty, fifty and some sixty years with nothing returned to their fields, and yet the owners expect a bounteous yield from their acres each year. It has been stated the quickest way to get an automobile is to go in debt for it and buy a manure spreader with the cash.

We, of the present generation, must see to the restoring of the fertility of our soils or the next generation must go hungry. We must do so by keeping more live stock, more legumes and a more careful saving and application of our barnyard manures, coupled with a systematic rotation of crops. In another thing the average Western farmer is too wasteful in his farming operations. Our Eastern brothers tell us we waste more than they raise. For example an Eastern man rents a quarter section joining me. He came to Jasper County about twenty years ago with less than one hundred dollars. He worked as a farm hand for a period of four or five years at $15 and $16 per month, including board. By saving his money about fifteen years ago he purchased a team, wagon, harness, a plow and cultivator and started farming for himself. On this prairie farm he saves everything he raises and today he is worth ten thousand dollars. This man raises no better crops than some of his neighbors but he takes care of all he raises.

One great problem to us farmers is the help question. Other lines of work can pay a greater wage with shorter hours. However, I believe if the farmer will put the same amount of get up and hustle, combined with the same business principles as the successful business man, he will make the farm pay, remembering "the farmer must provide for all."

Frank B. Brummett, Jasper County.

The Plow That Insures You Moisture

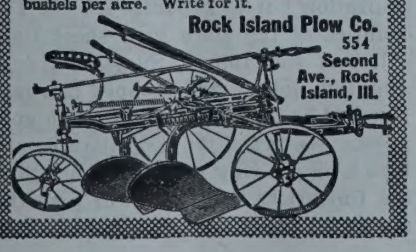
The Rock Island "CTX" Universal Plow is the best crop insurance you can buy. It's the only plow that leaves no air spaces to cut off moisture from below. In dry weather, water comes up from below to the plant roots just like kerosene comes up your lamp wick. Air spaces have killed many a crop but they won't kill yours if you use

Rock Island "CTX" Universal Plow

On account of its peculiar corkscrew-like shape, the "CTX" goes into stubble, tame sod, trashy corn ground, tough gumbo, heavy clay, etc., and does perfect work in all. Turns the slice *clear over*, lays it *flat* and *buries all trash*. You don't need extra bottoms for the "CTX." This wonderful plow pulverizes the soil so much better that you save at least one harrowing.

Free Plow Book shows how the "CTX" increases yields from 2 to 10 bushels per acre. Write for it.

Rock Island Plow Co. 554 Second Ave., Rock Island, Ill.



International Harvester Manure Spreaders

"WHEN I bought my first manure spreader, I was thinking more of my horses than I was of my land. I bought a 'light weight' machine. It went all right empty, or with a half load, but it warped and jammed so after a few full loads that soon the horses couldn't move it. A spreader must have some weight if it is to do good work and last any length of time. The spreader I own now is what some might call a heavy machine. The beauty of it is that it neither warps nor jams and it works as easily when fully loaded as it does when nearly empty. As my neighbor said when he bought one like mine, 'I could spread soft coal with it.' I find it is much better for the horses, better for the land, and better for my pocketbook."

This farmer owns an I H C manure spreader built for efficient work, and field-tested in every feature. The weight is put into places where weight counts. It helps to make the machine stiff and strong. It prevents jamming, twisting, warping and sagging.

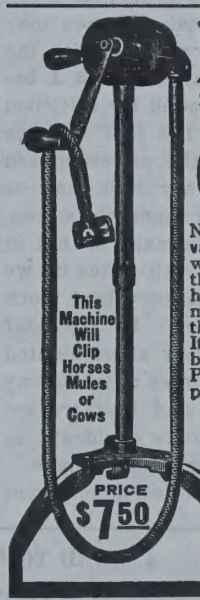
See the I H C local dealer who handles these machines and let him show what the features on I H C spreaders are put there for. Or, write us for information and we will give you our dealer's name.

International Harvester Company of America (Incorporated)

CHICAGO USA

Champion Deering McCormick Milwaukee Osborne Plano

Horses & Mules increase in value when Clipped



Not only in selling price but in working value. You don't go at the spring work with your winter clothes on—then why expect the horse to do so—he feels the warm weather just as much as you do. Clip off his heavy coat that holds the wet sweat and dirt. It will give him new life and energy. He'll rest better, feel better, work better and repay you many times for the little it requires to clip him. Pays also to clip the udders and flanks of your cows—prevents dirt from dropping into the milk. The best and most generally used clipper is the

Stewart Ball Bearing Clipping Machine

Insist on having the Stewart, the machine that turns easier, clips faster and closer and stays sharp longer than any other. Gears are all cut from solid steel bar. They are enclosed, protected and run in oil, little friction, little wear. Has six feet of new style easy running flexible shaft and the celebrated Stewart single tension clipping head. Highest grade. Get one from your dealer or send $2.00 and we'll ship C. O. D. for balance. Money and transportation charges back if not satisfied. Price only $7.50

CHICAGO FLEXIBLE SHAFT CO., 619 So. La Salle St., Chicago

Write for complete new catalog of horse clipping and sheep shearing machines. Mailed free.

Stark Delicious Always Shows a Profit

The "greatest apple in the world" tops the market. There's satisfaction in growing it, because of its unequalled quality, and money, because of the demand for it. The man who has an orchard made up largely of Stark Delicious worries less about his other crops. The practical fruit grower knows that he has a reliable money-maker in Stark Delicious. Give it a place in your orchard right away. Write quick for New **Wholesale** Catalog showing Stark Delicious, Stark Early Elberta, and all fruits and ornamentals. Address

STARK BROS., Box 77, Louisiana, Mo.

(Home of Stark Delicious)

THE MISSOURI FARMER

Devoted to Better Farming, Better Farm Homes and Better Citizenship.

Vol. VII February 1, 1915 No. 3.

William Hirth - - - Publisher
Geo. B. Ellis - - Managing Editor

Published twice a month, on the 1st and 15th, at Columbia, Mo.

Subscription Price 50 Cents a Year In Advance

The date on the address label gives month and year to which subscription is paid.

Agents Wanted. We want some one to represent us in every community and make up clubs for which we will pay liberal commissions. Write us for terms and sample copies.

We solicit communications from farmers and members of the family on timely and practical subjects. Photographs illustrating farm life or plans for buildings, live stock, etc., are appreciated.

To render service is our aim and we will endeavor to answer all pertinent questions or have them answered by competent authority. When answer is desired direct, always enclose stamp.

Entered at the postoffice at Columbia, Missouri, as second-class mail matter.

LET'S START RIGHT

If there was ever a time when a good crop was needed to put farmers in good shape that time is now. Three out of the four previous years we have had short crops and many farmers have used up their bank accounts or have borrowed money to buy feed to hold what stock was necessary to run the farm. Everything points to good prices ahead for both grain and live stock and the man who makes his best effort this year stands a good chance to win. The first step should be to see that no manure is left scattered about the barnyard, making things unsightly. Every good load of manure spread on the corn ground will add several bushels to the crop gathered next fall. No work on the farm pays any better than the careful saving and spreading all the manure produced.

We will not start right if we hurriedly and carelessly prepare the seed bed. With both oats and corn we think it is a common fault to hurry the seeding and neglect the thorough pulverizing and packing of the seed bed. With a soil full of humus and with plenty of fertility this thorough working is not so essential and it was on this account that the farmers of new land got into the habit of carelessly preparing the soil for the reception of seed for spring crops. Many farmers have found that a good disking, once or twice before plowing the corn ground is about the most valuable work they can do. This plan not only fines the soil that is turned to the bottom of the furrow but the disking makes the plowing a little easier on the teams and the ploughman will just naturally let the plow run a little deeper. For corn in particular we think it pays to plow deep. Deep plowing and thorough pulveriznig the soil makes available more plant food for the corn roots and it gives a greater water holding capacity to the soil which of course is a good thing in either wet or dry years.

Good seed is one of the essentials to a good crop of any kind. We do not believe one farmer in a thousand treats the seed oats to prevent smut in face of the well known fact that smut causes a loss on oats every year of anywhere from 5 to 25 per cent of the crop. And oats may be treated at a cost of not more than fifty cents and a day's labor for ten acres, but in face of this fact farmers go ahead and sow the untreated seed and sustain the loss of one to ten bushels per acre.

The man who plants seed corn in the year 1915 without making a germination test of his seed has not started right for a good crop. It is true the germination test will not prevent mice, moles and cut worms from destroying the corn but there will be a better stand of corn left after these pests get through if you have a perfct stand to begin with.

The average crop of corn will not show much above three-fourths of a stand and the average yield is hardly thirty bushels. A full stand on this basis would promise forty bushels where we now get thirty bushels. That extra ten bushels from the whole acreage planted in Missouri would mean a great many more fat pigs, lambs and calves to market next winter. It would mean all told about seventy-five million bushels of corn or about half that many more dollars which would make a right nice little Christmas box for every farm family in the state.

—o—

THE BEST FOR MISSOURI

If every man and woman in Missouri were to adopt this slogan and live up to it in every way what a great state this would soon be. It is a good slogan for the individual and it is just as good for the community, for the county, the state and for all our state institutions. It is impossible for us to raise the best corn and wheat without we keep the best of our crop for seed and likewise we can not produce the best cattle and hogs unless we are wise enough to keep the very best animals for breeders. We can not maintain the best schools for our children unless we employ the best teachers to manage them.

Salaries of professional men may appear high when compared with the meager profits of farming and I believe there is just ground for criticism along this line but the fact remains that we must meet the prices offered in other states for our best men or else be satisfied with scond-class men. The point we want to make is that in any line of work the state takes up we should aim to do the very best work or let it go altogether. In the past Missouri has been very short sighted in permitting other states to take away some of her ablest and best trained men just because others could appreciate real worth more than we have.

In what we have said we do not want to be understood as favoring a higher standard for professional and official salaries than all other states. It is our candid opinion that the general level of both official and professional salaries is already too high when compared with the profits of business men and farmers. We do not hesitate to say that we believe nine men out of ten now holding public office or holding a professional position under state or government salary are being better paid by twenty-five to fifty per cent than the same class of men are getting out of any business line. But granting all this we think a wise course for us to pursue in Missouri with our schools and other public institutions is to hold our best men and particularly Missouri trained men no matter if we do have to meet higher salaries. What we need here in Missouri is more state pride—a Missouri spirit—and a determination to make Missouri, no matter where nor how it is applied, stand for the best. This spirit should begin with the individual, the school, the church, the community and reach up to the larger institutions and to the state as a whole.

—o—

ANOTHER VIEWPOINT

Every man has his own viewpoint biased more or less no doubt by his environment and self interest. We are led to the point of writing these lines by reading the report of the board of curators of the State University to the 48th General Assembly in which the board sets forth the needs of the institution as they see it. We frankly admit the president and the board ought to know and do know more about the needs of the University than any outsider but this is not saying they know more about the needs of the state or of any class of people in the state. Practically one-half of all the people in the state of Missouri are engaged in agriculture but when we look over the names of the distinguished men who compose the board of curators of the State University we find only one man identified with agriculture. It is not a surprise then that the board of curators, no matter how sincere they may be, should fail to get the viewpoint of the farmer. In studying carefully the recommendations of the board of curators we learn they are asking of the Legislature for improvements, extensions, betterments and buildings in the Agricultural College the sum of $211,500. Out of this sum less than one per cent is asked to give help to farmers where they have sustained their greatest loss.

If any year ever demonstrated beyond question just where the University could be of greatest service to the farmers of the state that year was 1914. Insect pests and live stock diseases caused a loss to Missouri farmers last year of several million dollars. While last year was an unusual year there has not been a year in the last ten that the loss sustained by these two sources could it have been saved, would have paid the entire expenses of our state government. The control of orchard pests, the army worm, the Hessian fly, the chinch bug and other devastating pests of orchard and field crops is of greater importance to the state than all the work the University has ever done or ever can do in crop production or in animal breeding. The control of live stock diseases will save the farmers of this state annually more money than the State University and all our normal schools receive from the state.

We are not offering any objection to the various sums the board of curators recommend for other purposes but we cannot understand why they have overlooked the first and by ten times the greatest need. Last summer when the army worm was destroying our crops at the rate of many thousands of dollars every day and when the chinch bugs and Hessian fly were doing a greater damage to crops than the drouth, farmers from every quarter in Missouri were writing, telephoning and telegraphing for help, quick help, but what could the University do? Nothing. The great University of Missouri employs one man with two assistants to do the teaching and investigation in entomology, inspect all the nurseries and give the farmers help when help is needed. Does the University tell us this is a farmers' problem? If so we answer we can handle all our other problems and we need not look longer to the University for help. It is time the board of curators were enlarging their views and waking up to their opportunity. Insect control work must be carried on in a big way to be effective. It must be from a state-wide standpoint or it will amount to nothing. The entomologist must have men and means to get out into every infested district of the state to organize and carry on this work. The breadth of view of the board of curators on this subject is measured by the amount of money they ask for to carry on the work—only $2000 for insect control as compared with more than $200,000 for other less important work.

All we have said above about insect control is equally applicable to the importance of the work with live stock diseases. It is safe to say that we have sustained a loss of $5,000,000 a year in Missouri for the past five years. The greater part of this has been due to the loss from hog cholera but the board has not asked for a dollar outside of regular maintenance for the eradication of hog cholera. Two or three counties are being organized and the work has gone far enough to show that the loss from cholera can be reduced to a very low minimum in six months time with the proper organization but to organize all the 114 counties of the state in a short time will cost something. Suppose it cost a million dollars and stopped this loss it would be like opening up a rich gold mine. We trust the Legislature will take a bigger view of these things than the University does and will give the money so badly needed for this work.

A WORD TO OUR READERS

During the last 30 days, renewals to The Missouri Farmer have been pouring in in fine fashion and this is to appeal to YOU, kind reader, to do likewise if you have not already done so. The price of three years' subscription for one dollar to a paper like The Missouri Farmr is so small that, in the near future, we are going to be compelled to withdraw it and charge the full 50 cents for each year. To this end, we trust our readers will send in their dollar at once when their subscription will be marked up for three full years. A check, or a dollar bill sent at our risk—either one is satisfactory.

The Missouri Farmer is your paper. It will be just as fine and splendid as your support enables us to make it. It is fighting your fight. It is trying to help you make more money in order that you and your loved ones may enjoy more of the good things of life. It stands for Better Farming, Better Farm Homes and Better Citizenship. It tries to bring a little more sunshine into your home and into your life—and isn't such a Messenger worth the small sum of 33-13 cents per year for three long years? Do you get any other farm paper which stands for these things in the clean, wholesome way in which The Missouri Farmer stands for them?

We want you in "The Missouri Farmer Family." It is getting bigger all the time—and during the next year we are going to discuss scores of questions in which you will be vitally interested. During the recent "Farmers' Week" at the Agricultural College, several thousand farmers were in attendance from all over Missouri—and over 80 per cent of them were readers of The Missouri Farmer. They are the kind of farmers who want to "get somewhere"—who want to "win" and who believe in supporting a real Missouri farm paper. So send us your check or a dollar bill right away and thus get the benefit of the three years' price. In return, we promise to make The Farmer better and better.

WILLIAM HIRTH, Publisher,
THE MISSOURI FARMER,
Columbia, Mo.

MUST KNOW OUR FARM

Why doesn't the average farmer make more money?

In the first place, because he does not sufficiently mix brains and soil.

In the second place, he does not understand his farm, fully comprehend the kind of products to which it is best adapted.

In the third place, he is wasteful in the expenditure and care for the machinery used on his farm.

In the fourth place, he is too indifferent in the selection of stock and the care he takes of them.

In the fifth place, he robs the soil with no thought of ever paying back.

In the sixth place, his farm work drives him and he never drives his work.

In the seventh place, he has poor fencing, inconvenient lots for his stock, rickety, leaky, tumbledown barns and sheds, if any at all, for his stock during the inclement weather.

In the eighth place, his slip-shod manner of doing business compels him to sell on the cheapest market and buy on the highest.

These are some of the reasons why an industrious, hard-working farmer does not succeed. A lazy, indolent man is not supposed to succeed at anything, and we do not take him into this calculation. There are, however, many industrious, hard-working, clever, honest men who are most glaring failures. It is of the latter that we propose to speak. The time was that if a man had several sons, he selected the brightest of them for either lawyers, doctors or the ministry. They must take up the "learned professions." The dullest was universally relegated to the farm, and this curse was as imperative upon the poor fellow as the curse of slavery upon Ham by his tyranical father, Noah. And this did very well in the early settlement of this country, when the products were corn, wheat and oats, which with a very scant covering of the rich, verdant soil would bring forth fabulous crops, rivaling the valley of the Nile. And then the large ranges for cattle, horses, etc., and abundant mast for hogs, wild game in profusion, and the most luscious wild honey, the finest fish, venison and buffalo; it was a very ignorant man who could not procure a living on the farm, furnished with the rarest delicacies in the way of meats, wild fruit and game, wear his buckskin trousers and vest, his buffalo overcoat and shoes, his coon skin cap, and sell furs enough by trapping to pay his taxes, buy his wife a calico dress, while she made the wool up into good old-fashioned linsey-woolsey garments for the family.

That day is among the things that were, and the farmer is no longer a side issue, but is to be recognized as a man of as much, if not more intelligence, than a great many of the learned professions. A successful farmer must be possessed of a great deal of that very precious article known as good, common, hard "horse sense," an article of which this country has no surplus to throw away. The man who has that will always be on the alert, never too bigoted to learn from others and profit by good advice whenever he finds it. He will ascertain the nature of his soil, its topography and adaptability to certain crops, how to prevent the erosion of that soil, how it may be improved at the same time it is growing most profitable crops.

We recall a farm near by that had been cultivated in corn for perhaps twenty-five years continuously until

the corn element in the soil had been almost completely eliminated. The owner had borrowed money from the county but was unable to pay it. His neighbor, who had gone on his bond, bid it in for just the debt. It was in corn, smart-weed, foxtail and cockleburs. Instead of trying to cleanse the corn of this poisonous vegetation, he put his plows in and turned every particle of green vegetation under so deep the sun never shone upon it again. The fall following he prepared a good bed for wheat, then put it in, and in the February following sowed clover over it. He harvested thirty-five bushels of wheat to the acre. In the fall, just before frost, he turned that clover under. In the following spring, he put in a crop of corn that yielded eighty bushels to the acre, and after harvesting it, sold the land for more than double what he paid for it. He rested the land, fed it and rotated, mixed brains with soil, and it paid. Made two good crops with no more labor with either than the former owner, with four times the yield in value, and made the land sell for twice as much.

Again, a farmer from Ohio came into the neighborhood. He wished to rent a small farm, not more than forty acres, as it was spring and he didn't care to raise anything but corn. He could not get less than eighty acres. His neighbor agreed to take forty acres off his hands, but said he could just as well cultivate it himself. He thought not, went to work, put the forty in fine cultivation, selected good tested seed corn, put it in carefully, kept up a continuous cultivation with weeder, harrow and cultivator, and later in the season it became very dry. Others ceased to work their corn but he used the fine toothed cultivator, just as if it had been foul and needed cultivation for that, but he said it was to form a mulch to hold moisture. Now, as to the harvest; the neighbor who rented the forty acres from him and knew all about farming so that he could not be taught—no, not even by a "Farm Adviser"—raised thirty-five bushels; he who couldn't handle more than forty acres, but mixed lots of brains and enegry with it, raised seventy bushels, sold it all for seed at double the amount he had to pay his thirty-five bushel neighbor for corn to feed his stock. "Why does not the average farmer make more money?"

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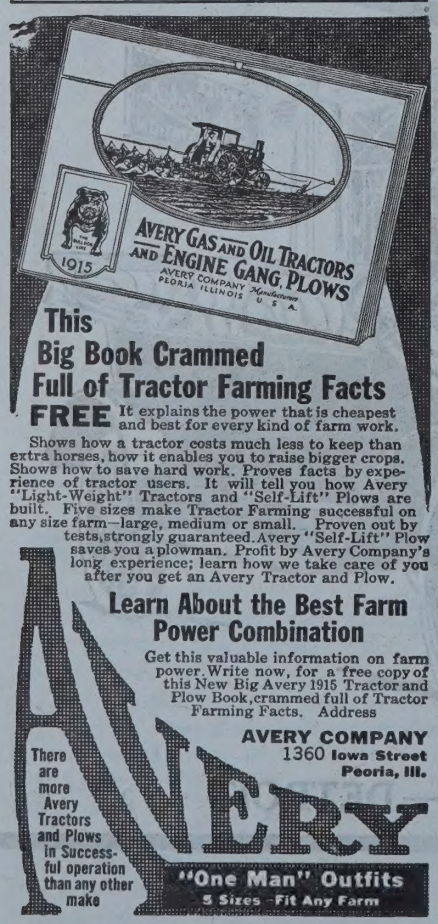
EQUIPMENT FOR EVERY ELECTRICAL NEED

Ride over this country, see the gulleys and washes on the farms, the erosion of the soil, the continuous raising of corn from one year to another without change or rotation, and then ask, "Why does not the average farmer make more money?"

Travel over this country, look at the broken down fencing, the dilapidated old barns and stables, and the lots with manure two or three feet deep, and in muddy weather the horses with sore heels and stiffened joints, while the manure over the farm would do good instead of harm; a wire-cut horse or a mule maimed for life, because of a neighbor's worthless cur prowling about over premises at night, and then ask "Why does not the average farmer make more money?"

Go to another farm, see a lot of stock, horses, mules, cattle and hogs, all being fed together in a muddy lot on the ground, a couple of mules, one at each end of a calf, trying to quarter it; a vicious bull goring to death a farmer's brood mare; then look at a harvester standing out yonder just where they finished cutting wheat; the mower, hay rake and baler just where they were last used, the cultivators, harrows, plows and other utensils in another part of the field, and is it necessary to ask, "Why does not the average farmer make more money?"

M. T. Chastain, M. D.
Saline County.



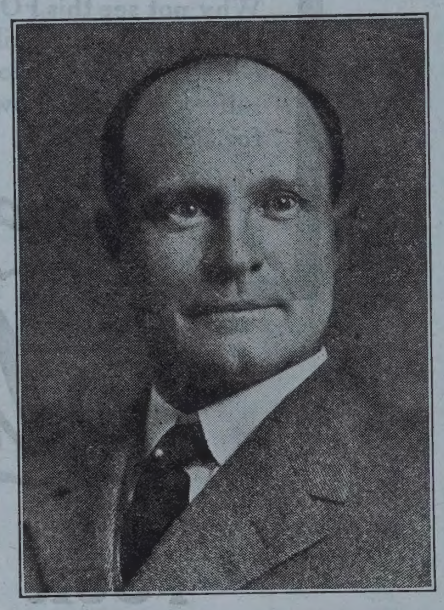
OUR FUTURE PROGRESS DEPENDS ON THE FARMS

Why doesn't the average farmer make more money?

This problem has been handed down to us for solution and the correct answer is of much importance to the coming generation. Agriculture is one of the greatest sources of wealth available to man. The happiness and future progress of all nations depend largely upon the farmer. Food and clothing, the initial and essential necessities to our existence, are to come to us only from this source.

The occupation seems to have been cast upon "Ancient Adam" as a sin. He was told to earn his bread by the sweat of his brow; and as a farmer I have long since learned that much depends on the brow and its sweat, as to the profits in agriculture. Deep thinking is quite as important as deep plowing. Care and management, the meaning of which contain all the secrets of the farm's financial success. So many things affect the farmer's income that once in a while losses occur under the best management.

The way a farm is equipped has a



D. B. Sailor, Buell, Mo.

lot to do with what it earns. Good stock, machinery, barns and silos are just about as necessary as the land to the man who would make money by farming. The way the farm work is done has a lot more to do with the income.

A farm on which the crops are rotated, the fields are well tilled, seed is carefully selected, manure is spread fresh from the stables, and legumes are freely grown and fed, will earn more than a considerably larger farm will earn on which these things are not done. In this farm income affair the man and his equipment count for more than acres do.

One big problem is to grow all the feed needed so as to reduce the expense for mill feeds to the minimum. All the manure should be carefully saved and returned to the land as soon as possible. Good feeding pays always, if we have good stock; but it pays best when lots of rich, sweet silage is one of the feeds used.

The farmer's profits are always contingent upon the successful marketing of his products, both of crops and the live stock.

He is continually confronted with disease and death in his herd. Oftimes years of toil are swept away in a brief space of time, which seemingly there is no recourse; but quick action and the swift marketing facilities make such losses less frequent now than in former years.

Blasted prospects by weather conditions, or swarms of insects devouring the crop may be averted or replanted, and with extra effort the land be made to produce a profit at the end of the year.

At first thought the year's farming operations may seem somewhat of a failure. Feeling this way, stop and ask: What is success? Is the most successful farmer—much as men admire thrift and busines ability—always the one with the largest bank account?

Remembering that the true measure of wealth is found in what we are worth to our fellowmen, is it not possible that the man with a mortgage on his land, but not on his life, may be the most successful in all the neighborhood.

Such questions are worth at least careful consideration.

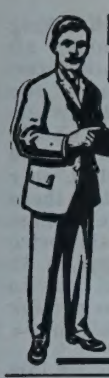
D. B. Sailor, Montgomery County.

Wheat Started Well.

The last report of the U. S. Department of Agriculture shows an increased acreage of winter wheat sown this year over the previous year of 11.1 per cent. The general condition when wheat went into winter quarters 88.3 as compared with a ten-year December average of 90.2. There is also an increase in the area sown to winter rye.

The total acreage sown to winter wheat this year is 41,263,000 acres and for rye 2,851,000 acres.

In Missouri the wheat was sown rather late but in general it is in good condition, having been protected most of the time with a blanket of snow. Every available acre of cultivable ground should be planted to some paying crop next spring. If the people of Europe will fight we have a right to take advantage of the situation and sell them food at war prices.



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I'm told that I have the best quality of seed, give the largest packages and have the most common-sense Seed Book in the bunch. And I'm willing to admit it.

Do you have to be shown?

All right. I live close to the Missouri line and I'll "show" you. I'll send you the *Seed Book* and a *package of garden seed*, and you can judge for yourself. NO CHARGE FOR EITHER, and you need not even send the postage unless you wish.

I also have guaranteed Clover and Alfalfa, and all kinds of farm seed at Farmer's Prices. Shall I send you free samples of these also?

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both seed and forage. Let us tell you all about it. A big **money-maker** for all farmers north and south. Also **Imported Rape, Mangels and Vetch** seed. **Pure Alfalfa,** Clover, etc. Write today for our 1915 Pure Seed Book. **GALLOWAY BROS. & CO.**
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Boone County White Corn, Sable and Mammoth Yellow Soybeans; also Cowpeas. Only strictly new, first-class seeds handled.

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COST OF SUDAN GRASS SEED

Sudan grass seed is too high. Last year the supply was small and the seed sold for $2 a pound. This year there is a sufficient quantity in the Southwest to sow between three and four million acres. As soon as the new crop of seed was available this fall, dealers rushed to local and state fairs with attractive exhibits of Sudan grass. They offered the seed for $1 a pound and urged farmers to buy at once because the supply would soon become exhausted.

With the large supply now in the Southwest, seed should not sell for more than fifty cents a pound. A number of contracts for large quantities last fall were made at twenty and twenty-five cents a pound. With the free advertising that the crop is getting from the U. S. Department of Agriculture, the agricultural colleges and in the agricultural press, a profit of 100 per cent should satisfy the buyers.

The Kansas Agricultural College reports that it secured a yield of 640 pounds an acre of Sudan grass seed. This yield at ten cents a pound would bring $64 an acre, ample returns for a crop as easily raised as sorghum. It is probable that in another year Sudan grass seed will sell at about the same price as that of millet.

Even at $1 a pound, farmers can afford to buy this seed and plant it in drills, using two pounds an acre. My advice is to hold off buying until near planting time unless seed can be secured at fifty cents a pound.—H. M. Cottrell.

IF $20 INCOME FROM ONE ACRE, HOW MUCH FROM 10,000 ACRES?

I was exceedingly interested in reading the illuminating article by Mr. George B. Ellis, Managing Editor of The Missouri Farmer, in the issue of that publication of December, 1914. It is entitled, "Twenty Dollars an Acre," and presents very clearly the possibilities of modern, scientific farming in the State of Missouri.

Mr. Ellis states that the "Missouri Experiment Station has conducted a series of careful tests to find out how much pork can be produced from an acre of pasture." These experiments, conducted on land admittedly rather poor, show that an acre of blue grass gave a gain of 324.6 pounds of live pork; clover, 567.7 pounds; and alfalfa, 591.8. These figures indicate the gain in pounds of live pork from the raising of blue grass, clover and alfalfa, per acre, over the pork production made from an ordinary average upland pasture. In other words, the hog who must grub for his living on ordinary pasture on the ordinary Missouri upland, will make that much less gain. Mr. Ellis then takes 6c per pound as the price to be received by the farmer for this pork. He admits that it has been "sometime since farmers sold hogs for less," and with the present scarcity of meat, not only in this country, but abroad, 6c is certainly a very conservative price.

But, figuring these gains at 6c, we find that an acre of land planted to blue grass, will yield $19.47 worth of live pork; planted to clover, $34.06; and planted to alfalfa, $35.50. These are conservative gains, per acre, that an ordinary farm of Missouri should receive, if carefully cultivated to these grasses. Mr. Ellis very pertinently observes, "Why go along in the same old way and be satisfied with an income of $9 an acre?"

It is from similar deductions that I based my arguments for the securing of Eastern capital. I felt that it was not only possible, but certain, to take these 38,000 acres which we had assembled, and by careful, scientific procedure, evolve a vast factory for the production of prime beef and pork at small relative cost. I had been in the live stock business all my life. I had managed one of the largest ranches in Texas. I had tried there to induce the owners to get away from the old ideas and adopt the new—without success. But now there are associated with me men who have **belief** and **confidence in** these **modern methods** of livestock farming.

A hog cannot give, in flesh, any more than it receives in nutriment. To be sure, it is a persistent and hard-working animal. The old saw, "Root hog, or die," illustrates its disposition. Turn a drove of any kind of hogs loose on the ordinary pasturage, unimproved, of a Missouri farm, and it will root out in some way a fair living. The hog thus situated will not grow as fast, but he will somehow make a living. But if you give him a chance at good alfalfa, he is going to make you about $35 an acre more than he would from his ordinary unimproved pasturage.

Now, my contention is this: One man with the experience and ability to handle 100 acres raising alfalfa-fattened hogs, can just as well manage, with success, a farm or ranch doing the same thing with 50,000 acres. We have only about 38,000 acres in our tract at present, but we propose to demonstrate this contention upon it.

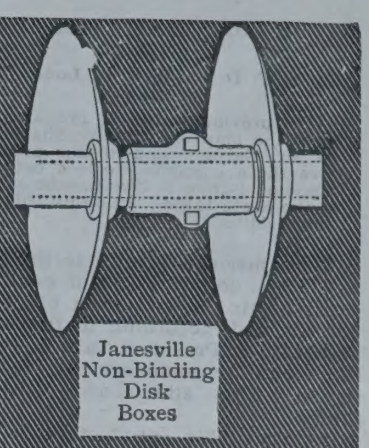
A hog is simply a machine for producing pork—as viewed from our standpoint. Any machine, in order to give the best results, must be well cared for. It must, primarily, be a good machine. We are going to see to it that we have good blood in our hog herds. We propose to have a veterinary on the place, living there. We propose to give this pork-making machine every opportunity to produce results. We shall rotate crops of alfalfa, blue grass and clover, raise some corn and peas for occasional feeding, and proceed to demonstrate that one of the greatest money-making enterprises in all the world is a good piece of Missouri land, carefully conducted and producing pork and beef.

The time is past when slipshod methods in any line of manufacture can be permitted. This is the day of efficiency and efficiency engineers. The farmer, in order to be successful, must be efficient in his particular field. He must **know,** not guess. He can no longer proceed to do a thing because his "daddy did it." We must conserve every effort and every energy in order to make the profit we should from our land. For this reason, such publications as "The Missouri Farmer" and such careful analysts of the situation as Mr. Ellis, are of inestimable value to every Missouri farmer.

It seems to me that this is, indeed, a golden opportunity for the manufacture of beef and pork. You probably all have seen a recent statement by J. Ogden Armour, in which he says that "cattle receipts at the six principal Western markets have been shrinking for nine years. The receipts now are the smallest in thirty years. Since 1900 the population has increased over 25 per cent, while beef cattle declined more than 20 per cent. In the same period the slaughter of calves increased 600 per cent."

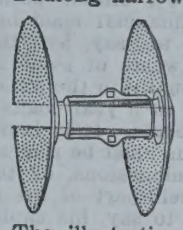
Continuing, he says: "There are **now** 38,000,000 head against 51,000,000 seven years ago. The prices have advanced so that the total cattle now represent $350,000,000 more than did the 51,000,000 in 1907. The time has come for all concerned—the packer, the farmer, the dealer, the consumer—to give heed to the menace of a growing beef shortage in this country, and to realize that **this situation will become more acute,** instead of improving, in years to come. There is no problem before this Nation today more important than the rehabilitation of the beef industry. The farmer must receive every practical encouragement to put the beef cattle back on his land and to conduct his business in such a way that the cattle and agricultural branches will be balanced, so that there will be an ample object in the success of each."

We not only face a threatened meat famine in our own country, but how are we going to supply the insistent demand sure to come from Europe? They there are now non-producing, and must depend absolutely upon other countries for their food supplies. If we American farmers are wise we will devote every energy we possess to making more available our land. We will see to it that this land grows such food for the hog or steer as will result most quickly in producing pork and beef.—Simeon J. Thornton, Pres. Mo. Cattle and Hog Ranch Company.



"Straight-away Pull" Saves the Team

Here is a harrow that cannot bind in the disk boxes. The above shows a true position of the disk in the Janesville and Budlong harrow. As you will note, the bearings set flat against the disk boxings—the wear on the spool is equalized—oil gets to all parts—bearings last longer—the team has less of a load to pull.



The illustration above is, as accurately as we can make it, a reproduction of what takes place in the disk box on the ordinary harrow. Side strain and twisting grind down one end of the bearing. This means short life for the bearings—possibility for breakages and needless expense for you. Ask your dealer to show you the

JANESVILLE and Budlong Disk Harrow
Manufacturers of Farm Implements

Note how the disks are hung so that they enter the ground like plow points. They get a straightaway pull from the drawbar—the only resistance is the cutting of the soil.

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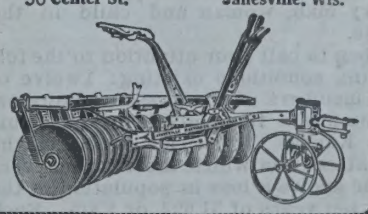

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SWEET CLOVER SEED White and large biennial yellow. Prices and circular on request. Bokhara Seed Co., Box F., Falmouth, Ky.

SEED CORN As usual I have on hand a lot of fine selected pure bred seed corn including the following varieties: Yellow corn—Reid's Yellow Dent, Shenandoah and Gold Mine Mixed, Funk's 90 Day Corn, also White Cap 90 Day Corn. White corn—Boone County White, Johnson County, St. Charles, Iowa Silver Mine and Davenport and Boone County Mixed or Crossed. Prices per bushel butted and tipped by hand, graded over our screens and strictly tested, $2.40 per bushel; in 10 bushel lots, $2.30. These prices are F. O. B. Skidmore. The same corn shelled, butted and tipped by hand but ungraded, at $2.00 per bu.; 10 bushels or more $1.90 per bu. F. O. B. Skidmore. Sacks free. I have been in the seed corn business for years and have given hundreds of farmers a start in pure bred seed. Get in your orders at once because my supply will not last long.

A. F. HOWDEN - - - - Skidmore, Mo.

FOR LONG TIME FARM LOANS

F. D. Gardner, St. Louis

[In our previous issue of January 15 we gave the plan for rural credits outlined by Mr. Gardner and in this article we give the arguments he used before the Missouri Bankers' Commission in favor of the State taking action on this question.—Editor.]

The American farmer is producing ten billion dollars worth of wealth annually. He is borrowing 6½ billion dollars, and, according to the official statement of President Taft, he is paying (counting commissions) 8½% interest. This statement proves two things:

(a) That this production is the basis of all prosperity. And yet, after creating this vast wealth, the farmer has not only been denied the opportunity of financing himself from its first use, but he has been placed at the bottom of the list so far as the rate of interest he pays for money is concerned.

(b) The fundamental principle of economics is that a dollar spent which could be saved is not only a direct waste to the industry itself, but it is a tax on every other industry. Therefore, if the agricultural class is paying 8½% interest on 6½ billion dollars which by proper financial machinery could be reduced to, say, 5%, then there is a money waste of some 200 million dollars annually to the nation.

Our system of 3 to 5 year loans is discredited and archaic. It is inevitable that these loans must be renewed with the usual commissions, or that the farmer must sell part of his investment. That is to say, his capital must be reduced if the loans are to be paid in bulk, according to our system. Neither is desirable nor should be necessary. All other nations of the world have discredited this 3 to 5 year loan plan that we use in America, and it should have been discarded by us many years ago. The maximum time allowed for paying off loans for such purposes is 30 years in Finland, 33 years in Chile, 36½ years in New Zealand, 42 years in Australia, 50 years in Italy and Japan, 54½ years in Austria, 55½ years in Russia, 56½ years in Germany and Sweden, 57 years in Switzerland, 60 years in Denmark, 63 years in Hungary, 68½ years in Ireland, and 75 years in France.

It is stated on authority that there is a total of 25 billion dollars being utilized by the farmer in the above named countries on this long-time bond issue plan at an average of 3 to 4 per cent interest.

The necessity for development, particularly here in Missouri, immediately suggests the principle of the long time, or amortization plan.

If we discard the system of unlimited liability or collective credit we must, if we are to cover the whole subject, bring the State into its operation to a certain extent. All other nations have gone much farther in this respect than the plan I have submitted.

It must be borne in mind that the agricultural question is one to be considered from the standpoint of general welfare because food supplies concern every man, woman and child in the State.

I beg to call your attention to the following conditions existing: Twelve of the members of the Missouri Bankers' Commission live outside of St. Louis and Kansas City. The census of the counties from which these 12 members come shows a loss in population in the last ten years of 31,092, or 8.4%. Such splendid agricultural counties as some of these members come from show the following results:

Callaway...	6.1% loss in population
Saline	12.6% loss in population
Platte	11. % loss in population
Lewis	7.2% loss in population
Cooper	10. % loss in population
Atchison ..	17.6% loss in population

We might carry this thought a little farther and show that the whole state, outside of St. Louis and Kansas City, has lost 2% in population, according to the last census.

Are we not justified in asking ourselves if we can expect permanent and a full measure of prosperity to come to the banker, the merchant, the laboring man or, in fact, to any class of our population until a remedy has been found for the condition cited above? Better roads and better schools are permanent factors to be considered; but does not their development call for additional finances so their advantages may be duly exploited?

As to the financial soundness of the plan, I do not believe there can be any serious question. This can not be better illustrated than by the published statement of two life insurance companies in America. These two companies have actually invested at present in farm mortgages 155 million dollars, and they make the statement that they have never lost a nickel on a farm mortgage. And yet it is a fact that these same companies will charge a higher rate and a larger commission for making the loan than they will charge for bonds or for stocks or for city investments, showing plainly a discrimination against the farmer simply for the reason that the farmer has not the machinery to place these loans before the insurance companies in the proper way. And I was told by the Manager of one of the general life insurance companies in the last few days that his company would not bother with the individual farm loan, but that he was prepared now to say that he would invest three hundred thousand dollars in this State under the bond issue plan which I outlined to him.

Is it not a fact that if any security in the State is good it is farm lands? And what could be better than loans not exceeding 50% of our farm values? We certainly must expect to eat; and so long as that is the case bonds issued against such property are and should be as good as State bonds, and should sell at least on an equal basis.

The plan which I shall submit to you does not provide that a taxpayer shall be assessed a penny, nor can I conceive of how the State itself could lose. The reserve fund of ½% should protect the State, and it should protect the buyer of the bonds. The Secretary of Agriculture for Ireland told me that one billion dollars had been loaned to the Irish farmers by the English government at 2¾%, against which the English government had sold the bonds, and that this vast sum had been loaned to some 500 thousand different farmers, and that there was no record in his office of a default notwithstanding the fact that the plan had been working now close to four years. This billion dollars which has been pouring into the Irish agricultural districts, with a population not very much larger than the State of Missouri, shows to what extent the nations of the world realize the importance of developing agriculture. This vast sum has brought about a great revival in the whole of Ireland. Instead of a declining population in the rural districts, as we have in Missouri, the effect has been to increase it. It has stimulated a demand for electricity, fertilizer and building supplies which has brought about general prosperity to all classes of the Irish people.

It must be remembered that agricultural products are largely regulated by international competition. Missouri wheat, for instance, competes in Liverpool with wheat from Russia, France and Argentine. If the farmers in other nations are able to secure their money at about half what our American farmer has to pay, considering that our land will produce less and less because the virgin qualities are gradually being worn out, what will be the result without rebuilding?

Statistics show that in Missouri farms are mortgaged to the extent of 113 million dollars. These mortgages run from one to five years. An average, perhaps, would be three years. Hence about 40 million dollars worth mature annually. If a renewal commission of 2% is charged on this sum it would mean 800 thousand dollars per annum. If there is an excess of 2% in the rate charged which could be saved by the installation of a farm loan bank it would mean a total money waste to the farmer directly of 800 thousand dollars in commissions and about 2½ million dollars interest, or a total of some 3¼ millions. This means not only an economic waste to the farmer, but also a tax on the balance of the population. Upon reflection, then, is it any wonder that retail prices of food are 70.9% higher for the ten year period? Twelve of the fifteen articles of food have advanced more than 50%. For instance, bacon has advanced 133.3%; round steak 107%; fowls 74.2%. With the decline in the production of agricultural products, and a large increase in our total population, is it strange that the cost of living has increased so enormously? We may also ask the question that if our cities continue to grow, and our rural population to decrease in proportion, how long will it be before we cease to export food products at all, beside going hungry at home?

Peter Radford's Advice to the Unemployed

"If any of the nation's industries have surplus employes we can use them on the farm. We have no regular schedule of wages, but we pay good farm hands on an average of $1.50 per day of thirteen hours when they board themselves; work usually runs about nine months of the year and the three months dead time, they can do the chores for their board. If they prefer to farm on their own account, there are more than 14,000,000,000 acres of idle land on the earth's surface awaiting the magic touch of the plow. The compensation is easily obtainable from Federal Agricultural Department statistics. The total average annual sales of a farm in the continental United States amount to $516, the cost of operation is $340, leaving the farmer $176 per annum to live on and educate his family.

"There is no occasion for the legislatures making a position for surplus employes of industry. Let them come 'back to the soil' and share with us the prosperity of the farm.

PRACTICAL FARM PAPERS—No. 4.

A little recent experience not altogether on farm lines is worth recording while it is fresh in mind.

Wife discovered that the house was full of mice, the number being estimated at from 25 to 100. I invested in mouse traps, six for a dime, and in two nights we caught six mice in the sitting room with the result that we have not heard one since. Then the traps were transferred to the store house and cellar, again catching six in two nights, and as the traps are still there, unsprung, we conclude that we have cleaned out the mice, at least for a time. We will put the traps in the seed corn crib now, for while it is supposed to be mouse-proof, one or two are to be caught there every season.

A neighbor had a hen caught by a hawk and his little boy set two steel traps by the caracss, catching a bluetail chicken hawk a day for three days.

Half a dozen of these little six-for-a-dime mouse traps, well watched, will catch more mice in a winter than the same number of cats will, and a steel trap or two set near a dead hen or rabbit, may be the means of saving several dozen young chickens next spring.

In my experience, February is the month in which rabbits do the greatest damage to young orchard trees, and if yours are not wrapped, see to it soon. I have found that an old newspaper does very well wrapped four or five times around the trunk and tied once. Of course there are better tree protectors than old papers, but we always have the papers and we do not always have the other things. Here we often use tobacco stalks, thus protecting the tree, fertilizing it, and killing the louse that causes root galls all at the same time.

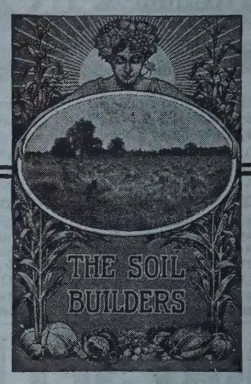
The first carload of corn for the season came to our county seat January 15, and sold at 82½ cents per bushel. On the same day buyers were offering $6.65 per cwt. for hogs, or within 45 cents per cwt. of the Cincinnati market top. We have a big crib of corn and only a few hogs, but can buy thirty head of sixty pound shotes at 7 cents per pound and are not certain as to whether we will take them. If corn goes to a dollar, or over, and if hogs in June do not go to near a dime, we would just about lose the purchase price of those shotes, and while I know neither more nor less than any other man does about the future of the hog market, I feel rather shaky about seeing ten cent hogs in May and June.

Owing to lack of organization among farmers, and due to the perfect organization of the packers, the future is sealed to us, while the Big 4 could tell us today the average price they will pay for hogs every month in the year 1915.

With 22 million pounds less white burley tobacco in 1914 than in 1913, prices today are four to five cents per pound less than they were on the same date last year. Of course wheat is high in price, but very few farmers have any wheat to sell, as for the past few years the prices paid at threshing time have been nearly as good, all things considered, as those paid later.

A queer condition was noted in the egg market here January 14-20. While eggs in Eastern market, New York, Boston, Baltimore, were selling at 46 and 48 cents per dozen, and it only costs 3 cents per dozen to ship there from Cincinnati, the produce exchange of the latter named city put the price down from 40 cents per dozen to 31 cents. Verily the farmer has little to say about what price he is to get for his produce. C. D. Lyon.

There should be no idle acres this year. The war in Europe is bound to make good prices for all the crops we can produce.



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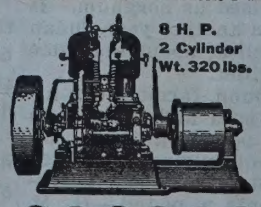

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A 365-DAY ROAD CLUB

We have your letter asking what the 365-Day Road Club is—what it has accomplished and can it be adapted to other counties?

We will try to answer your questions in as brief form as possible.

Originally the 365-Day Road Club was a combination of one hundred and twenty men and seven thousand two hundred dollars (each member paying five dollars a month, $60 a year) for the purpose of aiding in the building of roads leading into Carthage, Missouri, that could be used with safety, profit and comfort 365 days in the year. The second year it was a combination of one hundred forty men and eight thousand four hundred dollars. During the third year of its existence and the fourth year, just closing, the palpable and hidden forces brought into action on road building operations had developed enough power to run on momentum so far as membership fees were concerned. It was not necessary to collect any dues from members in 1913 and 1914. A clear understanding of how this was accomplished would require explanation too lengthy for this article and we will therefore have to be content with the statement that during the last two years when the membership of the club were paying no dues more miles of road were constructed and maintained and greater constructive forces were brought to bear on the subject of road building than in the two years when membership fees were being paid. From this experience we have deduced one definite conclusion and that is, that while the money subscribed during the first two years was a very necessary ingredient in the combination of forces employed it was neither the largest or most valuable element producing the results. A suggestion of what these forces were may be gained by a study of one of the 365-Day Road Club's cardinal doctrines: "Put the people in your problem."

So strongly is this idea growing upon us that we are thinking of reorganizing the Club for 1915 each member to pay 365 dimes in money and 365 minutes in time as his contribution to the work for the next year. Our experience teaches that we can get as good results out of this combination as we could get out of four times the money minus the minutes.

Prior to the formation of our club it has been the custom here, as in many other localities, for the road men to build a piece of road and treat it like a monument in the cemetery, returning to it only in hours of grief. The name of the 365-Day Road Club was selected with malice aforethought so that every time it was seen or used or remembered it would silently teach the doctrine that eternal vigilance is the price demanded for roads as well as the price demanded for liberty. To paraphrase an old saying, "Go to the ant, thou road man, learn of her ways and be wise." Disturb an ant hill and see how quickly repairs will be commenced.

Another cardinal principle of the Club is "Hold what we have, get what we can." Putting this in practice fifty per cent of available road funds are put into "Maintenance account" and the other fifty per cent is allotted to "New Construction."

When the club was formed four years ago the roads in this locality consisted of disjointed sections of good roads with bad places of greater or less extent between the good parts. In bad weather these good parts stuck up like a blue sky bridge in a flood—of little or no use till the bad places got fordable. We now have a system of good gravel roads in Jasper County surrounding Carthage and connecting the farming districts of the rest of the county with the mining districts in the west part over which motor cars or heavily loaded wagons can run 365 days of the year. One of these motor cars could run continuously for three days (Union Time) at a rate of 25 miles an hour without retracing its track or getting off the gravel of our road system.

Much complaint is heard throughout the land of high taxes, and politicians gain elections by promising relief and devise systems of indirect taxation to fool the people into the belief that they have made good the promise. Notwithstanding this the Road Club has put into successful operation a system of the most direct taxation. Neighborhoods call meetings, assess themselves, guarantee the levy and do their own collecting.

The club purchased and now owns two large traction engines which are kept at work in construction and maintenance work. The purchase, ownership and use of these engines proved a great factor in the early exploits of the club and solved some problems with ease that would otherwise have been difficult. And now as they make their periodical trips from one part of our road system to another they serve the same purpose for our work, as do the signs one sees on bank windows serve the purpose of the banker. The signs one sees on bank windows read something like this: "Capital $100,000." "Surplus $100,000." Stockholders Liability $100,000." "U. S. Repository." "Member Federal Bank Reserve Bank."

The 365-Day Road Club preaches good business principles and tries to practice them. The wise business man holds and increases his trade by giving bargains. The club has introduced such economies in road building that every one who has contributed to its support feels that he got a bargain for his money and is encouraged to go to the same place for more goods of that class and tell his friends about it. The most substantial proof the club has received that it has practiced this precept is the fact that there are already on file donations sufficient to secure the construction of eleven and one-half miles of road as soon as spring opens. A line of people in front of a bank before opening time might mean that no great confidence was placed in the signs on the windows but a line of people in front of a merchant's door before opening time would be construed by the passer-by as the sign of bargains to be had within. So when the farmers will line up months before opening time with contributions to build roads, is it not reasonable to suppose that bargains are to be had within?

A lazy dollar is of as little use to a bank as a lazy man is on a farm. The club has made every dollar in its treasury do the work of four and the lazy man has to speed up to get a look at the dollar as it goes past.

In a broad sense the 365-Day Road Club is a community in action, the dividends of the transaction in the way of benefits going back to the whole community and not to the few.

Can the 365-Day Club Idea be adapted to other communities? Yes, wherever there are live people. It could not be worked successfully in a cemetery. Live people is the main ingredient. Wherever there is a live community the club idea will produce just as good roads as they deserve. It will not make boulevards out of bogs but it will make 365-Day roads wherever there are people to use the roads enough to keep the grass and weeds from growing between the wheel tracks. Neither is it any great metaphysical mystery. Any man of ordinary intelligence who will give it one hour's attention and study can possess its secret. It is as simple as a gas motor and just as easily understood and reliable. In its practical working in our locality the banker has seen it turn liabilities into resources and the farmer has seen it turn barren into fertile fields, and the donor has seen his donations turned into a fund of cash sufficient to buy a horse and wagon.

During the recent flip-flops in wheat prices, our people did not have to consider road conditions in marketing their wheat. When the telephone brought the news of a satisfactory price the road was ready, 365 days in the year.

J. D. Clarkson,
President 365-Day Road Club.

Note.—If more of our charitable societies were organized and working along this line—every dime of contribution to be accompanied by a minute of kindly and helpful thought, some of them could soon be running on momentum and willing workers would be receiving living wages instead of wasting time hunting soup houses.

BOYS' AND GIRLS' CLUBS

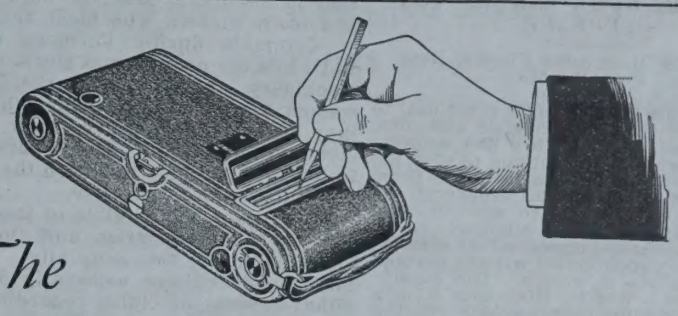
The College of Agriculture has been organizing and promoting Boys' and Girls' Clubs since March, 1914. At first it began with only two lines of work, which were corn clubs for boys and tomato clubs for girls. During the spring and summer 96 clubs were organized with a membership of 1197.

With the opening of the fall term of school, three other lines of work were projected; these were stock judging clubs, sewing clubs and poultry clubs. The total number of clubs organized from March to January were 339 with a membership of 3071.

In order to encourage the work the State Corn Growers' Association offered a nice line of premiums to the corn clubs and several business firms offered premiums to the tomato clubs. The firms encouraging this work were Mermod-Jaccard & Co., St. Louis, the State Bankers' Association, The St. Louis Seed Co., The Simmons Hardware Co., and the Shapleigh Hardware Co., the last two firms also of St. Louis.

The sweepstake prize, a silver cup, was awarded Mary Turnbow, Pittsville, Mo. The prize for the best jar of tomatoes grown and canned by a member of a club, was awarded to Nellie Shelton, Holden, Mo. This was also a silver cup. A set of Diamond Edge knives and forks was awarded Golda Moberly, Barnard, Mo. A camera was awarded to Sophia Mellies, Owensville, Mo., and a set of ladies' pruning shears to Delta Deal, Holden, Mo.

In order to encourage local interest in this new educational movement, several merchants of Columbia offered prizes, some to members of the corn clubs and others to members of tomato clubs. About thirty-five boys and girls began this work but only one came up to all of the requirements of the organization. These requirements were that the corn or tomatoes must be grown by the members, written reports must be made of the work, the products—either corn or tomatoes—must be exhibited and a story of two hundred words telling briefly about the activity carried on must be presented at the close.



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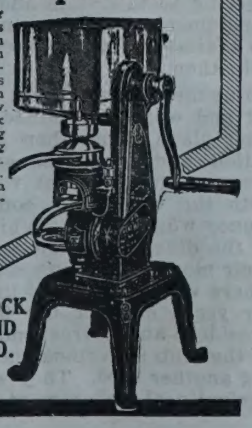

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MISSOURI HOME-MAKERS' CONFERENCE

Edited by Miss Alice Kinney, New Franklin, Mo.

[The Missouri Farmer has a great deal to say in each issue about cattle and corn, hogs and alfalfa and other like subjects and while we aim to continue to give the usual high-class information on these economic subjects for the benefit of our men, we are very glad to announce the arrangement with the Missouri Home Makers' Conference whereby that association becomes sponsor for a page devoted to the interests of women. The department will be edited by Miss Alice Kinney of New Franklin, past president of the association and a woman in full sympathy with the work looking to the lightening of the work of farm women and for the improvement of the social life of the country. We trust our farm women readers will aid Miss Kinney in making this department a useful and interesting feature of the paper.—The Editor.]

Officers: President, Mrs. Harry Sneed, Sedalia; 1st vice-pres., Miss Louise Stanley, Columbia; 2d vice-pres., Mrs. Horace Windsor, Boonville; cor. sec., Miss Bab Bell, Columbia; rec. sec., Mrs. D. H. Doane, Columbia; executive sec., Miss May McDonald, Columbia; treas., Mrs. Ivan W. Phillips, Kingsville.

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The Missouri Homemakers' Association wish to express their sincere appreciation to The Missouri Farmer for the courtesy extended them in the proffered use of this department.

Glady do they avail themselves of this open doorway through which they hope to come into closer touch with each other, as well as other rural and home economic clubs over the state.

The object of this organization is that women by lending their assistance will gradually help to weld the numberless incoherent parts of awakening interest among the hundreds of isolated women into a cohesive force that will bring results for all.

This cannot be brought about by one person or one set of women, for the success of any organization depends upon co-operative and individual effort; through the columns of this department we shall continue to urge women to meet this responsibility with greater interest thus the co-operative spirit will grow from which all will draw strength.

The Missouri Homemakers' Association is an organization of both farm and town women, who meet annually at Columbia during Farmers' Week, and while the men discuss stock, crops, machinery and better markets, the women are discussing plans whereby they may not only solve their own home problems but also ways by which they can help to enrich the community in which they live.

Every woman is eligible to membership in this association and through these columns we cordially invite correspondence and especially do we solicit reports of clubs, regardless of size. What you are doing for your home and neighbors is of vital interest to others, and if you will let us have your experiences they will be gladly appreciated.

Many of the Movable Schools of Home Economics, started last summer, have formed permanent clubs, and are holding regular meetings. In one Cooper County club the members became such enthusiastic workers that they sent two girls to Columbia during Farmers' Week for the Short Course in Home Economics.

Report of the Conference held by the Missouri Homemakers will be given in the next issue of The Missouri Farmer, also reports from some of the Home Economics circles that were started last year.

Mr. and Mrs. J. Ed Hall of Lamont, Mo., are offering through the Missouri Homemakers' Conference a $10 trophy to the young woman in the state who will most successfully can six jars of different vegetables in pint jars, these cans to be exhibited and scored at the January 1916 Conference. This is the most liberal offer for culinary product that we have ever seen and fortunate is the young woman who wins it. We shall be glad to hear from all who wish to enter the contest.

The growing demand for certain lines of development has led this organization to create departments with women as chairmen who from trained experience have become experts in their special lines of work.

The outlook of the Poultry Department is most encouraging, for where is the woman who is not interested in poultry either for production or for her family table.

Do you know that—

Fresh meats, dusted with Borax, will keep fresh much longer. Rub the Borax in as you would pepper and salt. Wash the meat before cooking.

Borax, added to the water in which your washing is done, saves lots of valuable time. It makes washing a simple and easy undertaking, without any attendant harmful results. Add three heaping tablespoonfuls or more to every tub of water.

Bacon curers use Borax in place of salt for curing.

The hands will be kept soft and white, and free from all chap, redness and roughness if Borax is used in washing them.

If you want your clothes a snow white—not yellow-white, or gray-white, but real white—use Borax in the cleansing water. It will also restore to a snowy white after two or three washings, linens that have acquired an old, yellowish cast through frequent washings with ordinary cleansers.

20 MULE TEAM

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WOMAN'S APRON

To woman's apron—Glory be—
What tribute should be paid to thee—;
Methinks Milady should have its charms
Emblazoned upon her coat-of-arms;
In its useful mission, it is unfurled
By every nation of the world.

For many purposes 'tis used
And sometimes very much abused;
But on the farm it reigns supreme
When worn by an up-to-date Kitchen Queen;
With a flounce at hem and pockets on sides
It's an ever present help in the Cook Spoon Glide.

As she balances rations for the inner man
With a "Grand Finale Symphonie Dish-pan,"
While Babykin laughs as he fondly clings
For his first support to those apron strings,
Its importance in housework plays quite a role,
From nails to hen's eggs it must always hold.

The nurse in her apron of spotless white
Administers to sick by day and by night,
The sight of her apron, oft brings relief
To suffering humanity, is common belief;
At home or abroad, where e'er she may be,
Her apron and cap are as neat as can be.

'Tis plain then to see the essential part
The apron holds dear to the feminine heart;
Creations of ribbon and lace, too, abound,
Embroidery and dimity, with ruffles all 'round;
For the afternoon dress or the five o'clock tea
The "smart" little apron is all it should be.

Mere Man dons an apron with awkward grace,
As he tucks it under his arms or his face;
His overall, however, is a good substitute,
With pockets galore, fore and aft, just to suit.
In the feminine world then, the apron will reign
And with home economics will it always share fame.

—Mrs. Scott Cunningham, Palmyra, Mo.
Written by request for the Missouri Home Makers' Conference.

A WOMAN FARM ADVISER

That the farm women are awakening to the needs of better social conditions, more attratcive homes and better educational advantages for the rural communities, is being clearly demonstrated by the Pettis County Homemakers' Club of Missouri. This is a farm woman's organization, organized by the State Board of Agriculture. It was the first club of its kind in the United States and no plans had been formulated for the work so they were left absolutely dependent upon their own resources.

Their first thought was for the rural schools, and hoping to bring the home and school in closer touch, a woman was appointed in every district represented in the club to be responsible for the visiting of the schools every two weeks by the parents and patrons. A report was made at the monthly meetings of the club and the plan met the desired end. The children were delighted,the teachers encouraged and the parents became more interested in some districts. Even the "School Board" visited the school and many long needed repairs were made and conveniences provided.

The next step was to create a sentiment for the teaching of wood-work for the boys and sewing and cooking for the girls. This was brought about through a sewing and bread-baking contest in which Homemakers' children only were allowed to enter, but almost every township in the county was represented and much interest was manifested. Both fathers and mothers came to see the work and all were enthusiastic over it. By the close of the school term there were ten schools in the county where sewing and woodwork were taught. Then the idea of a county Domestic Science teacher or Farm Woman Adviser was conceived. They were led to believe that if they raised $500 the state and government would give them a like sum as they do the farm adviser, but $500 looked like a vast sum to farm women who are dependent upon their market money not only for their own spending money but for the table supplies and most of the children's clothing.

After much thought and careful study of the project the plan of apportioning it among the school districts was decided upon and by 34 districts out of 96 in the county giving $15 each the amount could be raised. This plan was put before the club and it unnanimously voted to raise the money and as the districts were called invariably two or three women rose and vouched for the required amount. It was a great meeting that day with about 100 women in attendance all enthusiastic and happy and ready to do all they could for the success of the project.

But great was their disappointment when upon reporting the result of the meeting to the State and Government departments they were told there were no available funds whereby they could help them.

But these farm women were in earnest and were determined to carry out their plans so another meeting was called and conditions explained and every woman present voted to go on with the work and some way the money would come. While the women in the different districts were earning their money by giving socials and teas where women who had lived neighbors for years met for the first time, the president and corresponding secretary of the club undertook the task of raising another $500. They wrote to every agricultural department from Secre-

LIGHT, COOK, IRON, WITH GAS

Every housewife on the farm or in the small town can now use gas for every purpose for which the women of large cities use it. Think of this! You can now have a convenient gas range, gas iron and gas lights exactly like your friends in the cities. Few city people use coal or wood ranges today. They're too much trouble—and too hot in summer! A gas range takes little room, is clean, cool—and the hottest or gentlest heat is always ready. Gas lights are a hundred times as handy as lamps. No filling. No cleaning. All this convenience is made possible for you by the new

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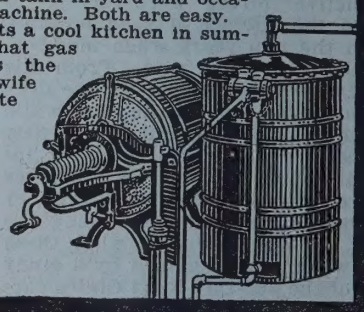
which makes gas for 60 cents a thousand cubic feet—20 cents less per thousand than gas costs in St. Louis. Installed in the cellar, the Aero-Gas machine takes gasoline from a tank buried in the yard and converts it into gas automatically. There's no flame anywhere around the machine to cause danger. The gas is distributed throughout the house in ordinary gas pipes. Requires no generating. The only attention necessary is to fill tank in yard and occasionally wind up weight that runs machine. Both are easy.

Free! Every housewife who wants a cool kitchen in summer and all other conveniences that gas affords—and every man who has the comfort and convenience of his wife and family at heart, should write today for our Free Booklet that gives full details and prices. When writing, give name of party who does gas-fitting, plumbing, etc., in your locality.



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tary Houston on down and the reply always came back "There are no appropriations for farm women." They tried to interest wealthy and philanthropic people in the cause but as it probably was the first time that farm women ever asked for anything they could not convince anyone of the importance of the work. So these two women went to work at home and by getting a little here and there they raised another $500, thus making it possible to start the woman in the work.

They count themselves fortunate in having a Pettis County girl, Miss Mildred Henton, who is peculiarly fitted for the work and who has accepted the position. She began in her new field of labor November 16, and what the farm adviser is doing for the men, boys and farms she will do for the women, girls and schools. The one standing for better crops and more money, the other for better homes and better citizenship.

Pettis County Correspondent.

OBSERVATION AND INVESTIGATION

Reveals the facts that a great many farmers look upon the hen with indifference or consider her and all her kind as a nuisance, to be tolerated only as a means of supplying the women folks with a few dimes on Sunday occasions, or when eggs are exchanged at the store for groceries or small wares dear to the feminine heart. The good wife with her never-ending tasks is supposed to take charge of these birds especially in the spring time, and rear a supply of chickens for the replenishing of the flock for the Sunday dinner and to buy more dry goods, groceries and chewing tobacco. No account is kept of the number of eggs produced or the value of market poultry either consumed at home or sold on the market. Although these products are much appreciated as table necessities, yet their cash value is not reckoned. That the hens produce much more than they cost and that they may be considered as an adjunct to help swell the general revenue of the farm, the same as pigs or cows or any other line of farm economy is foreign to the thought of the average farmer.

The opportunity presents itself to you right now. The demand for poultry and poultry products will never be greater than this season. Foreign conditions are bound to stimulate demand that we cannot meet, and high prices are scheduled for 1915. Give the hen the attention she deserves and reap the benefit.

The Necessity of Clean Hens' Nests.

When nests are allowed to become filthy and dirty they are distributors of disease and vermin, and for this reason the straw should be removed often. The nesting box should be sprayed and fresh straw supplied. Then again if they do not look inviting the hen will look for other quarters and perhaps hide her nest where it cannot be found. If you use the dropping board system in your poultry house, fasten the nests to the underside of it, allowing the hens to enter the nests from the rear, having a hinged door in front for use in gathering eggs and cleaning nest. This system makes it very convenient for the attendant and satisfactory to the hen.

Dust Baths

Keep close to nature if you succeed with poultry. The natural way for fowls to rid themselves of vermin is to roll and scratch in the dust. All poultry that are confined should be supplied with some kind of a dust bath. A frame should be made of suitable size and placed where the sun will reach it. Ashes make a good dust, but dry road dust is better. Some breeders of white fowls use flour with powdered napthaline, others add sulphur or powdered tobacco stems to the dust. Any of these are good and worth trying. Remember a lousy hen will never lay enough eggs to pay for her feed, and at the present price of eggs it is well to look for the health and happiness of your hens.

E. L. Andrews.
Maryville, Mo.

FIRELESS BROODERS AND TEMPERATURES FOR BROODING

Cold, or fireless, brooders are successfully used in a small way by many people, and can be either purchased or built, according to the U. S. Department of Agriculture's specialist. As their construction is very simple, many people prefer to build rather than to buy them. The body heat of the chickens is the source of warmth in this system, which requires that several chickens be placed in a small receptacle to generate and retain the heat. Small fireless hovers with adjustable quilts or covers are used in both indoor and outdoor brooders and in colony houses. A box 18 inches square and 8 inches deep is recommended by the U. S. Department of Agriculture as a good hover of this type.

The number and position of the quilts used over the chickens in this box are regulated according to the weather and the number of the chickens in the brooder. In very cold weather the quilts should sag so as to rest on the backs of the newly hatched chickens and there should be little or no empty space in the hover, while in warmer weather or with older chickens the quilts or covers are raised or part of them removed. From 12 to 40 chicks are usually placed in a fireless brooder, 25 being the average number, while small lots do better than larger ones under this method. The litter in these brooders must be changed frequently, and the chickens must be watched carefully and closely to see that they are comfortable and do not sweat. Fireless brooders may be used in connection with heated brooders, using the latter for 7 to 10 days and reducing the heat, which should be governed by the season of the year and outdoor temperatures, before transferring the chickens to the fireless brooder. When first placed in the fireless brooders the chickens may have to be put under the hovers frequently, until they learn where to get warm. Good results are also obtained with these brooders when used in a heated room.

Correct Temperatures for Brooding

The best temperature at which to keep a brooder or hover depends upon the position of the thermometer, the style of the hover, the age of the chickens, and the weather conditions. Aim to keep the chickens comfortable. As the operator learns by the actions of the chickens the amount of heat they require, he can discard the thermometer if he desires. When too cold they will crowd together and try to get nearer the heat. If it is found in the morning that the droppings are well scattered under the hover it is an indication that the chickens have had enough heat. If the chickens are comfortable at night they will be spread out under the hover with the heads of some protruding from under the hover cloth. Too much heat will cause them to pant and gasp and sit around with their mouths open.

It is impossible to state for each case at what temperature the brooders should be kept to raise young chickens; however, it will run from 90 degrees up to 100 degrees in some cases. as some broods of chickens seem to require more heat than others, an average being 93 degrees to 95 degrees for the first week or 10 days, when the temperature is gradually reduced to 85 degrees for the following 10 days, and then lowered to 70 degrees or 75 degrees for as long as the chickens need heat. This depends somewhat on the season of the year and the number of the chickens, as it can be readily seen that the heat generated by 50 chickens would raise the temperature under the hover to a higher degree than the heat given off by a lesser number, consequently the amount of heat furnished by the lamp or stove will have to be regulated accordingly. As the chickens grow larger and need less heat, the lamps may be used only at night, and later only on cold nights. The heat is usually cut off at the end of 4 or 5 weeks in March or April in the vicinity of Washington, D. C., while winter chickens have heat for 8 or 10 weeks, or until they are well feathered. Care should be taken to prevent chilling or overheating the chickens, which weakens them and may result in bowel trouble.

Chickens need a cool place for scratching and exercising in addition to heat. Indoor brooders and hovers can be used successfully in unheated brooder houses except during the coldest weather in most sections of the country. Outdoor brooders usually

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The Sure Money Maker For Beginner or Expert

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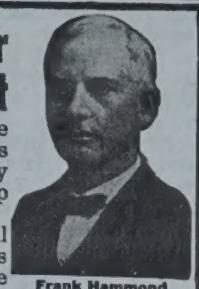
The Sure Hatch Incubator will increase your income many times over. One Sure Hatch will get you more chicks than 20 setting hens—in less time, because it is always ready; with less bother, because it requires less attention—will give you cleaner, healthier, stronger chicks, because the Sure Hatch does not harbor vermin, to start diseases that are hard on the little fellows.



Frank Hammond President

The Wife OR THE Children Can Manage the Sure Hatch

with pleasure and no trouble at all. Very little time and effort required. They can make substantial deposits in the bank, in Spring, Fall and Winter when poultry prices are highest.

Don't waste your money and time with machines that hatch chicks which will not live. No matter how good the eggs are that you put into a poorly-built machine, the chicks will be puny and will die, because the correct hatching conditions cannot be maintained—without variation throughout the hatching period.

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The material used in its construction, the careful way in which it is put together, its hot-water heating system and absolutely accurate, automatic regulation of heat, moisture and ventilation, make it the greatest hatching machine on the market—dependable at all times—an unfailing success—**it produces a strong, healthy chick from every hatchable egg.**

Early chicks bring the most money. Let us send you a Sure Hatch freight paid under our strong 10 year guarantee and on 60 days trial. You are safe in doing this; we are responsible, our dealings are always fair, as the thousands of Sure Hatch users tell you.

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Our Uncle Sam Poultry Book is sent free with every Sure Hatch. No other book contains so great a fund of practical information telling you how to succeed at the poultry business. **Our illustrated catalog free.** Shows how Sure Hatch Incubators and Brooders are built, and why they are the ones you should have.

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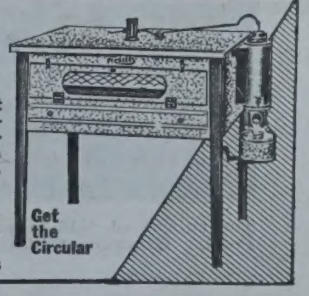

Get the Circular

have a cool compartment for exercising, where the chickens are fed in cold, stormy weather. If winter chickens are being raised, it is advisable to heat the brooder house to a temperature of 60 degrees to 70 degrees, regardless of the temperature of the hover, which often requires placing brooder pipes around the outside walls of the brooder house. The need of this heat depends entirely upon the brooding system and the weather conditions; but it is absolutely necessary that the heat be kept at the desired temperature under the hover. Brooders and hovers should have from one-half to two inches of sand, dry dirt, cut clover or chaff spread over the floor and in the brooder-house pen. The hovers should be cleaned frequently, as cleanliness is very essential in raising chickens successfully.

When chickens are first put into the brooder they should be confined under or around the hover by placing a board or wire frame a few inches outside (this would not apply to the small outdoor colony brooders). The fence or guard should be moved gradually farther away from the hover and discarded entirely when the chickens are 3 or 4 days old or when they have learned to return to the source of heat. Young chickens should be closely watched to see that they do not huddle together or get chilled. They should be allowed to run on the ground whenever the weather is favorable, as they do much better than when kept continuously on cement or board floors. Weak chickens should usually be killed as soon as noticed, as they rarely make good stock, while they may become carriers of disease. Brooders should be disinfected at least once a year, and more frequently if the chickens brooded in them have had any disease.

SUCCESS OR FAILURE IN 1915?

The approach of spring is a happy season for the poultryman as well as the spring poet, but, unfortunately, we have too many poultrymen who confine their enthusiasm largely to these months as do many of the sentimental writers of springtime literature. We cannot impress upon you too strongly that the poultry work is a year-round business and cannot be neglected at any season but there are more points to be looked after at the approach of the breeding season than at any other time. You are then laying the foundation, and upon the intelligence that you use at this time largely depends your future success. Look well to your matings for 1915.

You should have by this time fully made up your mind as to the breeding pens. This work cannot be done in a day and you should have records kept throughout the year that will enable you to do away with guess work and mate with accuracy. Now it is true that everybody cannot use the trap nest, but even the man with one pen of fowls can toe mark and leg band his chickens and have ways of identifying his flock so that he may do the work of mating with intelligence.

We wish especially to urge you to study the Standard and the requirements for your variety. The new Standard is now ready and your birds should be mated with that in view, as it will be the judge's guide at the poultry shows next summer and fall. Get the Standard at once and take another look at your pens to see if you can make any further improvement in your 1915 matings. We feel confident it will be the best Standard ever issued. We hope it will prove to be, at least.

Don't overlook vigor or vitality in every bird in your pens. That should always be the first requirement, for without that your birds cannot retain their good shape, their brilliancy of plumage, or be good producers from any point of view. Breed from males and females that have been good producers or that have been bred from good producers. Don't forget that the egg basket is where most of the profit is, and that eggs represent more than half the income from this great industry.

In some sections of the country, February and March are excellent months to raise poultry, and it is possible to produce birds that will lay eggs during the early months of fall when eggs are the highest, birds that will be in prime condition for the early show rooms, and that will be mature enough for breeders the following season. The hatch may not be quite so good, but if you will provide comfortable quarters the chicks will be freer from disease and vermin than when hatched later in the season. Then, too, those birds that you wish to cull out bring a good price on the market as broilers. In fact, reaching the market with early broilers is one method by which paying returns are brought to the specialist who raises fowls for the market.

For the above reasons and for others which might be stated, we think that every farmer and every poultry raiser should have at least one good incubator holding 120 eggs or over. It is the practice of too many people to set the first hens which go broody in the spring and these are usually the very hens which they should breed from and should be kept laying. These hens are the ones which had the ability to lay in winter when eggs were highest. Start the season of 1915 right and you will find pleasure and profit later in the poultry business as a result of your carefulness and common sense used at this time.

T. E. Quisenberry,
Mountain Grove, Mo.

TO PREVENT ROUP

Roup, in its common form, is an exaggerated cold which is produced through exposure in damp, draughty, or poorly ventilated buildings and filthy surroundings. In the common forms of roup there is an abundant discharge of mucous from the nasal and throat membranes. This discharge has a very offensive odor. It also creates a rattling sound in the throat when the fowl breathes. In the later stages of the disease the mucous discharge accumulates in the tissues of the eye and face and hardens in large, cheesy lumps. The eyes and skin of the face are bulged out by these lumps. Occasionally the accumulation of this cheesy matter in the tissues of the eye forces the eye out of its socket. When this advanced stage is reached the irritation and fever become so great that the fowl soon dies from weakness and exhaustion.

In the treatment of this disease it is first necessary to improve the house conditions which are responsible for the outbreak. Every infected individual should be removed to special quarters so as to prevent the communication of the disease to other fowls in the pen. The following simple remedies can be used: Permanganate of potash, one ounce dissolved in three pints of water. Use one pint of this solution in three quarts of drinking water. It can be used as a dip for individual treatment. To do this, grasp the legs and wings of the fowl in one hand and the back of its head in the other; thrust the bill into the solution and hold it there until the fowl draws in a slight amount of the solution in striving to breathe. It can also be used, several times a day, as a spray and with an atomizer forced into the nose and the upper part of the mouth. It serves to cut the mucous discharge and to cleanse and relieve the membranes. It has also proven greatly beneficial to paint or spray the perches with a thick coal-tar product, such as crude carbolic acid, cresol, or carbolineum. The fumes rising from these products will be breathed by the fowls while roosting and will loosen the mucous discharge and clean out the nasal passages.

All forms of roup are not considered communicable by some writers, but nearly all agree that diphtheretic or cankerous roup is communicable. This disease is recognized by the cankers or sores which form in the mouth and at the edges of the beak. It is difficult to protect a flock which has been exposed to this disease. The use of disinfectants and carbolic acid or cresol should be liberal. All infected fowls should be destroyed as soon as they are noticed.

C. A. Rogers.

The cultivated field is a fine place to raise chickens. Scene at the Missouri Poultry Experiment Station, Mountain Grove, Mo., T. E. Quisenberry, Director.

EXTRA rubber and extra fabric, built layer by layer into a tremendous strain resisting unit—this means more mileage.

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Big Barred Rock Cockerels.—25 tops, May hatched, splendid quality, weight 8 to 10 lbs. $3 to $5 each. Obadiah Prettyman, Fairfax, Mo. 1154

Barred Plymouth Rocks, Thompson Ringlet Strain, fine cockerels, priced to sell. Pen eggs $2 for 15, utility flock eggs $5 per 100. A. F. Skiefer, Defiance, Mo. 1156

For Sale—Single Comb White Orpington Cockerels, English strain. Prices very reasonable. Write E. L. Andrews, Maryville, Mo. 115tf

White Wyandotte Cockerels, extra good, $5. If not as represented, return bird and get your money. Eggs for hatching $3 for 15. Isham Boulware, Centralia, Mo. 216

White Holland Turkeys. Prices free. Grace Garnett, Marion, Mo. 212

Fine S. C. R. I. Red Cockerels. Shipped on approval, $2 each. Mrs. Emmett P. Dyer, Rt 1, Malta Bend, Mo. 211

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Best hot water machine made. 500,000 of them in the hands of satisfied users. Prompt shipments.

E. L. ANDREWS, Agent
Maryville, Mo.

If you have anything troubling you in your poultry work write us about it and we will have one of our poultry editors help you out. Their experience will cost you no more than a two-cent stamp and may save you many dollars.

BUCKSHOT BY THE PROFESSOR

If I knew whether your wife and children respect and love you I would know what kind of a man you are.

Every farmer's wife should have a good incubator—for it will pay for itself several times over the first season.

A wise man once wisely said that it is easy to win in the World because so few men are trying to do it—that there is so little competition. Think it over.

There is no more pitiable sight in the World than the man who has lost his grip—who is aimlessly floating with the current like a worthless piece of driftwood.

The man who doesn't stand for something—who isn't trying to better his condition and that of those dependent upon him—such a man is of little more consequence to society than an old flea bitten mule.

If you haven't renewed your subscription to The Missouri Farmer yet, do it today. There isn't a farmer in Missouri who can't afford to pay 33 1-3 cents a year for three years for a paper like this one.

Here is a thought for my boy friends: I have met quite a few big men in my time—men who are at the head of large enterprises and who are doing things—but I never saw a man of this type smoking cigarettes.

Now is a good time to build up a big wood pile for next summer—and while you are at it, put it close to the kitchen so the women folks won't have to pack it a quarter of a mile.

Put in these long winter evenings studying how to make more money out of next year's crops. Everything the farmer raises is going to bring big prices for the next year or two—but it won't do you any good unless you've got something to sell.

The only chance a lot of boys have to amount to anything in the World is to be different from their fathers. Are you setting a good example for your boy to be industrious, clean of habit and instilling within him a desire to win and be somebody?

A man can't turn around in this world without bumping into good ideas—ideas which, if intelligently applied, can be turned into a balance at the bank. The pity of it is that comparatively few men have got either sense or energy enough to utilize them.

I always feel somewhat uneasy when the Legislature is in session for it nearly always means a lot of fool laws for which there is no public necessity. What the Country needs just now is a chance to get back on its feet again rather than a lot of legislative patent medicine.

In order to farm well a farmer needs good tools. Look over the different farm implement advertisements in this issue carefully and write for their literature. It contains a vast fund of valuable information—for in most cases it is prepared by men who have given a lifetime of thought to these things.

Daniel Webster was one of the greatest lawyers the World ever produced and usually a number of other lawyers were associated with him in his great legal battles. Before going into a trial, Webster would ask each of these associates to think the case over carefully and investigate it from every standpoint. Then he would get them together and ask each man to express his views and as they talked he would pick out their good ideas and discard the impractical ones—and in the after years he attributed much of his success to this plan. Even so a farmer should talk things over with his neighbors and adopt the suggestions which are good and dismiss those that are worthless. Good ideas are the cheapest and freest things in the World and they are nearly always worth their weight in gold.

Somehow I think we are on the eve of better times. I feel it in my bones that we are going to have a good crop year in 1915. Surely the great foreign war gives the farmer the greatest opportunity he has had in years. Again, sometimes we imagine that things are worse than they really are. It reminds me, one day some years ago when I ran across an old fellow who had filled up on a little too much "personal liberty." As he stumbled out of the railroad station he happened to walk under a gutter that was pouring down the remains of an April shower which had come along a few moments before—and as he stood there under the deluge he looked up at me and said, "Beats the d—— how it's rainin' don't it?"

We will appreciate your kindness if you will speak a good word about The Missouri Farmer to your neighbor who may not take it.

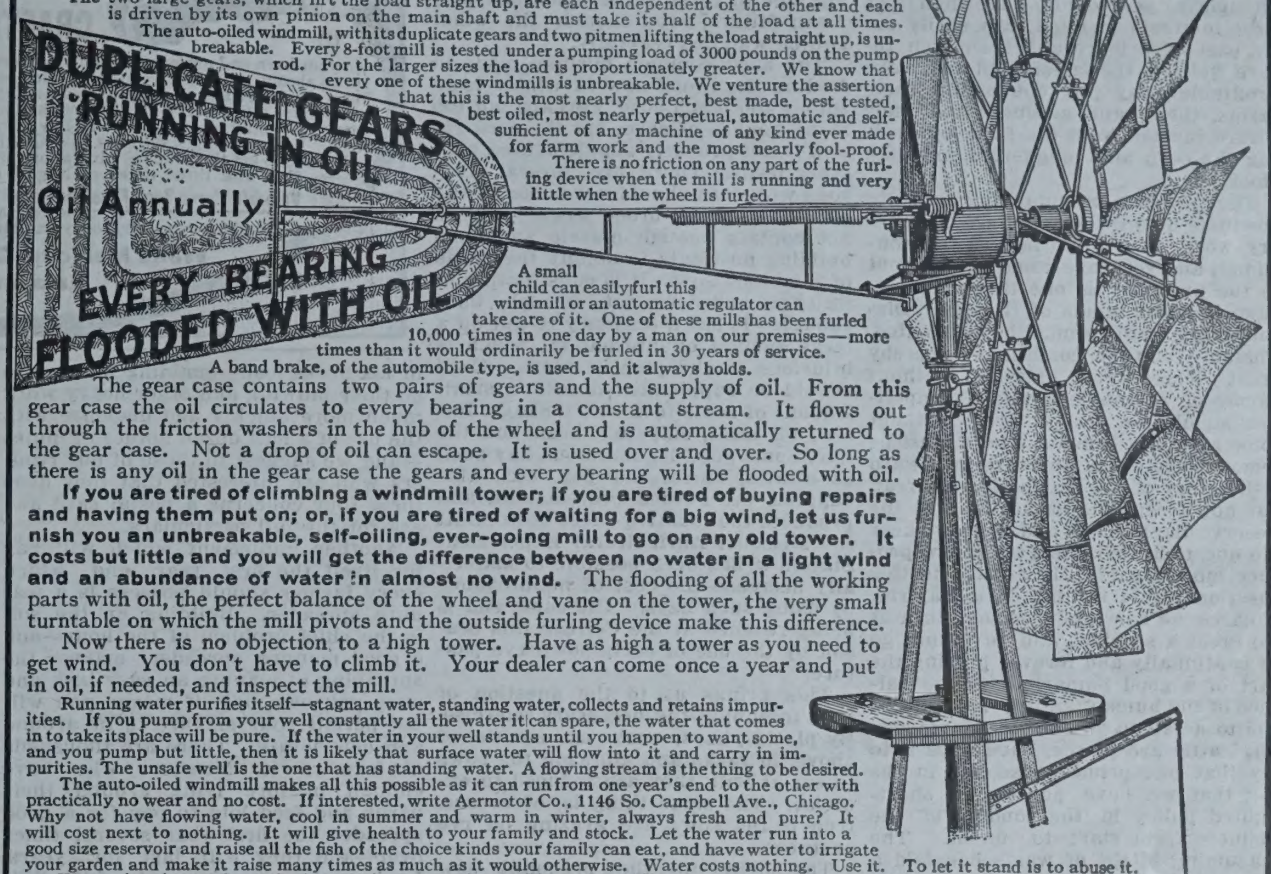
THE AUTO-OILED WINDMILL WITH DUPLICATE GEARS RUNNING IN OIL

Every bearing is constantly flooded with oil. Two quarts of oil in the gear case of this 8-foot auto-oiled windmill will keep the gears and every bearing flooded with oil for a year or more.

The galvanized steel helmet covers the gears, keeps out rain, keeps out dust, keeps in oil. The mill needs oiling but once a year.

There is a windmill, known the world over as "the windmill which runs when all others stand still." This new windmill with gears and bearings flooded with oil runs in much less wind than that well known windmill.

The two large gears, which lift the load straight up, are each independent of the other and each is driven by its own pinion on the main shaft and must take its half of the load at all times. The auto-oiled windmill, with its duplicate gears and two pitmen lifting the load straight up, is unbreakable. Every 8-foot mill is tested under a pumping load of 3000 pounds on the pump rod. For the larger sizes the load is proportionately greater. We know that every one of these windmills is unbreakable. We venture the assertion that this is the most nearly perfect, best made, best tested, best oiled, most nearly perpetual, automatic and self-sufficient of any machine of any kind ever made for farm work and the most nearly fool-proof. There is no friction on any part of the furling device when the mill is running and very little when the wheel is furled.



A small child can easily furl this windmill or an automatic regulator can take care of it. One of these mills has been furled 10,000 times in one day by a man on our premises—more times than it would ordinarily be furled in 30 years of service. A band brake, of the automobile type, is used, and it always holds.

The gear case contains two pairs of gears and the supply of oil. From this gear case the oil circulates to every bearing in a constant stream. It flows out through the friction washers in the hub of the wheel and is automatically returned to the gear case. Not a drop of oil can escape. It is used over and over. So long as there is any oil in the gear case the gears and every bearing will be flooded with oil.

If you are tired of climbing a windmill tower; if you are tired of buying repairs and having them put on; or, if you are tired of waiting for a big wind, let us furnish you an unbreakable, self-oiling, ever-going mill to go on any old tower. It costs but little and you will get the difference between no water in a light wind and an abundance of water in almost no wind. The flooding of all the working parts with oil, the perfect balance of the wheel and vane on the tower, the very small turntable on which the mill pivots and the outside furling device make this difference.

Now there is no objection to a high tower. Have as high a tower as you need to get wind. You don't have to climb it. Your dealer can come once a year and put in oil, if needed, and inspect the mill.

Running water purifies itself—stagnant water, standing water, collects and retains impurities. If you pump from your well constantly all the water it can spare, the water that comes in to take its place will be pure. If the water in your well stands until you happen to want some, and you pump but little, then it is likely that surface water will flow into it and carry in impurities. The unsafe well is the one that has standing water. A flowing stream is the thing to be desired.

The auto-oiled windmill makes all this possible as it can run from one year's end to the other with practically no wear and no cost. If interested, write Aermotor Co., 1146 So. Campbell Ave., Chicago. Why not have flowing water, cool in summer and warm in winter, always fresh and pure? It will cost next to nothing. It will give health to your family and stock. Let the water run into a good size reservoir and raise all the fish of the choice kinds your family can eat, and have water to irrigate your garden and make it raise many times as much as it would otherwise. Water costs nothing. Use it. To let it stand is to abuse it.

We need and must have the best dealers everywhere. They need us if they are going to remain in the windmill business. Write right now.

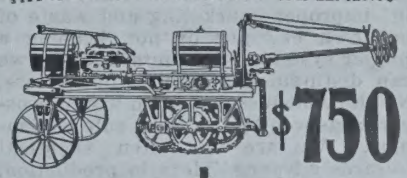
Colorado Hams

Meat should be thoroughly chilled (animal heat removed) previous to being placed into cure, or it will not cure properly, will become pickle soaked, and sometimes sour in smoking. Sprinkle the bottom of the container with salt about one inch in depth. Place large pieces as hams on the bottom and smaller pieces between larger pieces, on top. Sprinkle each layer with salt to which a very small amount of salpeter and brown sugar has been added, using not more than six ounces of saltpeter and two pounds of brown sugar to one hundred pounds of meat. In place of brown sugar, cane sugar may be used. After the meat has been put down in the container, cover with pickle of the proportions of nine pounds of salt to five gallons of water. Add or place between the layers of meat three ounces of whole pepper, six ounces of Juniper berries, a small amount of bay leaves, and some garlic. Circulate pickle by drawing off once daily from bottom and sprinkle over top of the meat. Hams should be cured in about a month, and other pieces according to size. In summer the pickle should be boiled and then cooled before using. After curing, soak three minutes for each day in cure; then wash in hot water, wipe dry with cloth, and smoke.—H. S. Eakins, Colorado Agricultural College.

BIG MONEY IN POULTRY

The average farmer or farmer's wife doesn't realize the amount of money which can be made out of good Poultry. On too many farms the Hen is regarded as a side issue—as a means of supplying a few eggs and "frys" rather than as a real, substantial source of profit. In present day farming we need to utilize every opportunity to the fullest and few things will yield better returns than a flock of good chickens. Only the other day we received a letter from a good Missouri housewife who said that last year she not only produced enough eggs and chickens to supply her own table but that she made enough extra to buy a lot of new furniture. This year she is going at it harder than ever. Doubtless there are hundreds of others like her all over the state. Furthermore, there is real pleasure in raising chickens. Of course it takes a little work—but what is there in this World worth having that doesn't require some effort? So we hope that every farmer's wife in whose home The Missouri Farmer is a visitor will resolve to make some money out of Poultry this year. If you need new furniture or carpets, a new range, kitchen cabinet, a power washing machine, a new bath room outfit or furnace—why not let the hens pay for it? Of course, to begin with, you will need a good incubator. You will find several splendid machines advertised in this issue of the paper—and all of them are reliable. **The Missouri Farmer.**

HITCH IT TO YOUR PRESENT IMPLEMENTS



$750

The BATES STEEL MULE

and ONE MAN

DOES ALL THE WORK

Problem for Tractor Buyers

+ OR +

IT'S "CRAWLER" WORKS ON ANY SOIL ALL THE YEAR AROUND

DOES THE WORK OF 10 HORSES

For catalog and information, address

C. H. BANTLEY

Missouri Sales Manager,
LEBANON, MO.

SEED CORN

FROM US DIRECT TO YOU

You want the best. It is the cheapest. We have Prize Winning High Yielding Corn without a peer. Boone County White, Reid's Yellow Dent, Iowa Silvermine and 90-Day White Cap, Hiawatha Dent and Johnson County White. 97 per cent or better germination.

Sold subject to 10-day test.

$3 per bushel. 10 bushel lots we pay the freight at $3 per bushel. This corn is all tipped, shelled and graded ready to plant. Free interesting seed book, write for it today.

KELLOGG SEED COMPANY

Members Missouri Farmer's Exchange
14 Walnut Street Skidmore, Mo.
Send this ad and $2.90 for trial bushel.

FREE "Linene" COLLAR

State size on postal, and whether you want collar like cut or low turnover.
Reversible Collar Co.
Dept. S Boston, Mass.

Send us one dollar and renew your subscription for three years. Missouri's greatest farm paper.

CATTLE SITUATION FROM VIEW-POINT OF THE FEEDER

(Continued from page 2)

which bring easy and quick returns and his only contribution to the meat supply is a measly veal or a worn-out dairy cow. There is greater temptation than ever before to sell the corn at present high prices, but sober, thoughtful people who have their own best interests in mind, can easily see by past experience and their own future welfare, the far-sighted and more profitable way of enhancing their farms, their bank accounts and their future income from the farm by feeding the corn and rough feed into live stock.

The problem of supplying meat in adequate quantities to satisfy the hungry world at a price fair to the consumer, and yet leave a margin of profit to the producer, is one that must engage the best minds of the age. Discouraging features must be eliminated. Unstable market conditions whereby great losses are entailed without rhyme or reason and unfair competition should not be suffered without some resulting benefit. There must be a more substantial and certain reward —the glory of the occupation is great, but not acceptable as security at the Reserve Bank. Ever and anon we hear the question, "Why don't farmers produce more meat?" My answer to this question would be that in a majority of cases he has produced too much at too great a sacrifice and he cannot go on continually and forever playing the part of a good Samaritan to the balance of the human family. It would be idle to detail to you the many reasons why cattle are scarce, but suffice it to say that one prime cause lies in the fact that we have pursued a short-sighted policy in the conduct of the business from start to finish. The consuming blight of waste has laid a heavy tribute upon us, wasting the substances of our lands—waste in the production of our feed lots—waste in unskilled methods of handling—waste in improper marketing and waste of our own energies by not keeping a proper system of accounts whereby we can distinguish a profit from a loss. No other business on earth would prosper measured by the same rule we employ. We are too often skeptical towards advanced ideas in production. The profits are too lean to indulge extravagance and the wasteful man must come to grief. Organization has helped the packing industry wax fat from our labors; organization has enabled the commission man to make his own charges for services rendered, without let or hindrance. Then why should we not organize to preserve our very existence?

As to the immediate future of the cattle industry, no one can guess, but my observation has taught me that when the situation looks the least inviting, we can usually figure some profits in the end. In other words, don't follow the crowd. So while one crowd is just now clamoring to liquidate their fat cattle holdings at serious losses, it is well to sit tight and have a thought as to the future,—for we should not be surprised to find that this year will be the high water mark in prices, and that before the season is gone, we will awake to the realization of far off dreams.

In conclusion, I want to admonish the men who constitute the membership of this organization and who are from almost every corner of the state, that troublous times are ahead of us. It is not meant in a spirit of criticism, when I say, you must know your business; you must study it persistently and follow it energetically. Mark the changes which world conditions will force upon us; and keep pace with the progress of the age. If you would not come to grief, you must understand the art of conserving the soil, and employ the method that will best make it yield its greatest returns. You must know the quality and value and when to make your investments and likewise your liquidations. Practice the economies best suited to your individual case, then if the margin of profit be narrow, you may at least console yourself with the thought that you have fulfilled the high ideal of good citizenship by contributing your best efforts to the betterment of your own condition and the business you represent, not forgetting that the community and state will share your prosperity and that it is not our part to play, to dream, to drift, for we have had hard work to do and heavy loads to lift.

WINTER CARE OF BROOD SOWS

Proper care of the pregnant sow during winter demands that attention be paid to three things, namely: her feed, shelter and exercise. Neglect of any one of these three essentials may mean failure, even though the other two be watched carefully.

The most common mistake made in feeding the brood sow in winter is to supply too much corn. Perhaps not too many pounds of corn, but the corn ration is not properly supplemented with other feeds. There are several reasons why corn should not make up the entire ration for brood sows. It does not contain enough muscle and bone building nutrients to supply the needs of the brood sow. It is constipating in its effect and does not furnish bulk enough. It has a tendency to put on a large amount of internal fat which is injurious to the pigs in utero. Corn should be supplemented with a small amount of some feed like tankage, linseed oil meal, shipstuff, bran and the like. Some good legumninous hay such as alfalfa, clover, cowpea, etc., also supplies the needed protein bulk and produces the laxative effect desired. At the Missouri Agricultural Experiment Station it has been possible to materially decrease the cost of maintenance by using such hays. The same end is being reached at the College this season by the use of early sown rye pasture.

This brings us to the question of how to supply the necessary exercise. By placing hays, such as mentioned above, in racks and allowing the sows to eat at will, they are induced to exercise. The same thing is, of course, true if the sows are grazing on rye pasture.

The shelter for the pregnant sow need not be expensive to be efficient. The things to be guarded against are lack of space so that the sows "pile up," damp floors, filth and lack of sunshine.

It should not be necessary to add that the sow should be given opportunity to get all the pure water she will drink. Too much corn, lack of exercise and too little water result in constitpation—a thing which must be guarded against for best results with the brood sow. L. A. Weaver.

MAKING THE FARM PAY

During the last several months we have repeatedly pointed out that the great foreign war is certain to mean high prices for the products of the American farmer and for this reason every farmer should try to make 1915 count as never before. In the ordinary course of events, this should be a good crop year. We have now had three drouths out of the last four seasons—and surely this state of affairs will not keep up forever. So let's go in to win this year. To this end, every farmer should provide himself with up-to-date farm implements—tools which will enable him to make the most of his opportunities—and hence we suggest to our readers to look over the advertisements in The Missouri Farmer carefully and then drop the different manufacturers a postal card and ask for their literature—for all of it contains a world of useful information from which you will be able to glean many new and splendid ideas. Manuafcturers and business men generally are continually on the lookout for new devices which will save time and labor —and farmers should do likewise.

Just now, wide awake farmers are becoming keenly interested in farm tractors and during the last two months we have received many inquiries from farmers about them. A farm tractor which does the plowing and other heavy work on the farm—which doesn't eat while it isn't working—which doesn't have to be curried and watered—which doesn't get sick and die—all of these things are beginning to interest many farmers. Until within the last year, nearly all the tractors were too big and expensive. Now however, the International Harvester Co. in Chicago, the Avery Co. at Peoria, Ill., the Emerson-Brantingham Co. at Rockford, Ill., and the Joliet Oil Tractor Co., whose sales manager is located at Lenanon, Mo., are offering splendid, low priced tractors which pull a five or six horse load—enabling farmers to do their plowing and other heavy work much more quickly and dispense with the use of a half dozen horses or mules —and we suggest to those of our readers who are interested that they drop these four concerns a postal card and ask for the full particulars.

Another implement which will pay for itself the first year and which every farmer should possess is a manure spreader. Building up the soil is the chief problem of the hour—and a good manure spreader makes the spreading of manure an easy task and once you own one, it means you will not permit your manure to lie around and deteriorate. There are thousands of farmers in Missouri who have enough manure lying around their barns and feed lots to pay for a good spreader the first year several times over—and they will last for years. Look up the advertisements of the William Galloway Co. of Waterloo, Iowa, and the Rock Island Plow Co. of Rock Island, Ill., and ask them to send you their Spreader literature. The Galloway Co. also handles a line of Cream Separators and Gas Engines. The Rock Island Plow Co. also puts out a fine Cream Separator.

Few things are more important than a good corn planter and many farmers lose the price of a good one several times over each season by using an old, worn-out machine. You can't raise a full corn crop unless you get a full stand. The Hayes Pump and Planter Co. of Galva, Ill., is offering a new improved planter which should be fully investigated by every farmer who isn't supplied with a good one at this time. Let's go after a big corn crop this year. A good Corn Planter will last for years if you take care of it.

The Janesville Barb Wire Co. of Janesville, Wis., is offering a new steel fence post which is attracting a great deal of attention. It is said to last practically forever and to be cheaper in the long run than wooden posts. The Keystone Steel & Wire Co. of Peoria, Ill., offers to send free to every farmer who writes them a copy of Ropp's Calculator—a book which tells you how to calculate interest, determine the weight of hay. cattle, hogs, etc.

Few farmers realize what a great labor saver a small gasoline engine is on the average farm. It saws the stove wood, pumps stock water, runs the cream separator, feed grinder, washing machine, etc. Thousands of them have been sold during the last year or two. If you are interested, write to the Witte Iron Works, Kansas City, Mo., or the William Galloway Co. of Waterloo, Iowa. Their literature will tell you how you can save a lot of time and money with a small gas engine.

Darling & Co. of Chicako offer a free booklet on fertilizers and their uses which can be had for the asking. See their ad elsewhere.

The National Mfg. Co. of 1709 Locust St., Des Moines, Iowa, are offering a Hog Waterer which should interest hog raisers. It operates by means of a little oil stove which not only prevents water from freezing but keeps it warm day and night so that the hogs stomach doesn't become chilled. Ice cold water is a fat destroyer in all forms of live stock. Then too, it's troublesome to have to chop ice two or three times a day.

Every housewife should read carefully what the Aero Gas Machine Co. of St. Louis has to say. This means carrying the conveniences of the city to the country.

Few farmers attach enough importance to plowing which is the beginning of the seed bed—and upon the seed bed depends the crop. If you are using old dilapidated, out of date plows we would suggest that you send for the literature of the Rock Island Plow Co. and the Janesville Machine Co., whose ads you will find elsewhere. It will give you a lot of valuable plow facts.

If you raise calves it will be worth your while to look up the offer of the Blachford's Calf Meal Co. They are putting out a special calf food which many farmers have used with great satisfaction.

Just now we are carrying a fine line of live stock ads which should have the attention of every farmer who wants to get rid of "scrubs." In short, the advertisements of a farm paper are always worthy of being read carefully —for they deal with matters calculated to make farming more profitable and less irksome. When writing to our advertisers please always mention The Missouri Farmer.

IS YOUR HORSE WORTH $1.00?

YOUR MONEY BACK IF IT FAILS

You wouldn't keep a horse or any other animal very long if he wasn't worth a dollar, would you? If an animal is worth keeping at all he is worth keeping in good health. It costs only a dollar to keep a bottle of the old reliable

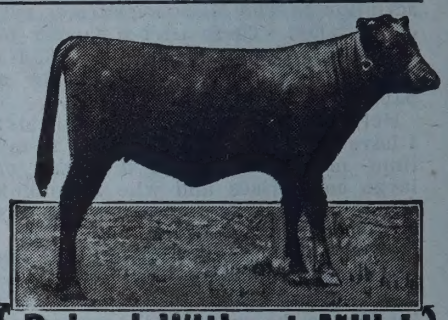
CRAFTS' DISTEMPER REMEDY

(7)

in your barn and protect your animals from disease. For 22 years CRAFTS' has been sold on an absolutely guarantee to cure Distemper, Coughs, Colds, Influenza, Epizootic, Catarrhal Fever, Pink Eye and all similar diseases of the head and throat in horses, sheep and dogs, or your money refunded. CRAFTS' cures quickly, destroys the germs, tones the blood, and restores the victim to perfect health. Buy a bottle today, you take no risk, satisfaction guaranteed. If your druggist does not have CRAFTS', we will send it prepaid on receipt of price. Be sure to get the genuine. Imitations are never so good. 50c for trial size. $1.00 size three times as large. MONEY BACK IF IT FAILS.

Valuable Horse Book Free chock full of "horse sense"—tells how to treat and cure all the common ailments of horses. Send for your copy today—a postal brings it FREE by return mail.

Wells Medicine Co., 33 Second Street
Lafayette, Indiana



Raised Without Milk!

Her name is "Daisy" and her owner, W. A. Riddle, of Chapin, Iowa, raised her on Blatchford's Calf Meal, which costs less than half as much as milk.

Blatchford's Calf Meal

An absolute preventive of scouring. Calves raised "The Blatchford Way" are heavier, bigger-boned and healthier. Known as the complete milk substitute since the year 1800. Sold by your dealer or direct from the maker.

See Actual Figures —based on results—that show you how to increase your calf profits. Write today.

Blatchford Calf Meal Factory, Dept. 4212 Waukegan, Illinois

$14.75 AND UP BUYS A GENUINE "IOWA" SEPARATOR

Made in the largest Cream Separator factory in the World. Famous patented Curved Disc bowl, owned exclusively by us, skims closer than any other Separator, warm or cold milk, thick or thin cream. Finest grade of tinware. Enclosed dust-proof gears.

NOTHING IS SLIGHTED. QUALITY OF CREAM SEPARATOR IS GUARANTEED IN EVERY PARTICULAR.

Splendid shop organization, factory equipment and quantity output accounts for low prices impossible for others. Equally attractive prices on larger Separators. *Write for descriptive books of Separators.*

ASK ABOUT FAMOUS "CHORE BOY" LINE OF GASOLINE ENGINES----MADE IN ALL SIZES $28 AND UP

ASSOCIATED MANUFACTURERS CO.
161 MULLAN AVE. WATERLOO, IOWA

HEAVES CURED. Thousands of cases successfully treated by Veterinarians with Curo Heave Compound. Curo Heave Compound now sold direct $3 package CURES any case or money refunded; $1 package CURES ordinary cases Booklet Free CURO CO., Dept. 20, DETROIT, MICH

LIVE STOCK NOTES

By R. P. Royce, Fieldman

WINTER AND SPRING SALES

Durocs

Feb. 8. J. A. Porterfield, Jamesport, Mo.
Feb 23. Chas. L. Taylor, Olean, Mo.
Feb. 24. Sheley & Clatterbuck, New Bloomfield, Mo.
Feb. 27. C. D. Caldwell, Minlan, Mo.

Poland Chinas

Feb. 11. Dr. John Gildow & Sons, Jamesport, Mo.
Feb. 17. W. E. Williams, Silex, Mo.
Feb. 19. W. A. Baker & Sons, Butler, Mo.

Baker's High Class Poland China Offering

On Friday, February 19th, W. A. Baker & Sons will sell at Butler, Mo., fifty head of real big type Poland China bred sows and gilts.

The Baker herd was one of the first strictly big type herds established in Missouri, and from its inception it has been regarded as one of the best.

The foundation blood of this herd came from the leading herds of the country, and the same care has since been exercised whenever new blood was needed.

The sale offering this year will consist of fifty head, including ten big quality bred sows; twenty fall yearlings and twenty spring gilts. The writer has seen this offering and does not hesitate to recommend this sale to our readers. You will find plenty of size and plenty of quality. The spring gilts should average well over three hundred pounds on sale day. They are bred just the same as those shown so successfully at the recent Missouri State Fair, where this firm won the following: Poland China Futurity: Fall boars—1, 3 and 4 on Hadley Look, Hadley Look 2nd, and Hadley Look 3rd. Fall sows—4 and 6 on Lady Look and Lady Look 2nd. Spring boars—6 and 7 on Big Hadley Look and Big Hadley Look 3rd. Spring gilts—5 on Maud Look. Spring pigs (litters of 4) 4th and 7th. In the general classes this firm won, third on aged boar; second on the under year boar; first on aged sow; third on junior yearling sow. They bred the boar that won first in the 18 months and under 24 class. They also won the Farmer and Stockman trophy.

Most of the offering will be bred to Big Look, third prize aged boar, and to Big Bone's Son Jr., the boar that Willey & Son won with in the under 12 months class, and to Missouri Wonder, one of the good sons of Blaine's Wonder.

The sale will be held in town and buyers from a distance will be entertained at the Fraternal Inn Hotel. This will be one of the good sales of the season and we urge all who are interested to write at once for the catalog—look over the breeding this firm is offering. R. P. Royce will attend this sale and parties who are unable to be there in person may send their bids to him and feel certain that they willl be handled honorably.

Remember the advertisement will not appear again so you should write at once. Kindly refer to this paper.

Last Call for Faulkner's Spotted Poland Sow Sale

For the last time we wish to direct the attention of our readers to the seventeenth annual bred sow sale to be held by H. L. Faulkner, at Jamesport, Mo., Wednesday, February 10th. Mr. Faulkner is too well known "as the preserver—not the originator of the old-fashioned Spotted Poland Chinas" to need any introduction at our hands. This year's offering is generally believed to be the best ever made from this famous herd. The sale will consist of sixty tried sows, yearlings and spring gilts—all carrying the best of Spotted blood, and all bred to genuine big-type Spotted boars.

The sale will be held in a heated tent and Mr. Faulkner extends a cordial invitation to every reader of this paper to be with him that day. Write for the catalog mentioning where you saw the ad.

R. P. Royce will represent this paper at the sale.

Taylor's Great Duroc Sale

Last week the writer visited the Springdale herd of Durocs owned by Chas. L. Taylor, Olean, Mo., and had the pleasure of looking over his sale offering that will be sold, Tuesday, February 23.

Fifty head are listed and take them by and large we doubt very much if any sale will contain more real high class animals and fewer plainer ones or as much grand champion blood.

This is strictly a Col. Wonder offering in as much as everything is either sired by this grand champion, or is bred to him or to two of his sons.

Mr. Taylor had planned to put his great sow, Belle of Missouri 3rd, grand champion sow at the recent Missouri State Fair, and her litter, in the sale, but she developed a caking of the udder and it was decided to put in Miss Crimson Col. I Am. This sow, a litter mate to the junior champion, Crimson Col. I Am is regarded as one of the best brood sows in the herd, and few, if any, better sows will be sold this year. She is an etxremely large sow —could be made to weigh 800 pounds, but she has quality from head to foot. Breeders looking for a sow that is good enough to go into any high class herd in the United States will make no mistake in buying her.

Another high class sow cataloged is Belle of Chiefs 3rd—a remarkably large, smooth, quality sow, that has proven her value.

Miss Crimson Wonder 2nd is a sow that would be an attraction in any herd. Instructoress, a daughter of the grand champion, Instructor, sells safe to the service of Col. Wonder

The spring gilts are one of the most attractive lots we have ever seen, possessing unusual size along with quality. They have been handled very carefully and have been fed just the same as though they were to be retained in the herd and by sale day will be presented in just the right condition, and will average well over 300 pounds—many of them weighing around 350 pounds. Good judges will disagree as to just which ones are the most desirable, but all will agree that among them are a goodly number that any breeder would be proud to own. The three litter sisters, Belle of Missouri 5th, 6th, and 7th, are show gilts with records already won, and are certain prospects to be carried on for next year. The gilt out of Queen Wonder is one that possesses everything breeders are looking for, and many will count her the best of the lot. The three litter sisters by Col. Wonder, out of a Mc.'s Dream dam are perhaps the largest of the gilts.

A great deal more could be said about this sale, but it is really not necessary. It is a high class offering, from a high class herd, and we take very keen pleasure in being able to refer our readers to the advertisement in this issue. Send for the catalog now. R. P. Royce will represent the paper and will handle any bids sent in by our readers who are unable to attend.

W. E. Williams Poland China Sale

We wish to direct the attention of our readers to the advertisement of W. E. Williams, Silex, Mo., in which he announces his annual sale of Poland China bred sows and gilts.

Mr. Williams has established one of the best herds of Polands in Missouri and his offering this year represents the cream of several years' effort to produce the kind of hog the farmer wants.

In the sale are included an even fifty head, consisting of five tried sows, twenty-five fall and spring yearlings and twenty spring gilts. The writer has seen this offering and does not hesitate to recommend it to the readers of this paper because he knows that they will be pleased with the kind Mr. Williams is selling.

Everything cataloged is of strictly big type breeding and carries the blood of many of the greatest boars of the breed. They have been fed intelligently and have plenty of size and bone and quality.

The writer does not know of a better lot of spring gilts that will be sold this year, and the yearlings and tried sows are good enough and big enough to suit most any one. Among the gilts are a number that deserve particular notice. There is an extraordinarily good one by Longfellow Sampson, and out of a Blaine's Wonder sow. A litter sister to this gilt was shown at a number of Kentucky fairs the past fall and is reported to have won nearly everywhere shown. Another good one is by Longfellow Sampson, and out of a W's Major sow; while still another by Wonder and out of a Pawnee Nelson dam is perhaps the best in the bunch.

Among the yearlings offered are two by Black Jones 2nd, out of an Expansive Quality sow that are real attractions.

The spring gilts are mostly by Mr. Williams' great boar Longfellow Sampson; Cloverdale Hadley, Chief Price Jr., and Wonder—the latter is a Peter Mauw bred boar.

The yearlings are by Black Jones 2nd and Big Jones 3rd and Expansive's Quality. The tried sows are by Hadley Blaine, Ex. B and others.

Here is a sale that you should make every effort to attend—and it merits the patronage of anyone who is contemplating buying the good kind. The ad will not appear again and we therefore urge that you write Mr. Williams at once and ask for his catalog. Note the breeding he has to offer and then make arrangements to attend the sale.

R. P. Royce will represent this sale and any bids entrusted to him will receive careful and honest treatment. Kindly mention The Missouri Farmer when writing.

Last Call for Porterfields Duroc Sow Sale

This is the last time we can remind our readers of the sale of Duroc bred sows and gilts to be made by J. A. Porterfield, at Jamesport, Mo., Monday, February 8th.

Many readers of this paper have purchased Durocs from Mr. Porterfield, and to them it will not be necessary to more than mention this sale. For those who are not familiar with this herd we will say that it is held in the very highest regard by breeders throughout the State and the annual sales held at Jamesport have always proven very satisfactory sources from which to secure breeding stock.

The offering this year is easily the best yet made from this herd and will consist of forty-five head, including twenty-one big stretchy fall yearlings and twenty-four spring gilts. The fall yearlings are mostly by Col. Model Top by the champion Beauty's Model Top, and for the most part are bred to the great boar Top Inventor, and to Auctioneer 2nd. A word about these two boars. Top Inventor is one of the largest Duroc boars in Missouri. He was shown at the 1914 Missouri State Fair and in spite of the fact that he was four years old before he was fitted he won third place in the aged boar class, and was conceded to be the largest Duroc on the grounds; Auctioneer 2nd, is by Auctioneer, a Crimson Wonder bred boar owned by B. W. Harned. Several are bred to Graceful Lad, by Beauty's Model Top. This boar was placed second in a class of twenty-six at Sedalia, a good record for any boar.

Among the fall yearlings are two by Top Inventor, and bred to Graceful Lad, that are genuine attractions. All of the yearlings have plenty of size, and bone, and excellent quality. Indeed, they would look well in anybody's sale.

Fifteen of the spring gilts are by Top Inventor; three are by High Model 2d out of a Col. Gano sow; six are by Golden Model 3rd, out of a King Colonel 2d sow.

THOMAS. E. DEEM
AUCTIONEER
Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased.
Dependable service at a reasonable charge. Address, Cameron, Mo.

ALBERT J. HOUSTON
AUCTIONEER
Pure bred live stock and heavy farm sales my specialties. Terms reasonable. Satisfaction assured.
SALISBURY Phone 1516 MO.

Harry W. Graham
AUCTIONEER
PURE BRED LIVE STOCK
Seventeen years experience with America's best breeders.
Chillicothe, Missouri

GALLOWAY CATTLE
Young stock for sale at all times. Herd established 25 years
J. & W. R. CLELLAND,
New Hampton, Mo.

ChoiceAberdeen-Angus
Established 30 years. 100 head in herd. I am offering good useful Bulls. and Heifers of excellent individual merit and breeding. Prices reasonable. Our customers make them popular.
D. L. Sutherland & Sons Windsor, Mo.

Aberdeen-Angus I am offering a number of young bulls, cows and heifers —good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.
J. D. Blackwell Fayette, Mo.

ANGUS CATTLE
HERD FOUNDED 1904
Seven early calves—3 BULLS and 4 HEIFERS, sired by Dean's Eric 139686 Every one the right kind, and priced to sell.
V. E. LAWRENCE, SALISBURY, MO.

Whiteford Herefords
A strictly high-class herd of best breeding and individuality. Headed by the great bull
HUGH WHITEFORD, GUILFORD, MO.

IDLEWILD SHORTHORN CATTLE
Milk and Beef Type. Dual purpose in name and in fact. Herd 50 years old. In one family, on one farm. The type is fixed. I have a strain that I believe rivals the famous Duchesses. Fine beef cattle that are heavy milkers. And deep milkers of fine beef type. Call, or this blood is safe by order
W. P. Harned, Vermont, Mo.

PEABODY FARM SHORTHORN CATTLE & BERKSHIRE HOGS
We are offering 10 good young bulls, well bred 3 roans, 5 reds, 6 to 13 months old. Also a few extra good young boars, two of them fit to herd first-class herds. Choice young Bronze Toms and Barred Rock Cockerels.
JUNE K. KING & SONS
MARSHALL, MO.

ELM LAWN HERD IMPROVED CHESTER WHITE SWINE Choice boars and gilts of September and October farrow for sale at reasonable prices. Everything recorded free.
W.B.Taylor and Sons,Weatherby,Mo.

RAUSCHER'S CHESTER WHITES!
One of the Oldest Herds in the West
A few choice spring gilts bred for early farrow. Several richly bred big spring boars. A fine lot of fall pigs. Size, quality, and bone. Prices reasonable and every pig guaranteed.
H. Rauscher & Son, Kahoka, Mo.

MISSOURI VALLEY HERD O. I. C. SWINE
We have a fine bunch of fall pigs from mature stock on the "bargain counter" for quick delivery. Everything guaranteed as represented. Call on or write
J. M. Dryden, Phelps City,Mo.

These gilts are bred to Graceful Lad, Auctioneer 2nd, and Big Wonder 2nd. If you are looking for a gilt that will develop into a large brood sow you will find what you want in this sale. Perhaps the six by Top Inventor out of the good sow Mabel 3rd, will strike the fancy of most buyers, but the three by High Model 2nd are going to look mighty nice.

In conclusion we simply want to say that we recommend this sale, and trust that our readers will give it the support it deserves. Write for the catalog, if you haven't already written, and kindly mention The Missouri Farmer. R. P. Royce will represent this paper.

Blackwell Angus Offering

J. D. Blackwell of Fayette, Mo., is offering some well bred registered Aberdeen-Angus cows and heifers due to calf in early spring to the service of two of his show bulls. Also some registered yearling Angus heifers and about a car load of young bulls running from ages of 9 to 12 months old, also a few bulls from 15 months to 18 months old. It will be well to get Mr. Blackwell's prices before buying. Mention The Missouri Farmer.

A High Class Hereford Sale

Readers of this paper who are in the market for high class Herefords should bear in mind that on Monday, February 8th, Mr. Hugh Whiteford, Guilford, Mo., will sell a very select offering at South Omaha, Nebraska.

In the lot to be sold are a number of real herd heading bulls—in particular might be mentioned the good four year old, Parsifal 24th, one of the very best sons of the well known Parsifal. This young bull has been used in the Whiteford herd and his ability as a sire will be shown by a number of his calves that are also consigned to the sale. The cows cataloged are all either bred or have calves at foot and many competent judges assert that they are one of the best lots ever put through a sale. There will also be a number of very choice heifers listed.

This sale affords a rare opportunity to purchase meritorious breeding cattle from one of the best known herds in the country, and we take pleasure in referring our readers to this sale and to urge them to write for the catalog. Kindly mention this paper.

Weller's Durocs

The ad of J. E. Weller, Faucett, Mo., appears in this issue of The Missouri Farmer and while the name is new to a good many of our readers, we want to say Mr. Weller is by no means a new hand at breeding Duroc Jersey swine. He has one of the good herds of over 100 head, and at present is offering a number of first-class boars ready for service, also gilts bred for spring farrow. The entire herd has been immuned, a point prospective buyers should not overlook, and when it comes to bone, breeding, size and quality, they are right, and more than that, the price is right. If on the market for anything in Durocs look up his ad and write him. He is a reliable man, a good judge of breeding stock and any order placed with him will be treated fairly. He makes but one price on any of his stock. A boy can buy as cheap as a man. In writing please mention this paper.

Report of Sheley & Clatterbuck's Sale

The sale of fifty bred sows from the herd of Sheley & Clatterbuck, New Bloomfield, Mo., on Wednesday, January 20th, resulted in an average of $40.70. This was hardly up to expectations, nor was it what the sale merited. A number of prominent breeders were present and took most of the choicer lots at good prices. Mr. J. H. Higgins, manager of the swine department of Longview Farm, was the heaviest buyer and secured the great sow Edna's Beauty, for $188, the top of the sale.

Col. E. Z. Russel, Omaha, Nebraska, conducted the sale and made a decided hit. This was Col. Russel's first sale in Missouri. He was assisted by A. C. Buckingham and G. E. Gyger.

No. 1, Longview Farm, Lee's Summitt, Mo.	$188.00
No. 2, Smith Bros, Thompson, Mo.	46.00
No. 3, G. C. Wilson Wainright, Mo. (No. 3 was a substitute for December Girl)	36.00
No. 4, F. J. Damas, O'Fallon, Mo.	36.00
No. 5, R. G. Clatterbuck, New Bloomfield, Mo.	26.00
No. 6, W. J. Berkdall, New Bloomfield, Mo.	40.00
No. 7, G. C. Wilson	34.00
No. 8, Smith Bros	36.00
No. 9, W. K. Royce, Crocker, Mo.	43.00
No. 10, G. C. Wilson	30.00
No. 11, Longview Farm	33.00
No. 12, R. G. Clatterbuck	31.00
No. 13, G. C. Wilson	26.00
No. 14, Longview Farm	37.00
No. 16, R. G. Clatterbuck	32.50
No. 17, Longview Farm	70.00
No. 18, C. A. Gerhart, Glenstead, Mo.	62.00
No. 19, Longview Farm	43.00
No. 21, J. Q. Early, New Bloomfield	33.00
No. 22, Dr. C. E. Still, Kirksville, Mo.	100.00
No. 23, Longview Farm	45.00
No. 24, Longview Farm	85.00
No. 25, G. C. Wilson	30.00
No. 26, Longview Farm	31.00
No. 27, Longview Farm	22.00
No. 28, E. W. Davis, Glenwood, Mo.	60.00
No. 29, Longview Farm	45.00
No. 30, G. C. Wilson	32.00
No. 31, G. C. Wilson	27.00
No. 32, G. C. Wilson	30.00
No. 33, G. C. Wilson	28.00
No. 34, W. H. & Geo. E. Thomson, Columbia, Mo.	40.00
No. 35, O. R. McNatt, Neosho, Mo.	37.00
No. 36, O. R. McNatt	29.00
No. 37, W. L. Clardy, New Bloomfield	23.00
No. 30, C. A. Reno, Guthrie	25.00
No. 39, G. C. Wilson	36.00
No. 40, Longview Farm	50.00
No. 41, G. C. Wilson	40.00
No. 42, Longview Farm	37.00
No. 43, W. L. Clardy	32.00
No. 44, F. J. Damas	30.00
No. 45, J. W. Phillips, New Bloomfield	30.00
No. 47, G. C. Wilson	36.00
No. 18, G. E. Cyger, New Bloomfield	22.00
No. 49, Stokes Wagoner, New Bloomfield	23.00
No. 50, Paul Winders, Boonville, Mo.	29.00
No. 52, C. E. Glennon, New Bloomfield	28.00

How would you like to have this Bull Calf for $25? His mother is a high grade Holstein cow and his sire is Campus Pontiac Lad—a fine registered bull raised by the State Farm and out of the champion cow at the State Fair when she was 4 years old. We have this one and 8 others at that price. Most of their dams are grand daughters of Missouri Chief Josephine. D. D. MOSS & SON, Columbia, Mo.

CLYDESDALE HORSES FOR SALE

MISSOURI FARMERS, DO YOU RECOGNIZE THE OPPORTUNITY?

The war in Europe means that the United States will furnish the Draft Horses and Draft Breeding Stock for the world for years to come. There was never a better time for you to get into the game and Missouri farmers should take advantage of the opportunity. I have Prize Winning Stallions and Mares of all ages for sale at lowest prices.

F. L. CROSBY, Highview Farm - - - - - - - Mexico, Mo

IMMUNE DUROCS

I have for sale some first-class boars weighing from 100 to 275 pounds, at $15 to $30, one fine show prospect $40; also young sows and gilts, all bred; gilts are 15 to 15 months old. Priced at $30 to $35. The entire lot are immune. Write me your wants. Have sold stock in 48 counties in Missouri and many others states. I believe I can please you.

J. E. WELLER - - - - - - - - - - - - - Faucett, Mo.

CALDWELL'S DUROC BRED SOW SALE

On Saturday, February 27th, I will sell at Milan, Mo., 40 bred sows and gilts. Get my catalog now.

C. D. CALDWELL - - - - - - - - Milan, Mo.

THOMSONS' DUROC BARGAINS

Four bred Sows, 6 spring boars, 7 fall boar pigs. Best of breeding and individuality. Everything guaranteed, and priced to sell.

W. H. and GEO. E. THOMSON, Columbia, Mo.

15 DUROC SPRING BOARS & GILTS

We still have 15 boars and a number of open gilts which we will price to sell quick, and are booking orders now for 25 pigs, farrowed Nov 10th.

J. C. Garrard & Son McBaine, Mo.

White's Champion Duroc Jerseys

75 spring boars and gilts by three champions—Crimson Wonder Again, Golden Model 34th, and Crimson Col. I Am. A few tried sows. Prices reasonable.

A. WHITE, JR. Box 422 PALMYRA, MO.

GREATEST DUROC BARGAIN EVER OFFERED

For the next 30 days I will sell extra choice Duroc spring boars, sired by the champion COL WONDER at $25 and $35 each. The best lot I ever raised. First come first served. Send check with order. These boars are right, and represent the best bargains ever offered the breeders and farmers of Missouri.

CHAS. L. TAYLOR - - OLEAN, MO.

ANDREWS' SPOTTED POLAND CHINAS

We now offer 75 summer boars and gilts sired by our great herd boars, SPOTTED KING and SPOTTED JUMBO. We are long on hogs and short on corn. Priced for quick sale.

ANDREWS STOCK FARM — — — — LAWSON, MO.

Sold Out of Spotted Hogs Now

Have some extra Big Type (black) boars and gilts by A Wonder, Big Orange and Mo. Orange. I am closing out all of my black hogs. Prices to move quickly. Write me.

B. B. MEGOWN, New London, Mo.

BIG POLAND CHINA BRED GILTS

Headed by King David 179495 by Long King, and Leader 201105 by Grand Leader, a pair of great boars that are siring the right kind. A fine lot of spring gilts bred for early farrow. Get my prices.

HALLECK BLAND, Rfd. No. 5 CENTRALIA, MO.

"OAKWOOD HERDS" of Shorthorns and Poland Chinas

Young stock of all ages for sale. Special prices on my big-type Poland Chinas. Quality and breeding the best. Satisfaction guaranteed or your money back.

H. S. Williamson Rfd. 6, Centralia, Mo.

Dean's Mastodon Poland China Hogs

Extra good spring gilts, tried sows and fall yearlings, bred for early farrow. Best of breeding and prices right. Telegraph and railroad station, Dearborn, Mo.

CLARENCE DEAN WESTON, MISSOURI

SUPERIOR HERD BIG-TYPE POLANDS

We have at all times anything you want in strictly big-type Polands. Special prices on spring boars and gilts in pairs or more—not related. Write us your wants.

Freeman & Russ Kearney, Mo.

ADENHILL DUROCS--BRED GILTS and SOWS

Sired by Champions Tatarrax Again, Crimson Col. I Am and Col. Wonder II. Priced reasonably. Also a few serviceable spring boars of same breeding. Priced to sell. A fine lot of fall pigs sired by Col. Wonder II.

R. L. HILL - - - - - - - - Adenhill Farm, Columbia, Missouri

BAKER'S REAL BIG-TYPE POLANDS

Our winnings at the State Fair prove that we "have the goods." Spring boars and gilts of excellent breeding and individuality at very reasonable prices. Also a number of fall boars, big, stretchy fellows.

W. A. BAKER & SONS — — — — — BUTLER, MO.

Dooley's Spotted Polands

Big bone spotted pigs now ready to ship—$25 single pig, $45 pair, $65 trio. Pairs and trios no relation. Also registry furnished. Send check with first letter.

Edgar Dooley Etterville, Mo

PRAIRIE VIEW STOCK FARM

Spotted Poland China spring boars and gilts, also a few bred sows. Write me your wants.

J. A. Winebrenner, Tipton, Mo.

W. D. ROSS
Auctioneer

Pure bred live stock. Sales made anywhere on reason able terms. Write for dates.

Otterville - Missouri

Percheron Stallion

This horse is pure bred, five years old, coal black, will weigh a ton, and is a sure foal getter. No horse in the state can show a better lot of colts. Will sell cheap.

J. H. Crosswhite, - Waverly, Mo.

JERSEY CATTLE

Bulls ready for service. They are sired by the Owls Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

SUNSET JERSEYS

Special Offering: Seven magnificent young bulls, 10 to 15 months old; seven beautiful bred heifers,soon due to freshen. Dry weather prices. Herd headed by the $5000 Blue Belle's Golden Roseboy 85230. Send for circular giving description of herd, production, breeding, etc., and mention your wants. Also Big Boned Spotted Poland Chinas. A herd of 200 head. All ages for sale. Free circular. **The Ennis Farm, Horine Station, Mo.** (Just south of St. Louis).

HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndyke Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

M. E. Moore & Co., Cameron, Mo.

HOLSTEIN BULLS FOR SALE

Registered Holstein Bulls. I have three young bulls out of A. R. O. dams with fine records, ready for light service. Also one bull calf out of a cow with 18 lbs. butter record and sired by Missouri Chief Josephine Lad, son of the famous Missouri cow. Also one bull calf out of a cow with 24 lbs. butter record and sired by a grandson of Colantha 4th's Johanna, the greatest cow in the world.

Marshall Gordon, Columbia, Mo.

POLAND CHINA HERD HEADER

A big, handsome yearling, smooth as silk, good enough for any herd—$30 for quick sale. A few selected gilts, 200 pounds and up, bred for April farrow, $25 each. Pigs, 3 months and over, both sexes, $10 each, 3 for $25. All these are of choicest breeding and individuality and priced the lowest.

K. H. BROWN, - - Bolivar, Mo.

25 BIG POLAND CHINA GILTS

The big-type, big-bone, quality kind, BIG ORANGE, A. WONDER and PAWNEE LAD breeding. Bred to MISSOURI KING by IOWA'S KING, for March and April farrow. They are big and priced to sell. Write at once.

Obadiah Prettyman, Fairfax, Mo

BARRED ROCK COCKERELS

I have a few choice birds and will make very low prices on two or more to one customer. Also anything you want in Jersey cattle.

J. B. SMITH, Platte City, Mo.

Percheron Stallion for Sale. Good breeder and good style and action. Will sell at bargain. C. W. Garhart, Salisbury, Mo.

Indian Runner Ducks, White and Fawn. Eggs $1 for 15. Ruth Marksbury, Marshall, Mo. 216

Fawn and White Indian Runner Ducks, White Orpington Cockerels. Extra qualtiy, reasonable prices. Fred A. Foote, Hollister, Mo. 21tf

Have a good building lot 75x180, sidewalk, macadam street, water, light and sewer, building restrictions. Would trade for brood mares or mules. W. E. Edwards, Columbia, Mo. 211

Surely a splendid paper like The Missouri Farmer is worth the small price of 33 1-3 cents per year? It is clean from start to finish. Its information is reliable. It stands for Better Farming, Better Farm Homes, Better Citizenship. Send us a dollar bill today at our risk.

Sheley & Clatterbuck's Bred Gilt Sale

Just before going to press Sheley and Clatterbuck, New Bloomfield, Mo., wrote us that they were planning to hold a sale of bred gilts, from their well known Duroc herd, sometime during the latter part of February. At this time the date is not positively known, for the reason that they have not heard from their auctioneer, but in all probability it will be held February 24, the day following Chas. L. Taylor's sale at Olean.

The coming sale will consist almost entirely of fall yearlings and spring gilts, sired by the champions, Beauty's Model Top, and Instructor, and the prize winning S & C's Valley Chief, and Col. Primm. A number of real attractions will be offered and the entire offering will be one of very high class.

Please bear the sale in mind, and as it will probably be held the day following the Taylor sale, buyers should arrange to attend both sales. Get your name on their mailing list for the catalog.

Caldwell's Duroc Sale

Elsewhere in this paper C. D. Caldwell announces that on Saturday, February 27, he will sell about forty bred sows, yearlings and gilts, at Milan, Mo.

Mr. Caldwell has been engaged several years in building up his herd and the offering to be sold is a very creditable one.

Readers of this paper who are interested in buying some good useful sows or gilts are urged to write Mr. Caldwell for his catalog. We will have more detailed information concerning this sale in our next issue.

Prettyman's Poland China Bred Gilts

Elsewhere in this paper will be found the advertisement of Obadiah Prettyman, Fairfax, Mo., in which he offers about twenty-five cracking good Poland China spring gilts.

Mrs. Prettyman has been breeding pure bred hogs over twenty years, and while he has not gone into the business on quite as large scale as some, he has at all times exercised very keen judgment in the purchase of his breeding stock. The dams of these gilts are rich in the blood of such noted boars as A. Wonder, Big Orange, and Pawnee Lad, and they are bred to the good young boar, Missouri King, a son of J. O. James' Iowa King. The dam of Missouri King sold open last fall for $245.

Heretofore, Mr. Prettyman has been depending entirely on his home trade to take his surplus stock, and could still sell them at home, but he feels that he would like to build up a wider trade. These gilts have plenty of size and bone and quality, are certainly as well bred as one could wish and at the prices asked we would say they represented bargains. Look up the ad and wrtie Mr. Prettyman and we assure you that you will like the kind he is offering.

DUROC MEN MEET

One of the most successful association meetings held at Columbia during Farmers' Week was the annual meeting of the Missouri Duroc-Jersey Swine Breeders' Association. This organization has been in existence a little over a year but in that time it has been a very potent force in pushing the Duroc hog in this state and if present plans materialize the coming year will witness marked advancement of the breed. One afternoon was given over to a very interesting and instructive program. Prof. Herbert W. Mumford, professor of Animal Husbandry at the University of Illinois, and a prominent breeder of Durocs, delivered a highly interesting lecture on the hundred sires and dams that had rendered the most valuable service to the breed. A. T. Cole, of the Farmer and Stockman spoke on "Practical Advertising." R. P. Royce spoke on the subject of "Salesmanship." L. A. Weaver of the College of Agriculture, read a paper from J. H. S. Johnstone, in which a plan for a futurity show of Missouri Durocs was outlined. Prof. E. A. Trowbridge told of the plans for an extensive Missouri livestock exhibit at the Panama-Pacific Exposition and urged all the breeders present to make an effort to have their herds represented at this great show.

The business meeting was held the following afternoon, and plans were discussed for inaugurating a futurity show at the Missouri State Fair this year. The idea proved very popular and it was decided to make every effort to hold such a show. All Duroc breeders who are interested in a futurity, and every breeder should be, can secure full information by writing the Secretary, R. L. Hill, Columbia, Mo.

CHAS. L. TAYLOR'S

Sale of

DUROC SOWS AND GILTS

OLEAN, - - - - MISSOURI

TUESDAY, FEBRUARY 23.

FIFTY BRED SOWS AND GILTS

This is my first public sale of CHAMPION COL. WONDER DUROCS. Included in the offering are 10 TRIED SOWS and 40 SPRING GILTS.. All are either sired by COL. WONDER or are bred to him or one of his sons. Among those offered are a number of prize winners at the Missouri State Fair. Others are litter mates to prize winners. Some are certain show prospects. NO SALE WILL CONTAIN MORE PRIZE WINNING BLOOD. IF YOU WANT SIZE AND BONE AND QUALITY, ATTEND THIS SALE.

COL. WONDER SIRES MY CHAMPIONS; HE WILL SIRE CHAMPIONS FOR YOU.

Catalog mailed on request.

Auctioneers: H. S. Allen; J. M. McGinnis.

R. P. Royce will represent this paper.

CHAS. L. TAYLOR, Olean, Mo.

LIVE STOCK LECTURES AND DEMONSTRATIONS

An increased amount of interest in live stock production was in evidence during Farmers' Week at Columbia, January 11-16, as compared with that of former years.

The Animal Husbandry Department of the College of Agriculture had outlined a very creditable program and the visiting farmers showed their appreciation by their attendance and the intense interest that was shown at all of these meetings. There were twenty-one meetings all together and the average attendance at each meeting was 170 with a total attendance of 2990 for all the meetings. The meetings consisted of lectures and demonstrations along the most practical lines of live stock production, such as feeding problems, management, use of pure bred sires, and the selection and judging of the different classes of live stock.

Besides the lectures there were two judging demonstrations each morning at 10:30 o'clock given by the various men in the Department of Animal Husbandry, assisted by practical farmers and live stock men. Mr. Charles Green of Centralia, Mo., gave a very practical and interesting demonstration on the judging of mules, with special reference to the market demands and the relative value of different classes of mules. Mr. E. Z. Russell of Benson, Nebraska, treasurer of the National Duroc Jersey Association, gave one of the most interesting demonstrations of the week, on the judging and selection of breeding hogs, taking the situation up from the standpoint of the breeder and producer of market hogs.

A very noticeable feature of these meetings was the percentage of actual farmers in attendance, men that are trying to solve the problems of the farm today and not retired farmers or world-be farmers, and from the interest shown it would lead one to conclude that the farmers of Missouri are awakening to the fact that more and better live stock on Missouri farms means increased profits as well as increased fertility.

The meetings of the various live stock associations of the state were held in the afternoon of each day and much interest was hsown in these meetings, which again goes to show that Missouri stockmen are beginning to realize the value of organized efforts. These associations are as follows: Draft Horse Breeders' Association, Missouri Saddle Hore Breeders' Association, Missouri Cattle, Swine and Sheep Breeders' Association, Missouri Sheep Breeders' and Feeders' Association and Missouri Duroc Jersey Breeders' Association. Several important resolutions were drawn by these associations to be presented before the Missouri Legislature this year, the important ones being: Stallion Registration Law, for the protection of the horse industry of Missouri; a Dog Law, for the protection of the live stock industry in general against the worthless dogs of the state; Pure Seed Law and Pure Feed Inspection.

The Department of Animal Husbandry of the College of Agriculture stands as a servant to the people of Missouri and in so far as it is possible will cheerfully give all the aid they can to the people of the state.

F. L. Bentley.

Don't Let Down the Bars to Stock Diseases

Contagious diseases that carry off thousands of hogs, sheep, horses and cattle, can be prevented. It is not a matter for one stockman or farmer. Every man who raises stock should not only use great care as to sanitary conditions, but a bitter war must be fought against stomach and intestinal worms.

It is admitted that lime should be liberally scattered in the pens and yards, as a disinfectiont; that all rubbish be cleaned up regularly and burned—that stock should be kept free from worms. Comparatively few farmers do this, and unless there is more concerted action along this line there will always be contagious diseases, and serious loss.

Worms are more dangerous than many imagine. They cause 90 per cent of live stock losses. They not only infest young stock, but if left undisturbed, burrow into the inner walls, forming ulcerous, worm-infested patches. They multiply rapidly —consume the vitality of the animal and in many cases cause death.

There are various methods employed to rid stock of worms, but the easiest, quickest and safest way—now used by successful stockman—if feeding Sal-vet. Mr. Sidney R. Feil, president of The Feil Mfg. Co., Cleveland, Ohio, is so firmly convinced of the great value of Sal-vet as a worm destroyer and conditioner that he agrees to send enough to feed all your stock for 60 days—asks no money in advance—and if it fails to do what he claims, he cancels the charge. The Sal-vet advertisement on the last page of this paper gives the full particulars.

W. A. Baker & Sons' Annual Bred Sow Sale

50 Real Big Type Poland China Sows and Gilts

ALL IMMUNE

Friday, February 16, 1915

BUTLER, MISSOURI

10 Tried Sows: 20 Fall Yearlings: 20 Spring Gilts

Our offering this year we believe will be one of the very best that you will have an opportunity to bid on. We have at all times endeavored to combine size, bone smoothness and quality and our winnings the past few years at the leading shows are proof that THE KIND WE BREED ARE THE KIND THAT WIN.

These Sows and Gilts are bred to BIG LOOK 63604; BIG BONE'S SON JR., 71340, and MISSOURI WONDER 55408. EVERY BOAR A PRIZE WINNER. The dams of this offering carry the blood of BIG HADLEY, BLAINE'S WONDER, GREAT LOOK, EXPANSION WONDER, and other great boars. Bred along the same lines as our FUTURITY WINNERS.

Catalog will be sent to all who apply, mentioning this paper. R. P. ROYCE will represent The Missouri Farmer and bids sent to him, in my care, will be handled fairly.

AUCTIONEERS: R. L. Harriman, C. F. Beard, C. E. Robbins, F. A. Taylor.

W. A. Baker & Sons - - - Butler, Mo.

Gildow's Dispersion Sale.

On Thursday, February 11th, Dr. John Gildow & Sons, Jamesport, Mo., will disperse their entire herd of big type Poland Chinas. Messrs. Gildow have been among the leading breeders of this state and the dispersal of their Plainview herd is a distinct loss to the breeding interests of Missouri.

Included in the offering of fifty-five tried sows, yearlings and gilts, might be mentioned the following proven tried sows:

Expansion Belle by Expansion's Son, dam Prima Bell, by Bellmetal. This sow is a litter mate to the first prize junior yearling at St. Joseph in 1913, that defeated the grand champion from Topeka. Lady Big Knox, by Big Knox, is a half sister to the grand champion boar at Des Moines in 1912. White Sox, by Pawnee Chief Hadley, is the dam of first prize Futurity winners, both individual and litter, at the Kansas State Fair at Hutchison in 1912. She is also the dam of the first and second prize yearling sows at the Missouri State Fair in 1913, and she is also the dam of the junior champion sow at the American Royal the same year. Lady King by old Long King is another good brood sow. Shiela Expansion and Goldie Expansion by Expansion's Son are cataloged. Pawnee Beauty by Pawnee Price is a mighty good kind to own. Nancy Wonder, by Expansion Wonder, was the top sow in J. F. Richards & Sons' last sale. Besides the above there are ten big fall yearlings, and twenty nice, stretchy spring gilts, by Pawnee Chief Hadley, Pawnee Price and Columbus Again. Most of the sows are bred to Pawnee Chief Hadley and Bell's A. Wonder, by A. Wonder. The dam of this last named boar was Mammoth Giantess 1st, by Long King. Part of the gilts are bred to Owen's Wonder by Joe Wonder 2nd.

Everything offered went through the cholera last summer and has since been given the simultaneous treatment. They should be immune for life.

Remember that in this sale you will have an opportunity to buy sows that ordinarily would be retained in the herd. Many of them have show records of their own, and others are the dams of prize winning stuff.

Keep this sale in mind and write at once for the catalog. R. P. Royce will attend this sale in the interest of any of our readers.

Thomson's Duroc Bargains

Kindly note the change in the advertisement of W. H. and Geo. E. Thomson as it appears elsewhere in this issue. This firm is now offering four fall yearling gilts sired by their former herd boar, Columbus, bred to I Am Col. Enough and Beauty's Col.; six spring boars, that are crackerjacks sired by the great Golden Model 34th, and Col. Wonder 2nd, one of the best sons of the champion Col. Wonder. Besides the above they are pricing a number of attractive fall boar pigs by Beauty's Col. Everything this firm offers is guaranteed and we would suggest that you write them at once for prices.

MISSOURI DRAFT HORSE BREEDERS MEET

(By E. A. Trowbridge, Secretary)

The Missouri Draft Horse Breeders' Assocaition met on Tuesday, January 12, 1915. An interesting program had been arranged and resulted in free discussion of the matter.

Mr. J. F. Roelofson, in the president's address, called attention to the permanancy of the draft horse business; to the shortage in European countries; to the demand which would be made upon us by the European countries in the near future; and urged those interested in agriculture, who could possibly utilize draft mares for work, to invest in a few pure-bred draft mares.

Mr. Roelofson's discussion was followed by a paper by W. M. Roberts. Mr. Roberts is a young farmer of Maysville, Mo., and is a graduate of the Short Course in Agriculture in the University of Missouri. He outlined his topics, discussing first the value of education and the use of good horses. He called attention to the value of the Short Course or Long Course in Agriculture in a college; to the good papers which can now be secured at reasonable rates, dealing with the subject of draft horses and their usefulness. He pointed out that in buying, men must know both the horse and his pedigree, that his development was an all important factor; and that in selling, reasonable and profitable prices could be secured for good horses. He urged upon those present, co-operation in the buying of the very best stallions possible and co-operation in handling and selling the product of the horse business.

The paper was followed by a discussion by Dr. C. M. McWilliams, County Agent for Cape Girardeau County. Dr. McWilliams, whose experience has been rather extensive, recounted the gradual upbuilding of the horse business in various communities where draft horses had not been popular and only became popular through their extreme usefulness. In his opinion, the draft mare is a very valuable farm asset from the fact that she produces the most salable kind of mules.

A paper prepared by Mr. Wm. Hartman, Baring, Mo., was read. Mr. Hartman will be remembered as the man who bred the good colt, Governor Major, which was a winner in the first Belgian Futurity at the Iowa State Fair. Mr. Hartman recounted his starting in the pure-bred draft horse business and bore the same testiment of the pure-bred draft mares for farm work and the profit from the sale of their colts, laying special emphasis on the use of good animals and liberal "feed bucket" cross. Mr. Hartman's discussion, coming from a man of his experience, who actually started with draft horses as a means of making money, was of particular value to all concerned.

Professor Montgomery of the Minnesota College of Agriculture then discussed the matter of the stallion law in operation in Minnesota, calling attention to the weaknesses and the strengths of it, making suggestions which might prove helpful, recommending to the Missouri Draft Horse Breeders' Association that a law of some sort operative in this state would be of immense value to the horse breeding interests.

Resolutions were adopted, urging the State Legislature to duplicate premiums won by Missouri Exhibitors on Missouri Live Stock at the Panama Pacific Exposition; urging the passing of a Stallion Law such as the one now operating in Kansas; urging the passing of a Pure Seed Law and a Feeding Stuffs Law; the passing of a Dog Law for sheep protection; and an appropraition sufficient to make it possible for the Extension Service of the Agricultural College in order to secure the Federal Government appropriation which must be duplicated by the State. The meeting adjourned at 5:30 p. m.

MISSOURI SHEEP FEEDERS' MEET

The Missouri Sheep Breeders' and Feeders' held their annual program on Tuesday afternoon, Jan. 12th. A very interesting meeting was held and the attendance was better than usual.

Mr. Geo. Dahlenberg, of the St. Joseph Wool Company, St. Joseph, Mo., presented a very interesting and highly instructive talk on the various phases of the wool question, with special reference to the marketing of the wool. Mr. Dahlenberg's special plea was for the Missouri farmer to increase the quality of his wool stating that Missouri had as good sheep, if their wool was properly grown and taken care of, as Ohio but that the present condition of Missouri wool when sent to market makes it worth from 2 to 3 cents less per pound than the same quality of wool in Ohio. Rolling up tag ends, dirt and other foreign matter is another factor that decreases the value of the Missouri wools, also the fact that some of the wool is tied with binder twine makes much of the wool inferior in value. When a fleece is tied with this kind of twine it is worth from 2 to 3 cents less per pound. It is well worth any man's time to be more careful.

Mr. Bryce Walker of Memphis, Mo., told some of his very interesting experiences and gave some very wholesome advice to young sheep breeders.

Mr. Geo. B Ellis presented the dog law question and discussed the possibilities and necessity of a dog law in Missouri. However, time prevented further discussion of this phase of the sheep industry. The meeting adjourned until Friday afternoon to take up the discussion of the dog question in this state.

The model bill sent out by the American Shropshire Registry Association was taken up and favorably discussed.

All Missouri sheep men interested in the enactment of a law protecting live stock and poultry men against dogs should get in communication with the Secretary of the Missouri Sheep Breeders' and Feeders' Association.

Howard Hackedorn,
Secreary-Treasurer.

Williamson's Polands and Shorthorns

H. S. Williamson, Centralia, Mo., has an excellent lot of heavy boned, well grown Poland China spring gilts, bred for early spring farrow, and the prices he is asking for them should prove very attractive. The Williamson herd has an established reputation for size and bone and quality, and everything is sold on a positive guarantee.

Peabody Farm's Shorthorn Bull Offering

June K. King & Sons, Marshall, Mo., are offering some good young Shorthorn bulls at prices that should make money for the purchaser.

The Peabody herd was established in 1877 by a purchase of seventeen high class cows and a bull, and ever since, a high standard of excellence has been maintained. They also have one of the best Berkshire herds in the Corn Belt and at present are offering a number of choice spring gilts bred to farrow in March and April.

In writing we would appreciate having you mention the paper.

Sutherland's Angus

D. L. Sutherland & Sons, Windsor, Mo., who advertise their Angus herd in this paper, are now offering several corking good young bulls and a number of choice heifers. This herd has been established over thirty years and has been a prominent factor in the notable success Messrs. Sutherland have made. They have found that it takes live stock to maintain the fertility of the soil and they have proven that pure bred cattle are more profitable than grades. Write them for prices.

Megown's Poland China Bred Gilt Bargains

B. B. Megown, New London, Mo., is advertising a number of big stretchy Poland China spring gilts, bred for March and April farrow. These gilts are bred along the most popular lines, representing such boars as A. Wonder, Big Orange, Mo. Orange, and others. In view of the fact that Mr. Megown has decided to handle only Spotted Polands in the future, he is prepared to make low prices on this stuff in order to move it quickly. Get his prices and mention this paper when writing.

W. E. WILLIAMS' GREATEST SALE

50 BIG-TYPE POLAND CHINA SOWS AND GILTS

Silex, Missouri, Wednesday, February 17, 1915

50 HEAD

20 Spring Gilts

25 Fall & Spring Yearlings

5 Tried Sows

All Immune

50 HEAD

20 Spring Gilts

25 Fall & Spring Yearlings

5 Tried Sows

All Immune

Farrowed August 21, 1912. Weighed 840 lbs. September 30, 1914. 10½ in. bone.

This offering represents the best lot of tried sows, fall and spring yearlings and spring gilts I have ever cataloged. They are sired by LONGFELLOW SAMPSON, CLOVERDALE HADLEY, BLACK JONES 2nd, CHIEF PRICE Jr., WONDER, and are out of sows by BLAINE'S WONDER, HADLEY BLAINE, LONGFELLOW Jr., PAWNEE NELSON, YOUNG LOOK, W'S WONDER, and other noted boars. Bred to LONGFELLOW SAMPSON, CLOVERDALE HADLEY AND PRICE WONDER.

The offering has been grown and fed with care and every sow or gilt listed will make good for the buyer. This is a sale that will not disappoint.

Send for catalog mentioning this paper. R. P. ROYCE will represent this paper and any bids sent to him, in my care, will receive honest treatment.

W. H. COOPER, Auctioneer

W. E. WILLIAMS - - Silex, Missouri

Porterfield's Annual

DUROC SALE

TO BE HELD AT

JAMESPORT, MO.

Monday, February 8th

45 Yearlings and Spring Gilts

My offering this year is by far the best that I have ever made. I will sell:

21 Fall yearlings by COL. MODEL TOP, a son of the CHAMPION BEAUTY'S MODEL TOP, and bred to either a son of BIG WONDER or to AUCTIONEER 2nd, by AUCTIONEER.

20 SPRING GILTS by the great boar TOP INVENTOR, the largest boar shown at the 1914 Missouri State Fair, and bred to GRACEFUL LAD, the second prize senior yearling son of BEAUTY'S MODEL TOP.

4 SPRING GILTS by HIGH MODEL 2nd out of a COL. GANO dam.

Everything listed is immune to Cholera. The catalog will be sent to all who apply mentioning The Missouri Farmer.

AUCTIONEERS: Thos. E. Deem, Chas. Nelson, D. D. Deem, A. J. Thompson, A. C. Buckingham.

R. P. ROYCE will represent this paper

J. A. PORTERFIELD, Jamesport, Mo.

Gildow's Dispersion Sale of

Big Type Poland Chinas

JAMESPORT, MISSOURI

Thursday, Feb. 11, 1915

Owing to a recent business change it has become necessary for us to close out our entire herd of strictly big type Poland Chinas and on Thursday, February 11, we will offer at public sale

55 Tried Sows Yearlings and Gilts

including 15 tried sows—our own brood sows that have produced our show herds, 10 big fall yearlings, 30 spring gilts. Practically every prominent line of blood known to the breed is represented. The entire offering will be bred to PAWNEE CHIEF HADLEY, BIG BILL TAFT and other good boars.

You can not afford to miss this sale as it will afford an opportunity to secure breeding stock of unquestioned merit.

Catalogs will be mailed on request.

R. P. Royce will represent The Missouri Farmer and will handle bids for those who are unable to attend in person.

Dr. John Gildow & Sons

Jamesport, - - - - Missouri

"The Sal-Vet has given full satisfaction, the best proof of its merits being that I have not had a single hog sick; it also brought my stunted pigs along well. My neighbors have been losing hogs from some sickness." James A. House, Jr. Sullivan, Mo.

"I find Sal-Vet exactly as recommended by you. I have lost none of my hogs, but most of my neighbors have lost theirs. I find it excellent for horses and cattle also—all of my stock are now in good condition." C. R. Gilchrist, Oronogo, Mo.

"I am feeding Sal-Vet and find it is without doubt the best medicine for hogs I ever saw. It is ridding my hogs of worm by the hundred, and I am recommending it to my neighbors, several of whom have decided to feed it too." Walter Gray, Rt 4, Huntsville, Mo.

"Ever since feeding 'Sal-Vet' my hogs and other stock have been doing fine, but hogs belonging to neighbors are dying on all sides." H. O. Linhardt, Lohman, Mo.

"My hogs have been doing fine since feeding Sal-Vet. Hogs are dying all around us here, but thus far I have not had a loss." C. W. Buck, Savannah, Mo.

"Sal-Vet is one of the best sellers ever put on the market. One of my customers is a big feeder who had been giving his hogs a home-made mixture of lye, ashes and salt, and thought that his hogs were entirely free from worms. However, I induced him to give Sal-Vet a trial, and he was soon convinced that his hogs had been loaded with them." L. W. Horner, Blackburn, Mo.

Safeguard Your Stock—Rid Them of Disease-Breeding Worms

You can't expect big profits and big prices for your stock unless they are kept in the pink of condition. And you cannot put them in good condition unless they are free from worms. Worms multiply rapidly, and are known to cause 90 per cent of all stock losses—because they keep animals in a run-down, unthrifty condition—unable to get the good of the food given them. The best of care and feed will not put fat on a wormy animal, nor prevent disease.

In their wild state all animals instinctively sought the roots, herbs and barks that kept them healthy. **Domestic animals require a worm destroyer and conditioner to keep them healthy.**

The Great Worm Destroyer

TRADE MARK

SAL-VET

REG. U.S. PAT. OFF.

and Live Stock Conditioner

—is a "Safety First" preparation. It's mission is to rid stock of dangerous disease-breeding worms. In order that animals will more readily take the drugs which destroy worms, and the tonics which improve the digestion and tone up the system, these drugs are combined with salt in such proportions, that while the animals are satisfying their natural desire for salt, they are doctoring themselves. No dosing—no drenching—no starving. They take on new vigor and soon grow into profit. Read the following letters:

"I must say that I found SAL-VET a very good tonic and worm destroyer. I noticed worms pass from one colt, and since that time the colt has been doing nicely, and growing rapidly. My brood mares are in better flesh than I ever had them before, on practically the same feed. Cattle and hogs are doing very nicely, also." —Harry Vincent, Hanoverton, Ohio.

"I have been feeding SAL-VET to my hogs, and they passed a lot of worms. When I butchered some of the hogs, I could not find a single worm, nor a sign of a worm in any of them. My neighbors lost all of the hogs they had, but I have not lost a single one." —John Sauer, Fort Wayne, Indiana.

"The seven head of horses to which I have been feeding SAL-VET are now feeling fine, and look as sleek as a bunch of ground moles. Have also fed it to my pigs, and every one on the place has his tail tightly curled and is always ready for his feed."—Samuel Brice, Prop. Walker Stock Yards, Rt. No. 13, Grand Rapids, Michigan.

"SAL-VET did the work. I think it is the best tonic and worm expeller ever. Since feeding it, I have the best bunch of shoats I ever owned. They are larger, seem bigger boned, and are free from worms, although before I fed the remedy, they were infested with worms. I never saw hogs do as well as these." —V. T. Pease, Conway, Iowa.

I'll Feed Your Stock 60 Days at My Risk

In order to prove to you the value of my Great Worm Destroyer and Live Stock Conditioner, I freely make this liberal offer to every farmer and stock raiser, so that all may prove its value. Not only will SAL-VET destroy worms in your farm animals, but it will stimulate the appetite, relieve constipation, and put your hogs, sheep, horses and cattle in condition to better resist dangerous diseases. Thousands of farmers regularly feed SAL-VET to stock for SAFETY; you should not ignore this liberal offer. Here is the **cheapest live stock insurance** you can get.

(209)

Send No Money—Just the Coupon

Just fill out the coupon—tell me how many head of stock you have, and I'll ship you enough SAL-VET to last your stock 60 days—you simply pay freight charges when it arrives and feed it according to directions. If SAL-VET has not done all I claim, and you report results in 60 days, then I'll cancel the charge, and you won't owe me a penny.

SIDNEY R. FEIL, President

THE FEIL MFG. CO., Chemists

Dept. MF&B

CLEVELAND, OHIO

Sidney R. Feil, Pres.
THE FEIL MFG. CO.
Dept. MF&B 2-1-15
CLEVELAND, OHIO

Ship me enough SAL-VET to last my stock sixty days. I agree to pay the freight, feed it as directed, and will then pay for it if it does what you claim. If it fails and I so report in sixty days, you are to cancel the charge and I will owe you nothing.

I have.....hogs.....sheep.....horses.....cattle.

Name.....

P. O.....

Ship to.....State.....

"My experience is that SAL-VET is the best worm destroyer for horses that I have ever used. It certainly does all you claim. My horses have kept in better condition than in any previous season, and with a less grain ration at that." (Signed) —E. W. Steffen, Troy, Mo.

Look For This Label on all SAL-VET packages. Don't be deceived by imitations. Don't buy "Sal" this or "Sal" that. Get the original genuine **SAL-VET.**

PRICES

40 pounds.....	$ 2.25
100 pounds.....	5.00
200 pounds.....	9.00
300 pounds.....	13.00
500 pounds.....	21.12

No orders filled for less than 40 lbs. on this 60 day trial offer. Never sold by peddlers nor in bulk; only in Trade-Marked SAL-VET packages. Shipments for 60 days' trial are based on 1 lb. of SAL-VET for each sheep or hog, and 4 lbs. for each horse or head of cattle, as near as we can come without breaking regular sized packages.

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE
MISSOURI FARMER
COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE
AND THE MISSOURI EXPERIMENTAL STATION

To My Boy Friends

I want to talk to the boys in whose homes The Missouri Farmer is a visitor about the liquor habit. Mind you, I am not going to assault the personal views of the readers of this paper on this question—but I am going to say some things which I think ought to meet with the approval of every Father and Mother of a boy in Missouri. I have occasion to travel about over the Country a good deal and the things I see prompt me to have this heart to heart talk with the boys who belong to "The Missouri Fa mer Family." Somehow, there are too many boys who apparently believe that being "tough" is an evidence of manliness. They seem to think that they must sow their crop of "wild oats" ere they can become real men—and a more idiotic or vicious idea has never found root in the brain of youth. When confronted by temptation they too often yield for fear of being branded a "Mother's Boy"—and thus, secretly promising themselves that they will return to the fold of decency after they have had their "fling," they take the plunge—and God only knows what the final outcome is to be.

Of course, if you have made up your mind to tread the primrose path of folly whether or no, perhaps no words of mine can call you back—but there are certain things I want you to understand while your brain is still clear and while there is still time to change your course. In the first place, get it out of your head that you are stronger than this habit—that you will be able to tear yourself loose from its embrace once you make up your mind to that end. Along the pathway of yesterday there lie the pitiful wrecks of legions of strong men who, once upon a time, thought this also but who realized their foolhardiness when it was forever too late—who came to linger and play for only a little while amid chinking glasses and ribald song and laughter but who disappeared forever into a night which knows no sunrise. So have a care my boy—for there are "red lights ahead!".

In the next place, I want you to realize that the great bronze doors which open to the seats of the mighty remain forever barred to the boy or man whose breath smells of liquor. Your friends may consider you a "good fellow"—but the big, solemn faced men who are doing things in the World are not looking for "good fellows." They have no use for a "sport" or a chap who can tell the latest vulgar story. What they want is a boy with a clear eye and a clear head—a boy who is clean in mind and body and who wants to get somewhere—who wants to win! For this kind of a boy the World is literally bristling with opportunity. For this kind of a boy little is impossible—while usefulness and a reasonable degree of happiness are almost certainly assured. And it is today—while you are still unfettered—while there is still time to turn into the safe path that I want you to think over this matter solemnly and soberly. I only wish that every boy who reads these lines could realize what the men who own the big red barns and who direct the big banks, railroads, stores and factories think about this question and the impatience and contempt they feel against those things which ordinarily stand for a "good fellow"—the fellow whom so many boys have imitated to their everlasting sorrow and regret.

Again, some of these days, in all probability, you will ask some sweet girl to become your wife—and she has a right to expect you to come to her with a clean mind and body. She has a right to expect you to have lain the foundation of a manhood which will protect her as much as possible against sorrow in the future—and if there is any real honor in your make-up you won't ask her to take any unusual chances. It is only a coward—and a most despicable one at that—who will gamble with the human lives that are entrusted to his keeping. Then there is your sweet Mother—surely you will avoid these pitfalls for her sake? So, too, your Father wants a son who can take a man's place in the World—who will not bring anguish and sorrow to his gray head as the long shadows of life's final sunset slowly and kindly gather about him. And lastly, there is your Country which has a right to expect you to be every inch a man—for upon the fiber of its manhood depends its prowess as a Nation. That you may take these things home to your soul and conscience and that you will ponder over them with profound solemnity is the ardent hope of your friend,

The Author of After-Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VII FEBRUARY 15, 1915 NO. 4

WILLIAM HIRTH
PUBLISHER

SILO A PROFITABLE INVESTMENT

The coming of the silo to the Missouri farmer is making a great revolution in farm life. The riding plow, the steam plow, the automobile and good roads have created a vast change in rural life. Now the silo steps in and offers to do its part by lessening the burden and cutting down the expenses of our friends, Mr. Farmer.

What is a silo and what is it good for? There seem to be the two questions asked by every farmer who is without a silo. A silo, whether it be built of wood, brick, hollow tile or concrete is a storehouse for the preservation of food. Not only does it preserve the ear of corn but the stalk and blades as well, and when you have found a way of saving at least one-fifth of your crop that has been going to waste, you have found a way of cutting down expenses and saving money.

I say you are saving one-fifth of your crop because I believe there is one-fifth as much nutrition in a stalk of corn and its blades if put in a silo as there is in an ear of corn that is thrown in an open crib. [There is a great deal more than one-fifth the feeding value of the grain in the fodder.—Editor.]

The ear of corn that is thrown in an open crib becomes very hard by feeding time. It is thrown into the feed box, broken once or twice and is ready to be eaten. The corn that is taken from the silo is in a soft condition, more easily digested and more relished than the dry hard ear. The stalk and blades if preserved right will be soft and succulent and relished more like grass.

In filling the silo you should see that the fodder is cut very fine and is put up in a damp condition. It would be advisable to keep a small stream of water running into the fan of the machine all the time, even if your fodder is damp. More ensilage is spoiled from the lack of moisture than from most anything else. After the silo has been filled let it settle for a week then refill it, keeping it tramped down good all the time. Then run some straw through your machine covering the ensilage with two or three inches of this fine straw. Wet the straw thoroughly. Or better still, cover ensilage with about two inches of wet oats. The oats will sprout and form a crust thus keeping out the air. Never break this crust until feeding time for every place it is broken will let in the air and as far down as the air goes your ensilage will spoil.

Now as to the different kinds of silos, they are all good but some are better. A great deal depends on the man and his peculiar conditions. Some prefer one kind while some prefer another. Here in my section of the country, Daviess County, the wood silo seems to be preferred and I believe they are as good as any. If they are properly constructed and covered with a good paint they will be practically air tight and will last for many years. The silo did not take very good in this section of the country at first. Everyone seemed to think them too expensive. Being in the farming and banking business as I am and coming in daily contact with the farmer, I have talked the silo from the very first. I asked this question, Why don't you buy a silo? It's too expensive, I can't afford it, was their reply. Then we would argue the case from a financial as well as a time saving standpoint. Today nearly all these men have a silo. Now I ask them this question: How do you like your silo? A smile comes over their face, for they used to argue with me against the silo, but they invariably say, "I wish I had another," or "I am going to have another."

The first expense may seem a little steep for the pocketbook or the expense of filling once a year may seem a little high, but Mr. Farmer, when you look on the other side of the fence and see the time saved, cutting down expenses, preserving your health by keeping you from exposure to the winds, snow and sleet, producing a better bunch of cattle and having them ready for market a few weeks before the usual time and having the satisfaction of knowing that your stock is going to have the same feed next week as today, regardless of the weather, you are bound to think more of owning a silo every time you see one. Build a silo is my advice. If you don't like wood get hollow tile, concrete or something else, but build one of some kind. They are the only safe-guard against the dry weather that has been sweeping this country the past few years.

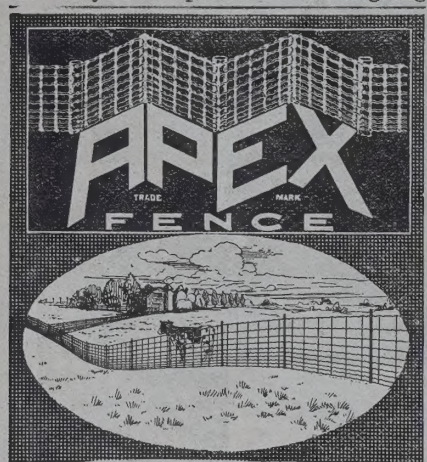
L. N. Callison,
Daviess County.

SILAGE AND SHREDDED FODDER BOTH GOOD

You ask farmres what they think of the silo? This is our second year with the silo and we would advise the farmer to build and fill a silo and then cut up and shred the corn that is left.

There was quite a lot of fodder shredded here last fall and so far as heard from all are well pleased. They have it in the dry and all waste of both corn and fodder is avoided and the full feed value of the fodder is secured. The shredder knocks off much of the worm dust and the corn is a much safer feed. One farmer remarked, "If you want to find the cattle that are wintering best go to the farm where you see the silo." By feeding silage and shredded fodder you find no feed tramped in the mud. You get the minimum waste and the maximum nutrition from your feed. I appreciate your practical paper, The Missouri Farmer.

H. F. Davis,
Christian County.



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The Missouri Farmer

VOLUME VII FEBRUARY 15, 1915 NUMBER 4

Takes Too Much of Our Crops to Pay the Interest.

By Geo. B. Ellis, Managing Editor

A number of our ablest and closest thinking farmers agree that it takes too large a part of what we produce on the farm to pay the interest on what we owe. As we have previously stated in these columns a very large part of the business of farmers is done on borrowed capital. Assuming that the amount of debt carried by the farmers of the United States is correctly estimated at five billion dollars by the department of agriculture it will take in the average year all the farm surplus of our great wheat crop and a large share of the oat crop to pay the interest alone on our annual farm debt. Take for illustration the wheat crop of 1914, by far the largest crop ever produced in this country. We produced last year 891,017,000 bushels of wheat and if we allow for the farmers' own bread and seed for a year there would be a surplus over and above farm needs of approximately 550,000,000 bushels. Before the European War broke out last August farmers were selling their wheat for 70 cents a bushel or less and at that price the farm surplus of the whole wheat crop would fail by two and a half million dollars to meet this interest payment. But last year's wheat crop was 163,000,000 bushels above our average yield and hence we say it has not only taken the whole of the surplus wheat above the farmers' needs for seed and bread but it has taken a large part of the oat crop to make up the deficiency. It is not strange then that practical farmers like Mat W. Hall of Saline County, J. S. Bedford of Boone County and W. C. Brown of Iowa will declare as they have done in this number of The Missouri Farmer, that "high interest rates and short time loans are the greatest handicaps to profitable farming."

Three Systems in Europe

There are at least three systems of making long time farm loans in various foreign countries that have proven better than our system in this country of allowing this important line of business to be controlled by private interests. Under any and all of these systems the European farmer borrows money to buy land, to purchase needed live stock, to drain or otherwise improve his land and for other necessary purposes at from one-half to two-thirds what the Missouri farmer is compelled to pay. The first of these is the co-operative system. Under this plan the farmers of Germany, Denmark and other countries have been getting cheap money for many years. This plan seems to be very well suited to a populous country where a sufficient number of farmers are found in a small district to form a loan district. In such a district the farmers have opportunity to know all the members personally and there is little chance for dishonest men to get in or if they happen to get in they are soon found out and can be expelled. This makes it possible to maintain these associations with unlimited liability of every member but without loss to any. The individual farmer when he mortgages his land to secure his loan at the same time becomes security for every other loan in the association. This is the feature usually objected to in this country and yet it is the necessary feature in this plan that enables farmers to get cheap money. The security back of these loans is so absolutely safe that the bonds of these associations sell for about the same rate of interest as Government bonds. While the farmer is liable for every other borrower he in turn is secured by every other borrower and the practical working of this plan has shown that there is no loss. However it is not considered that on account of our sparser population and because our lands have not yet the stable value they have in older countries that this is the best plan for us to adopt.

Direct Government Loans

Another plan that has been suggested for this country and which has also been successfully operated in other countries is the direct government loan. Under this plan the Government makes the loan direct to the individual farmer and takes a mortgage on his land for security. This is the plan that has revolutionized the land tenure of Ireland. Irish landlordism has been the greatest blot on English civilization. But this system of government loans and compulsory sale of the land will in a few years give Ireland a well distributed land ownership. In 1911 there were 535,675 agricultural holdings in Ireland and up to March, 1913, applications had been made for the appraisement of 455,000 which is more than 80 per cent of the total. Up to that time 240,000 had taken out loans and become land owners. The farmers of Ireland are very poor and have no money to make even a small first payment on the land but in this instance the Government takes the whole risk. This necessitated of course large capital and the Government of Great Britain has already furnished over $600,000,000 of capital for this purpose which is estimated to be not more than 60 per cent of what will eventually be required. Under this plan the tenant who buys land gets the loan from the Government for 68½ years and at only 3½ per cent annually for interest and amortization. As an example if a tenant buys a holding for say, $5,000, he will be required to pay 3½ per cent yearly $(175) for 68½ years when the debt will be completely wiped out and he will own the land free. Some plan like this was necessary in Ireland where 80 per cent of the population are tillers of the soil but only a very few owned the land they tilled. The tenants were too poor to make a first payment on the land, however small, and some plan had to be devised that would enable them to pay a small amount out of their yearly crop returns.

The Missouri Plan

A third plan which may be said to be a compromise of the two plans outlined above is now before the Missouri Legislature and we think with proper safeguards will meet the present demand in this state for cheaper and longer time farm loans. In this plan the state will furnish the working capital necessary to get the business started and furthermore the state will furnish the necessary supervision and administration to insure the successful working of the law. But the state will be repaid for all it puts into the business out of the profits as they accumulate.

The governing board of this proposed Missouri Land Bank as it will be known as now proposed will rest with the Governor, Attorney General, Treasurer and Auditor, and the executive or supervisor will be the State Bank Commissioner. Thus it will be seen that without creating a single new office we will have the business managed by five elective state officers. In the administration of this law the state will be divided into districts and a land appraiser will be appointed for each district. In the bill now before the Legislature it is proposed to pay these appraisers a salary of $2000 a year. It will be important that these men shall be good business men and well acquainted with land values. If the land is honestly and fairly appraised and the title is perfect there will be scarcely a possibility of a loss.

A Million Dollars Capital

The working capital for this Land Bank (more correctly loan agency and not a bank at all) is to be provided by a state loan of $1,000,000. Against this capital and the farm mortgages taken to secure loans debenture bonds will be issued and sold. Right here is where the great advantage can be given the borrower over the present system. By reason of the guarantee of the State of Missouri these bonds can be sold at possibly 4 per cent interest and when to that rate there is added a small fraction for expenses, another small fraction for creating a reserve and to repay the state for the capital advanced the interest rate charged the farmer would not exceed 5 per cent and more probably less than 5 per cent. Such a plan of course should provide the payment of an additional amount annually to pay off the debt and the whole annual payment need not be more than the rate most farmers are now paying to insurance and other eastern loan agencies for interest and commission. Thus in twenty-five or thirty years the farmer finds himself free from debt. If the farmer is prosperous and finds that after five years he can pay all or part of the principal he will have the right to do so.

Under our present system most farm loans are made for five years only and few men expect to pay them off in that time. There is always a certain amount of uncertainty about the chance to renew the loan and often the farmer has been compelled to sacrifice breeding stock in order to pay part of the loan, when it would have been much more profitable to have kept it on the farm.

As the proposition now stands before the Legislature loans will be made to farmers on promissory notes secured by deeds of trust, time running from five to twenty-five years and in amounts from $250 to $10,000 and never for more than fifty per cent of the appraised value of the land. Thus it will be seen when the state is secured against every dollar that is loaned by two dollars in land value there is not the remotest possibility of any loss ever falling on the state. Furthermore, every year these loans run by reason of the amortization plan there will be more than double security.

Bankers Should Favor This Plan

Some have contended that lower rates of interest would encourage land speculation but that is provided against in this measure to a certain degree by providing that loans may be made solely for productive purposes and in limiting loans to $10,000. The bill provides that loans shall be made only for: (a) To increase the productiveness of the land mortgaged; (b) to make useful improvements; (c) pay off encumbrances or part payment on farm; (d) one-fourth of the loan may be used to buy live stock or machinery. In time, no doubt, it will be found advisable to limit loans strictly to those who occupy and cultivate the land, but under the above restrictions it will from the start be practically so restricted.

No one should be found to oppose this plan except the brokers and loan agents who have fattened at the expense of the improvement of the whole country. Bankers as a rule should be found favoring this proposition because it does not in any way interfere with legitimate banking business and because anything that will tend to the general prosperity of farmers will indirectly be helpful to bankers in the increased amount of business done.

For the farmer who has money to loan these bonds will furnish him a safe investment. For widows and orphans these bonds will furnish one of the safest and most satisfactory investments they can find . If these bonds are exempt from taxation which they should be, they would be much sought after even at as low a rate as 4 per cent and would keep thousands of dollars within the state that now go to other states to escape taxation.

The question for Missouri farmers to determine is "Shall we go along in the same old rut, paying interest above the profits of our farms or shall we profit by the experiences of Great Britain, Germany, France, Denmark, Austria, Australia, New Zealand and other countries and thereby build up in this country a system of land ownership instead of land tenantry?" The result is in the farmers' own hands. The country is ready for the change and the Legislature is ready to act if the farmers demand it.

CORN SILAGE FOR BEEF CATTLE

With prices of coarse grains higher than they have been in years the problem of fattening and wintering cattle economically in the corn belt never has been more complex. The higher values mean that little differences in feed and care show a wider range of profit or loss in the balance sheet than when figures were smaller. New practices in feeding have been investigated by Agricultural Experiment Stations, and tried by feeders. Among the most distinct economies which have been widely accepted are the use of corn silage and high protein concentrates in rations for beef cattle. It is a consideration of the former to which I wish to call your attention at this time.

A proper understanding of the position of silage among other feeds and its limitations are of first importance. If one were to compare it with other feeds they would find it most nearly resembled shock corn. Yet comparative tests have shown that an acre of corn converted into silage will yield from 30 to 50 per cent more than a similar acre in the form of shock corn. The silage is more digestible and on the average undergoes less loss in the siloing process than shock corn does, due to weathering. It is probably more difficult in utilizable protein but generally speaking it is more comparable to shock corn than to any other feed. Silage varies widely in its nutritive value due largely to the wide variation in the corn from which it is made. A good grade of silage will contain from sixty to sixty-five percent of moisture. More moisture means less nutritive value per ton. It also means that the chemical change has gone too far and very acid silage is the result. This may be caused either by cutting the corn before it is sufficiently mature or by the addition of too much water at the time the silo is filled. A good grade of silage contains about five bushels of grain per ton. With more or less grain the feeding value is increased or decreased accordingly.

It must be recognized that corn silage is not a complete feed in itself. Failure to realize this fact has resulted in poor returns and criticism of its use. Its most conspicuous deficiency is its lack of sufficient pure protein. This deficiency should be made up by feeding with it some feed which is high in protein.

For wintering stock one of the legume hays, such as alfalfa, clover or cowpeas, is the best supplement to silage. Five pounds per 1000 pounds live weight of such hay when fed in connection with silage makes an ideal ration for wintering cattle. Where such hay is not available a nitrogenous concentrate should be used. For this purpose cottonseed cake or meal, or old process linseed oil meal have proven to be very satisfactory. At least one pound of the cake or meal should be fed daily per thousand pounds live weight. Where the concentate is used instead of a legume hay, a small quantity of some dry roughage should be fed in addition. Oat straw or a good grade of wheat straw will satisfy this need. When cattle are to be grazed during the summer without grain it is best not to feed so much during the wintering period that they will be too fleshy to graze will when turned to pasture. The quality of the silage used and condition of the cattle should enable the feeder to judge the amount to feed.

The proper use of silage in rations for fattening cattle is undoubtedly a distinct step in advance of old methods. Here again it is important that its limitations be considered. First of all it is necessary to supply the deficiency in protein. For fattening cattle the use of a nitrogenous concentrate such as the cottonseed products or old process linseed oil meal, is generally best.

The quantity which may be fed to advantage will vary somewhat depending upon the relative price of the various feeds available. As a rule, however, it is best to feed at least two pounds per 1000 pounds live weight. This quantity may be increased to five or six pounds per 1000 pounds live weight in case cottonseed cake or meal is used for a short feeding period. The advisability of feeding a large quantity of such concentrates depends to a large extent upon its price in comparison with corn and other grains. After the protein requirement in the ration is satisfied the value per pound of an increased quantity rapidly decreases.

Some beginners with the use of silage in fattening cattle have made the mistake of considering it unnecessary to feed grain in addition. The use of silage will reduce the necessary amount of grain needed for fattening cattle, and for two-year-old or older cattle which are in thin condition very satisfactory gains may be made for sixty to ninety days with no other grain than the high protein concentrate. Cattle which are to be finished in July by feeding grain and pasture may be very economically started in this way. Without the addition of grain rapid gains in live weight and a high finish cannot be expected.

In addition to the grain supplement to silage for fattening cattle it is desirable to feed some dry roughage. The quantity consumed will be small and is generally not over three pounds per head daily for two-year-old steers when the best grade of clover or alfalfa hay is used. The high nutritive value of these hays makes them desirable for this purpose, however, a good grade of straw will do when hay is not available. The use of a dry roughage in addition to silage causes the cattle to feed more uniformly and they will also continue to do well for a longer feeding period.

The Missouri Experiment Station made this statement about the above bunch of cattle when they were ready for market: "A superior finish is obtained on fattening cattle which are marketed in the spring when silage composes part of the ration."

In feeding any class of live stock great care should be used to avoid the use of mouldy silage. There are several molds commonly found in silage, some of which are poisonous and others do not seem to be harmful. Generally those which are red or green in color are most likely to cause bad digestive troubles. Our present knowledge is not sufficient to enable us to tell definitely the unharmful from the harmful molds. The only safe practice is to avoid feeding the moldy silage.

The use of corn silage in the economical production of beef cattle is a more important factor this winter than ever before. It promises to continue to be a very important consideration and when properly used in connection with other feeds will considerably reduce the cost of dry lot feeding.

H. O. Allison,
Missouri Experiment Station.

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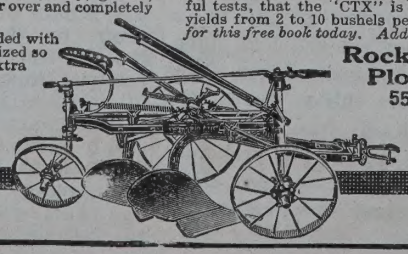

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SOME HANDICAPS TO MONEY MAKING ON THE FARM

Dear Editor: With regard to your question, "Why Does Not the Average Farmer Make Money?" I would first call attention to the fact that comparatively few men in any business or profession are "money makers." To be explicit, the income of the average man, whatever his occupation, does not greatly exceed his expenditures. In this sense I suppose there are as many "money makers" among farmers in proportion to their number as there are in the other walks of life.

As I see it, however, the greatest handicap to the average farmer's business success is the lack of working capital. There are many opportunities for a farmer to make money if he had the capital to invest as these opportunities arise. Not having it, he hesitates to borrow, lest the high rate of interest should eat up the profit on the investment. Cheap money—long time loans at a low rate of interest—would do more for agriculture in this country than any other one thing, I believe.

Then again, a great many of our farmers are renters, and their ability to borrow is, of course, limited. The renter is generally handicapped by the fact that the farm he rents is poorly fenced and inadequately watered, and he is thereby forced to follow a system of grain farming alone. He plants, harvests, and sells his wheat and corn, and is practically idle one-third of the year and begins next spring just where he began last. Farming is a continuous, all-the-year-round job, and requires study and close attention to detail. We must constantly conserve soil fertility by crop rotation and the raising and feeding of all kinds of stock, which last, of course, necessitates good tight fences.

After all, when the farmer has met all the requirements that confront the average man in any other business, there are many other forces with which he must contend. Even "the stars in their courses" seem to fight against him at times, and the wet weather, the drouth, the army worm, the chinch bug, the codling moth, the corn worm, the potato beetle and the cabbage worm—thousands of destructive insects which are left to prey on vegetation by the wholesale slaughter of our game and song birds—are some of the destructive forces eating into his profits.

Then, possibly, just as the farmer feels that he has conquered all of the above mentioned pests, along comes the advocate of the simultaneous treatment for hog cholera and infects all the innocent and unsuspecting neighborhood. My observation in this county warrants the statement that, wherever the simultaneous treatment has been given, it has been followed by a bad out-break of cholera in that community. There can be no doubt in the mind of any reasonable observer that the man who uses the simultaneous treatment ought to quarantine closely in order to confine the disease to his own pemises and not destroy his neighbor's hogs. Another cause of infection in this dreaded disease is the deplorable practice which some men have of shipping all their hogs, both sick and well, when outbreaks occur on their farms. The sick herds are driven along the public highway to the nearest shipping point, thus scattering the disease far and wide. It occurs to me that it would be well for the state and nation to handle hog cholera as it does foot and mouth disease in cattle.

Again, labor is scarce and high, and machinery must, to a great extent, take its place; this necessitates a more costly equipment for farming than was ever before necessary and the up-keep of this equipment is so expensive that it makes a big hole in profits.

The average farmer in Missouri must have his silos, deep wells, wind mills, gasoline engines, tractors, motor trucks, automobiles, and it requires an astute business brain to figure profits on such a large investment.

To the average city man, farming is "the simple life," and requires only "simple minds" to reap its rewards. Nothing could be farther from the truth, since to meet present day conditions, the farmer must be, not only a tiller of the soil, but the master of several trades, and must have a speaking acquaintance with several of the learned professions. He must be a good carpenter and concrete mixer, a good mechanic, machinist and blacksmith; he must have a smattering of chemistry and be a fair veterinarian; in addition, he must have the patience of Job and the courage and business ability to wring success from seeming defeat, else he will never be a "money maker" in the sense in which you use that term. Matt. W. Hall,

Saline County.

THREE YEARS' EXPERIENCE WITH SILAGE

I am certainly glad tof the opportunity to give my experience to the readers of The Missouri Farmer, in silage feeding and silo building. We have been feeding silage for three years to horses, including brood mares and mules, to cattle and sheep, with excellent results. After using a silo one season, almost any farmer would quit the business of stock raising if forced to do without one. Our horses and mules receive nothing through the winter except silage and thrashed hay and are in excellent shape.

We never give our horses or sheep any mouldy or damaged silage and to this we attribute our success. Whenever I hear of any bad results I always find that mouldy silage has been fed. We are not so particular with our cattle, and mix the damaged silage a little at a time thoroughly with the good. This may not be a good practice, but we have never had any bad results. Our stock hogs which follow our cattle fed on silage alone, never receive any corn.

We have found that the older the cattle are, the faster they will put on flesh. Calves do fine, but require corn and some concentrates in addition, to putting on flesh to finish them.

As to our silo building, we have erected two kinds. Our first venture was a wooden silo. It was built of two by four cypress, tongued and grooved and turned on edge. This silo has seven sides and is equal to a 17x 32 round silo. This was built at a cost of $210, including our own labor. Actual money paid out was nothing like that much. I do not consider this silo a success, for we found that it had to be lined with rubberoid to make perfect ensilage. I would not advise anyone to build this kind of a silo, although I prefer it to a stave silo.

Our next venture was a concrete, and this I consider the best kind. It is the height of folly for any man living close to gravel to erect a wooden silo. If farmers only knew that they could build permanent silos cheaper than wooden ones, there would never be a wooden one erected. During a wind storm last summer over twelve stave silos blew down around our town. Two of our neighbors have discarded their stave silos and have erected concrete ones. Our silo was built with a three-foot home made form. Size of silo was 20x46. All the concrete was mixed by hand, as we built only 31 inches per day. We could have built four feet on a smaller diameter. We used the very heaviest reinforcement for first 30 feet. I would never advise fencing wire for reinforcement, especially on a large diameter. A six inch wall, good reinforcement and the concrete well puddled, makes a silo that cannot be beaten.

This silo was built by myself and two men I had hired by the month. We had an experienced man in concrete work to help make the form and to build first twenty feet. The actual cost of this silo, including our own labor, hauling of gravel and cement, was something over $400—not very much. The actual money we paid out was about $200, counting all labor except myself and teams. This silo has been filled for the last two seasons, and the silage has kept fine. I advise any man who understands mixing concrete to build his own concrete silo. Do not be afraid of getting them too high. The higher the better, up to sixty feet. Most of the men around our town are having them built by a man who follows the business. He puts up a fine silo, but any farmer with a little nerve can build his own much cheaper. I think it would be a great thing for the farmers of this state if the home made forms could be shown to them at the town and county fairs. Wisconsin has accomplished a great deal in this line, and there are hundreds of home made concrete silos over the state.

Lewis Bell, Monroe County.

THE GURLER SILO

There is considerable interest in this section in the home-made (Gurler) silo. I have built and now have in use one such silo and in the hope that a few suggestions may be of value to my fellow farmers, I offer this article. The foundation is made of solid concrete; the wall is 8 inches thick, 3 feet in the ground and 1 foot above ground. The cement is mixed as follows: cement one part, gravel four parts and sand two parts. Size of silo when completed is 18x40 feet. Put in the concrete while yet soft; 2x4 pieces cut 18 inches long with a miter that will make a circle 18 feet in diameter. Put three 60d spikes in these 2x4's 2 inches from the end and crook the end of spike, then sink 2x4 into the cement to the top of the 2x4.

To this foundation spike the 2x4 (rough lumber) uprights over each joint in the foundation, then plumb to a solid, but temporary center pole. After 2x4 uprights are in place a lining of rough lumber one-half inch thick by 4 or 6 inches wide is put on the inside bending to the shape of silo and firmly nailed to the uprights. Then on the outside of the upright, common house weather boarding with ¼x½ inch groove, cut on inside of thick edge, then bending to shape of silo with ½-inch lap and firmly nailed to the upright.

Then on inside with common lath (running around) nailed to lining with ¼-in space, plaster with a mixture composed of 1 part cement to 3 parts sand; put on two coats of this mixture so it may be ½-inch thick when completed and a slush coat of pure cement to finish. The practical workman will easily understand that he must commence at the ground to put on the weatherboard, lining and lathes, scaffold up and repeat to the top, then beginning at the top plaster and take out the scaffolding as he comes down. The door is continuous from ground to top. At each side of opening two 2x4 pieces are spiked together. Against this inside face of 2x4's doors are placed as the silo is filled. Doors are made of flooring boards two thicknesses cut in length of door. The door opening is about 21 inches. The outside boards are crosswise of the opening and the inner boards lengthwise of the opening.

Across the door way at intervals of about 27 inches are placed 4x4's cut 20 inches long to hold the door jambs apart,and beneath these 4x4 door jambs are run ½-inch rods 29 inches long, firmly bolted to hold the door opening. These 4x4 pieces are held in place by spiking through the 2x4 door jambs.

Such a silo can be built for from $175 to $250 according to location; this includes all lumber, lath, cement and labor, and it holds 210 tons. I believe this home-made silo will keep the feed as well and last longer than any of the other various types of wooden silos and at a very small comparative cost.

Fred F. Kaser, Baring, Mo.

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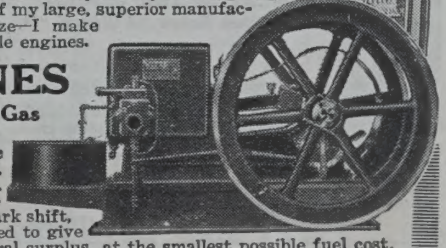

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SIMULTANEOUS OR SERUM-VIRUS METHOD

(Continued from last issue)

The "simultaneous method" called also "serum-virus" method differs from the single or serum alone method only in this, that a dose of "hog cholera virus" (that is diseased blood from a hog suffering from an acute attack of cholera) is injected at the same time the protective anti-hog-cholera serum is injected. If this "virus" were used without the protective serum it would produce in most instances a fatal case of hog cholera, but the protective properties of the serum which is injected at the same time modifies the severity of the action of the cholera germs that are injected. The presence and multiplication of the disease germs which have been injected into the hog produces some degree of illness, in some cases it may be so slight as to escape casual notice, and can be detected only by using a clinical thermometer, and showing the presence of fever. In some animals evident signs of illness may be observed, as loss of appetite and high temperature, some may become seriously ill, and some may die. The degree of illness and the percentage of death losses produced in healthy hogs vaccinated by the simultaneous method varies greatly. It depends on several factors, the potency of the protective serum, the degree of virulence of the hog cholera virus and the resistance of the hog vaccinated, as all these factors are in themselves quite variable and not measurable to any fine degree of accuracy, and the results of the vaccination cannot be accurately predicted. Published reports show that in some herds no losses occur from the vaccination, in others the losses may not be greater than a half to one per cent, but it sometimes causes a loss of five to ten per cent and occasionally the loss may run 25% or even 50%, in individual herds. In healthy herds where no losses occur from the vaccination and where no illness is evident the probability is that the "virus" used is weak, and has lost its disease producing powers, and that a durable immunity is not produced in many of the animals vaccinated. Sometimes the virus is killed by the addition of too much preservative, carbolic acid. In those herds which show a well marked illness the probability is that a greater number of the vaccinated hogs will acquire a lasting immunity, just as they do when they have the disease in a natural outbreak. Hogs may also acquire a lasting immunity if they are kept continuously for a considerable time on badly infected grounds after vaccination.

In practical field work the simultaneous method does not produce with certainty a lasting or "life immunity," according to the observations of Dr. Fischer, State Veterinarian of Ohio, who has done more "simultaneous" vaccination in official work than any other veterinarian in the country. His table showing duration of the immunity from "simultaneous" or serum-virus vaccination is interesting in view of the repeated assertions of commercial serum producers that the method makes hogs "immune for life," an error into which some official veterinarians of this and other states have fallen, as well as many private practitioners. Such an error is in most cases due to lack of experience. Dr. Fischer's table is as follows:

Duration of Immunity, from "Simultaneous" or Serum Virus Vaccination: Pigs 1 day to 6 weeks of age, are immune 2 to 3 months; shotes 2 to 4 months of age are immune 6 to 8 months; older animals are immune one year.

He further says, "Remember that this table indicates "approximate" time only and that **immunity sometimes runs out unexpectedly."** But, "as a rule the time given in the table will be a reliable guide to determine the proper time for **retreatment."** He further recommends that: "Thereafter, all adult breeding animals should be treated annually." In another sentence, in speaking of herds that have been vaccinated by the "serum-virus" method, the following caution is given: "Always bear in mind that the immunity may for some reason run out before the "scheduled time". "And be on the alert for the first symptoms of cholera and apply serum promptly;" that is **revaccinate.**

These statements from the State Veterinarian of Ohio, who has been a strong champion of the "simultaneous method", and has had larger experience with that method than any other veterinarian in official state work, should be good evidence of the unreliability of the method in conferring a permanent or life immunity.

Serum and Sanitation Both Important.

The question is, does the somewhat longer "immunity" that this method gives, compensate for the great disadvantages connected with the method?

The greatest objection to the method is that where it is in general use no progress is made in getting a neighborhood or county free from the disease. Sanitary officers, who by this method save a large number of hogs in a county mistakenly imagine that they are eradicating cholera. Their reports of large numbers of hogs saved and large quantities of serum used, are exploited as evidence that great progress in the control and eradication of hog cholera is being made by simultaneous vaccination. These reports contain scarcely a word about sanitation. Later events show that they have been mistaken in their conclusions; and instead of getting rid of the disease, they have in fact been sowing the seeds of disease on farms where it did not exist before, and have thereby increased the area of infection; and made the hog cholera situation worse than it was in the beginning. Abundant evidence that this is true can be had from counties in Missouri where private practitioners, and the agents of commercial serum companies, have exploited the serum and virus treatment and have used what the farmers believed was "good serum" and "good virus" because it was prepared under "Federal License". It may be claimed that the bad results with virus are due to lack of proper official veterinary control of the field work. But I am confident that the difficulties are inherent in the method, and that " exclusive" official use by graduate deputies or trained experts will not prevent the spead of cholera wherever this method is extensively used. If the plan would work, I am quite sure that Dr. Fischer, the State Veterinarian of Ohio, could make it work, but when a plan is inherently wrong the most able man cannot succeed with it, as is indicated by the following letter from a prominent farmer who lives in an Ohio County where the State Veterinarian has been trying to eradicate cholera by this method, and moreover has full police authority and has charge of the manufacture of the serum and virus that is used. The letter reads as follows: "Dr Connaway: My dear Sir, About a year ago the Ohio Agricultural Commission authorized our State Veterinarian to expend twenty thousand dollars ($20,000) in Fayette County to try out a system to eradicate hog cholera. And in pursuance of that authority he early last spring quarantined the whole county, and began a systematic treatment called, I believe, "simultaneous" method of vaccination; and the results thus far seem to be that we have at this time in the county **more** hog disease than ever known before"; "I have an intimation that veterinarians are not agreed as to the propriety of this method; now I am a hog-raiser and feeder, and would not oppose any method that will tend to lessen the losses from this disease, but if we are accepting a method that will eventually more firmly fasten the disease upon us we ought to be advised; in view of your experience in this matter would you kindly give me some light" (signed Reuben Rankin, Hedgewood Farm, Parrot, Fayette County, Ohio). I have written Mr. Rankin that in one Missouri County that was badly infected with hog cholera in the fall of 1913 whe have so effectually controlled the disease by our method of "simultaneous sanitation" and "serum alone" that we have not had occasion to send to that county any great amount of serum within the last six months. Less than $300 would cover the bill. On the other hand the cholera is prevalent in adjoining counties where our plan has not yet been put into operation. The same plan has been tried out for over a year in three counties, Johnson, Dade, and Cape Girardeau; and the farmers could not be induced to go back to the virus treatment again. Two other counties,

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Cass and Bates, which have been suffering from the scourge of cholera and "simultaneous" vaccination have sought relief, and we have organized these counties for work in cooperative sanitation and the results are pleasing to the swine growers of these counties. Other counties are preparing to take up the plan, and we will give them proper aid whenever they are ready. It did not cost the state "twenty thousand dollars" per county to do the work mentioned; nor as much as one thousand in salaries and expenses, for we have put the farmers themselves on the important end of the job, that of "simultaneous sanitation". They are becoming efficient sanitarians, and under our plan they constitute a voluntary sanitary force that does not cost the state a cent, moreover they are always on the job, for the job is on their farms. They do not lie down on the job because the state does not pay them for the work; they even pay for all the materials used;—serum when it is needed, and the necessary disinfectants; and they are finding that the method is economical and effective. The serum bills are growing smaller, and the hog pens are filling up, and the word "virus" is becoming very unpopular in these counties where our simple common sense methods have been adopted.

In my next article I shall go fully into the practical details of the method.

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Every bearing is constantly flooded with oil. Two quarts of oil in the gear case of this 8-foot auto-oiled windmill will keep the gears and every bearing flooded with oil for a year or more.

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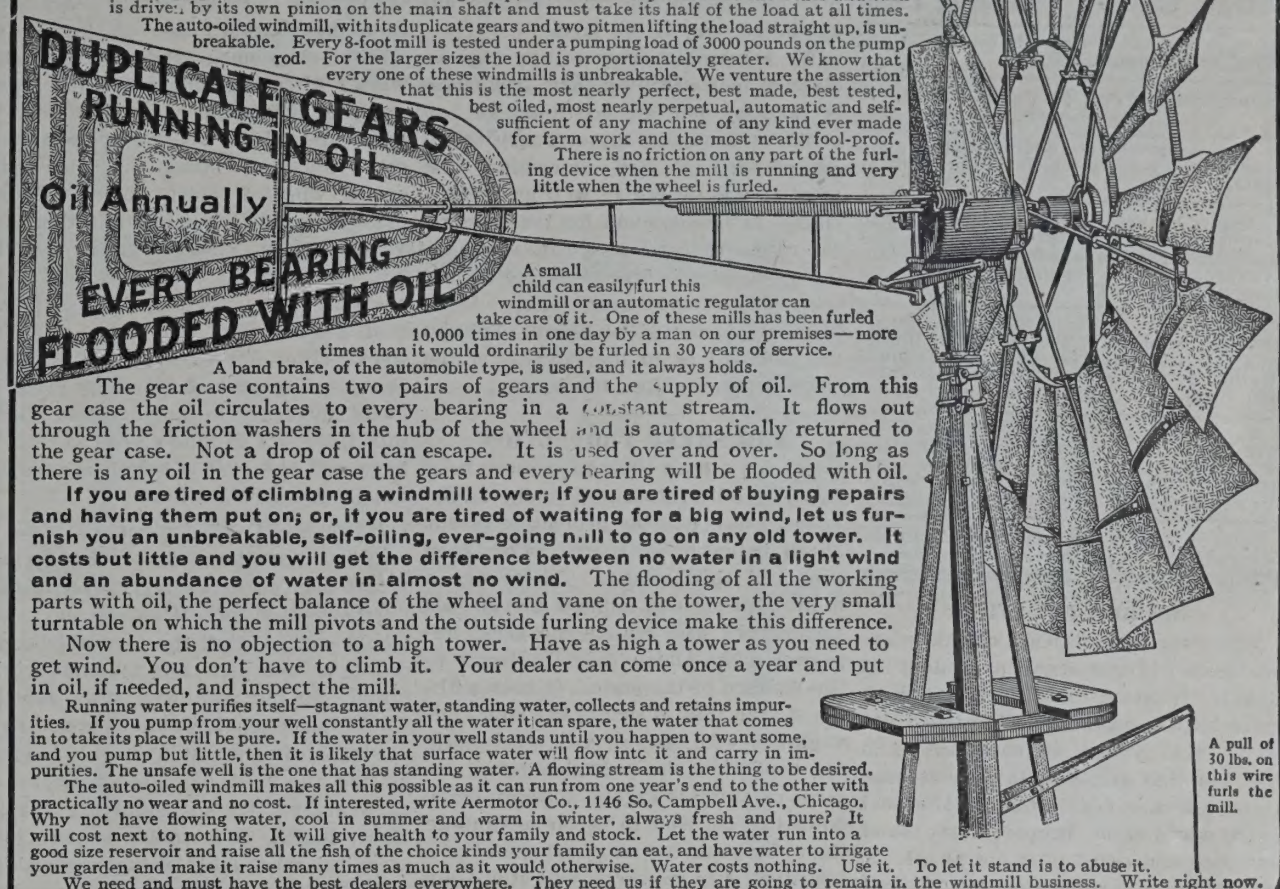
There is a windmill, known the world over as "the windmill which runs when all others stand still." This new windmill with gears and bearings flooded with oil runs in much less wind than that well known windmill.

The two large gears, which lift the load straight up, are each independent of the other and each is driven by its own pinion on the main shaft and must take its half of the load at all times. The auto-oiled windmill, with its duplicate gears and two pitmen lifting the load straight up, is unbreakable. Every 8-foot mill is tested under a pumping load of 3000 pounds on the pump rod. For the larger sizes the load is proportionately greater. We know that every one of these windmills is unbreakable. We venture the assertion that this is the most nearly perfect, best made, best tested, best oiled, most nearly perpetual, automatic and self-sufficient of any machine of any kind ever made for farm work and the most nearly fool-proof. There is no friction on any part of the furling device when the mill is running and very little when the wheel is furled.



A small child can easily furl this windmill or an automatic regulator can take care of it. One of these mills has been furled 10,000 times in one day by a man on our premises—more times than it would ordinarily be furled in 30 years of service. A band brake, of the automobile type, is used, and it always holds.

The gear case contains two pairs of gears and the supply of oil. From this gear case the oil circulates to every bearing in a constant stream. It flows out through the friction washers in the hub of the wheel and is automatically returned to the gear case. Not a drop of oil can escape. It is used over and over. So long as there is any oil in the gear case the gears and every bearing will be flooded with oil.

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Now there is no objection to a high tower. Have as high a tower as you need to get wind. You don't have to climb it. Your dealer can come once a year and put in oil, if needed, and inspect the mill.

Running water purifies itself—stagnant water, standing water, collects and retains impurities. If you pump from your well constantly all the water it can spare, the water that comes in to take its place will be pure. If the water in your well stands until you happen to want some, and you pump but little, then it is likely that surface water will flow into it and carry in impurities. The unsafe well is the one that has standing water. A flowing stream is the thing to be desired.

The auto-oiled windmill makes all this possible as it can run from one year's end to the other with practically no wear and no cost. If interested, write Aermotor Co., 1146 So. Campbell Ave., Chicago. Why not have flowing water, cool in summer and warm in winter, always fresh and pure? It will cost next to nothing. It will give health to your family and stock. Let the water run into a good size reservoir and raise all the fish of the choice kinds your family can eat, and have water to irrigate your garden and make it raise many times as much as it would otherwise. Water costs nothing. Use it. To let it stand is to abuse it.

We need and must have the best dealers everywhere. They need us if they are going to remain in the windmill business. Write right now.

A pull of 30 lbs. on this wire furls the mill.

SOME REFLECTIONS FROM EXPERIENCE

To succeed with live stock on the farm a man must learn to judge stock. Pedigrees don't always count. A good way to learn is to attend the fairs and when the ribbons are tied, get permission to examine the winners; study all the points carefully, try to fix them in your mind and then go off a while and try to make a mental picture of that animal. Then come back and see if your picture is right. Continue to do this until you can see that animal clearly in the mind.

It is necessary that you love your business, love your land for its beauty as well as for its profits. If you don't love the little pigs, calves and lambs and are not willing to do the drudgery necessary to care for them properly your death loss will take all your profits. To love land means that you will keep it fertile, keep it from washing into gullies, protect it from erosion by growing more grass and by sowing wheat or rye in your corn every fall. And also by covering it with all the manure you can make. Young man, if you don't love farming take some other occupation. You will more likely succeed. I am disgusted with this back to the farm agitation by the city papers and the city people. They figure great profits from a business they know nothing about and which are false. There are no big fortunes made by farmers. Only one man in all this great state has made as much as a million dollars. Therefore I say, if you don't love farming don't take up that business. There are thousands living on farms and are called farmers that ought to quit and hire to some good farmer or take up some other business. If you want to stand around on the city streets, dressed in fine cloths, take a city job. But if you have thoroughly decided to farm, think out a definite plan and follow it to the end. Don't plan more than you can do well, reserving enough time to look afte your stock at least twice every day. An old sow is kept through the winter at considerable expense for one special purpose, to raise a litter of pigs, and often she fails to do so because she was not housed and bedded properly. The owner knows that was the reason, and yet he will stand around and cuss his luck. Sometimes half of a herd of hogs are sick with cholera before the owner discovers it. Too late he rushes to give them the serum treatment and because they die he cusses the serum and says it is all a farce.

I don't want to be understood as encouraging idleness, and yet I believe every farmer ought to go to his home town as many Saturdays as he can spare from his business. Not to loaf, but to discuss farming and stock and prices, and for swapping of ideas and jokes, and for recreation.

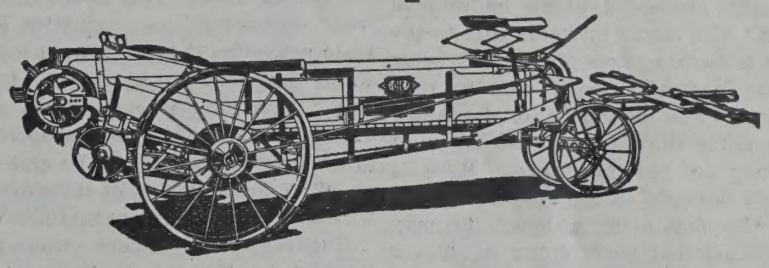
One of the greatest drawbacks to farming is high interest. We pay interest on too much property that is used only a small part of the year and we pay interest too long before we get a return. For instance, the money to raise a wheat crop draws interest nearly or quite a year before we sell the crop. Suppose you want to grow a herd of cows for breeding purposes and decide to start with heifer calves. The purchase money is tied up 18 months before they are old enough to breed and 15 more before your calves are old enough to wean and sell. Banks don't take these long loans. The same figuring applies to all farm animals. Except with hogs and sheep, the time is shorter. I bought some clover seed a few days ago and if I succeed in getting a stand it will be 18 months before I get any return.

I have been advocating that we feed our crops to stock. This spring, owing to the drouth, most of us will buy corn and hay to feed our work stock to raise a crop of corn, hire help to cultivate it and gather it. If we decide to feed it to stock next summer on grass, the return is at least 18 months off. The money in the majority of cases mentioned must be borrowed; besides, most farmers are in debt on the land on which the corn was raised. You can see that the interest will be pretty big by the time it is paid. It is this that keeps many men out of the stock business and especially young men. To pay interest on land, on implements, on work stock, on young growing stock, cuts a pretty big slice out of the profits.

I notice with a great deal of pleasure the effort the editor of The Missouri Farmer is making for cheaper and longer time money for Missouri farmers and to my mind this is an important thing to do. As I have said, banks do not like long loans and the farmer's business is such that he cannot work on short time money. I think it will be a great encouragement to young men to buy land and to handle stock if they can get cheaper and longer time money. I hope farmers will study this question and tell us what they think about it.

J. S. Bedford, Boone County.

International Harvester Manure Spreaders



YOU are interested in the results you get from a spreader, rather than in the features. Still, the only safe way to be sure of getting results is to know for yourself the purpose of every feature on the machine. I H C manure spreaders have all the important, necessary spreader features, therefore when you know I H C spreaders, you know them all. In a spreader you want a machine that will break up manure into small particles and spread it evenly and that, finally, will last long enough to pay for itself. You don't need a spreader to haul manure in, your wagon will do that.

Spreading manure is heavy work. To begin with, manure itself is heavy. It takes both power and strength to tear it up and scatter it. Power and strength require strong wheels and trucks, a stiff frame, heavy bearings. Your spreader then, had better be a little too heavy than a little too light. That little extra weight makes it stiff and strong, keeps the bearings in line, prevents warping and jamming of the apron, cuts out all necessary friction and wear, adds nothing to the draft of a loaded spreader, but adds years to the efficient life of the machine.

Don't wait until you are ready to buy, but begin now to study I H C spreaders. See the machines at the place of business of the I H C local dealer who handles them. Write to us for information that will help you to get the biggest value for your spreader money.

International Harvester Company of America
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CHICAGO USA
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THE MISSOURI FARMER

Devoted to Better Farming, Better Farm Homes and Better Citizenship.

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William Hirth - - - Publisher
Geo. B. Ellis - - Managing Editor

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The date on the address label gives month and year to which subscription is paid.

Agents Wanted. We want some one to represent us in every community and make up clubs for which we will pay liberal commissions. Write us for terms and sample copies.

We solicit communications from farmers and members of the family on timely and practical subjects. Photographs illustrating farm life or plans for buildings, live stock, etc., are appreciated.

To render service is our aim nad we will endeavor to answer all pertinent questions or have them answered by competent authority. When answer is desired direct, always enclose stamp.

Entered at the postoffice at Columbia, Missouri, as second-class mail matter.

DOUBLE TAXATION

Since the organization of this state we have suffered from a system of double taxation that has placed an extra burden on the debt-burdened citizen. The system we complain of is the one that seeks to tax about one-third of the real estate of Missouri twice while other property is taxed but once and much of it not at all. A man owns a farm worth $10,000 and owes a debt secured by mortgage for $5,000. He is taxed on the full value of the farm and the holder of the mortgage is taxed on one-half its value which he holds in the note secured by the mortgage. Numerous efforts have been made by legislators to remedy this injustice but they have usually proceeded along impractical lines. The man who holds title to the land must pay taxes on the full value of the farm and so he reasons it is nothing more than right for the fellow who holds the mortgage on the land to pay on the mortgage. Here is where the land owner is compelled to pay the double tax although he may not know that he is doing it. Taxes and other expenses are taken into consideration by money lenders just the same as they are considered in any line of business. If real estate mortgages more attractive to investors and Missouri that would make our mortgages more attractive to investors and thousands of dollars which now go out of the state to escape taxation would be loaned at home. The increased demand for our mortgages would have a tendency to lower rates of interest and the borrower would get his rebate on his double taxation in lower interest rates.

Land is valued for taxation at from one-fourth to one-fifth its marketable value. If a farm is assessed at one-fourth its value and the total rate of taxation is one and a half per cent that equals three-eighths per cent on the full value of the land. A $10,000-farm on that basis would be assessed at $2,500 and at one and a half rate for taxes would pay $37.50 to the tax collector. If the farm had a motgage of $5,000 against it and that much was charged to the mortgagee the farm's tax would of course be reduced one-half, or $18.75 yearly. This plan would be fair and just were it possible to find a successful way of collecting the other half off the money lender. No successful plan has ever been devised so far as we know to do this. But if we exempt the mortgages on the other hand and it results in a lower rate of interest, which there is every evidence to believe it would, then the borrower would save in interest more than he pays in taxes on what he does not own. In the above instance a reduction of one-half of one per cent in the interest rate would save him more than the taxes on the encumbered part of the farm.

We are not in favor of any man or class of men escaping their just share of taxation but we do think we can profit by studying the ordinary methods of business and determine just what is practicable as well as what is right. In our demand for lower interest rates on farm mortgages we believe one of the first steps we should take is to exempt real estate loans from all forms of taxation. This in the end will be in the interest of the borrower more than the lender.

—o—

FOR SHEEP PROTECTION

Not for a long time have there been so many bills introduced in the Legislature looking to the protection of our sheep industry as there have been proposed this session. There are a number of serious minded men in this Legislature who realize the great importance the sheep industry bears to the welfare of the state. It goes without saying that Missouri has equal advantages with that of any other state for profitable sheep husbandry. No class of animals except possibly dairy cows can be used to better advantage than sheep for the maintenance of soil fertility. Any man who will study our annual crop yields in Missouri in comparison with the best crop producing states will at once realize that something is wrong with our system of farming. There may be a profit in growing corn and wheat on our better class of lands but there is no profit in grain farming on millions of acres of our poorer lands. It is about time we were becoming less sensitive as to state pride and that we should look at these questions in a matter of fact way. If we have several million acres of land in Missouri not adapted to grain growing let us say so and look about to find a system of farming that will make these acres profitable.

Hundreds of farmers who have tried sheep farming in Missouri say they have found it profitable except for the loss from dogs. Many of them have gone out of the business on account of this loss and others have stayed out for the same cause. The man who owns a pig, a calf or a lamb must take care of it and keep it confined within his own fields under the stock laws of Missouri but the owner of a dog is a privileged character and may let the dog prowl at will day or night. If the members of the present Legislature want to do the state a real service they will at least put the dog owner under the same rules to take care of his dog that the owners of other useful stock must observe. We do not ask that the privilege of keeping a dog be taken from any one but we do think the owner of a dog should be required by law to keep his dog on his own farm.

—o—

SPRING WHEAT

We have had several inquiries recently asking if it is advisable to sow spring wheat in Missouri this season in view of the present high price of wheat? The Missouri Farmer urged its readers to sow as large an acreage as it was possible to sow in good condition last fall because we believed then and see no cause to change our view now that wheat must bring a good price until the close of the European war if not much longer. But we said then we would not sow wheat at all unless we could sow it in good condition. Now as to the advisability of sowing spring wheat because of present high prices let us say there is much greater risk of getting a good crop of spring wheat than of the winter variety. The last thirty years have seen the southern line of the spring wheat belt pushed gradually north by winter wheat and there are now hundreds of thousands of acres of winter wheat raised in Nebraska, Iowa and other northern states in place of spring wheat formerly raised. There must be a reason for this and there is. When winter wheat winters well it will out-yield the spring variety first, perhaps, because wheat fills better in cool weather, and ten days to two weeks difference in the latter half of June or fore part of July may make a lot of difference in temperature. Then this difference in time gives the chinch bugs and the rust a better chance to attack the spring wheat.

However if we happen to have a season altogether favorable spring wheat may do exceedingly well in the northern half of Missouri but we would suggest that the favorable condition is not very apt to come very often. So the man who sows spring wheat takes considerable chance. For sowing spring wheat we would prefer getting the seed from southern Iowa or Nebraska if we could not get it closer home. We would prepare the seed bed thoroughly using preferably fall plowed land or last year's corn land that was given clean cultivation. Spring breaking will require a great deal of work to get the fine compact seed bed that wheat needs. We would not risk broad cast seeding but would sow with a drill and would sow not less than one and a half bushels per acre. The spring wheat does not have time to tiller so much as winter wheat and hence should be sown a little thicker. Unless the land was in a high state of fertility we would sow about two hundred pounds of a high grade fertilizer with the wheat. One advantage of the fertilizer will be to hasten the ripening of the wheat and will reduce somewhat the danger from rust, bugs and hot weather. We would not risk sowing spring wheat unless it could be put in the ground early and when the soil was in good condition. Under such conditions if a farmer has more land than he wants to plant in corn or sow to oats he is not losing much to risk a field of spring wheat for if hot weather catches it he can mow it when in the milk stage and it will make him a fine lot of hay but for this purpose we would prefer a crop of oats.

—o—

Let us urge our readers that if they have not already done so that now is the proper time to test the seed corn. There will be several bad days between now and April 1 that you can not work out doors and you can make these days count for more than the best days if you will test out the seed corn and have it all ready to go into the planter box.

—o—

Let us again call your attention to what you may gain by treating your seed oats for smut. At a cost of fifty cents you can test enough seed for ten acres and it will increase your crop anywhere from 5 to 25 per cent.

WHAT WE ARE TRYING TO DO

The Missouri Farmer is trying as hard as it knows how to be more than just a passably good farm paper. What it is trying to do is to help YOU and those dear to you to get a little more out of life and to have a little more left to show for your toil and sweat at the end of the year. It doesn't make any difference how humble or commonplace that little home or farm of yours may be, we are interested in it and nothing will give us greater pleasure than to help you to the best of our ability—**if you will only give us the chance!** If there is something you are in doubt about—it matters not whether it is the growing of a certain kind of crop, soil fertility, pigs, dairy cows or chickens, write us fully and give us a chance to help. The moment your letter reaches this office it is passed on to Mr. Ellis, whose long years of practical experience and broad research make him one of the safest counselors on farm matters in the Country—and when he is in doubt about anything he refers it to an expert in Missouri's great Agricultural College which is only a few blocks away and in the following issue you will have your answer. It is this willingness to be of **personal service to you** that we wish to impress upon every reader.

In the meantime, we are doing our best to show you in every issue of the paper what other farmers have done to succeed and how they went about it —to carry their message straight to your fireside. Back of all this is not merely the desire to make the paper a success from a financial standpoint—something which is always difficult with a young publication—but the pride which comes from contributing our mite toward better farming methods and better farm homes in this great state.

And, as we toil along by your side we expect to take a moment off once in a while and, to the best of our humble ability, direct your gaze to some of the unseen stars which shine in the azure above your head and which perhaps in your fret and worry you have overlooked. If, by an appeal to the latent fire of enthusiasm which slumbers in your breast we can show you that there is gold enough lying around on that farm of yours to pay off the mortgage—if, by a word or line we can, in a kindly way, coax you to be more considerate of your loved ones who are happy at your smiles and who shrink from your frowns—if we can scatter a few of these sunbeams along the path as we go, won't that be worth while also?

If you like this kind of a farm paper—if you believe The Missouri Farmer really has a useful mission in this state—won't you send us a check or a dollar bill on an early mail and ask us to mark up your subscription for three years? Not long ago we sent a solicitor into a community where many of our readers were in arrears—and as he visited farm house after farm house at least seven out of ten farmers said, "Sure, I want the paper," etc.—and yet they had neglected to send their renewals to us direct while the sending of a solicitor is a very expensive proceedure. In a few weeks you will be busy in the fields and then you won't have time to think of these matters—so here goes a direct appeal to YOU? If your subscription is not paid in advance, I am going to ask you to send your check or a dollar bill so it will reach me on Thursday, February 25th. Of course, a day or two before or after will be alright—but on the above day I hope The Missouri Farmer may receive the greatest stack of renewals in its history—every penny of which will be applied toward making the paper better and more worth while. May I not count on YOU?

—The Author of After-Thoughts.

BUCKSHOT BY THE PROFESSOR

The farmer who treats his hogs like hogs hardly ever makes any money out of the hog business.

There are some farms on which an old rooster and a dozen hens produce more real revenue during the year than "the old man."

Some people seem to live to find fault and complain while others bear their trials and hardshrips in silence and scatter sunshine wherever they go.

I don't believe that any ordinarily intelligent ground hog left his warm hole on the second day of this month just to get a chance to look at his "shadder."

I know some politicians who have put in so much of their time listening to what the wild waves of public opinion are saying that their ears look like they belonged to the elephant family.

That Mexican business is getting on my nerves more and more. It's only a matter of time until Uncle Sam will have to cross the Rio Grande and teach the "greasers" a lesson that will last them a hundred years or so.

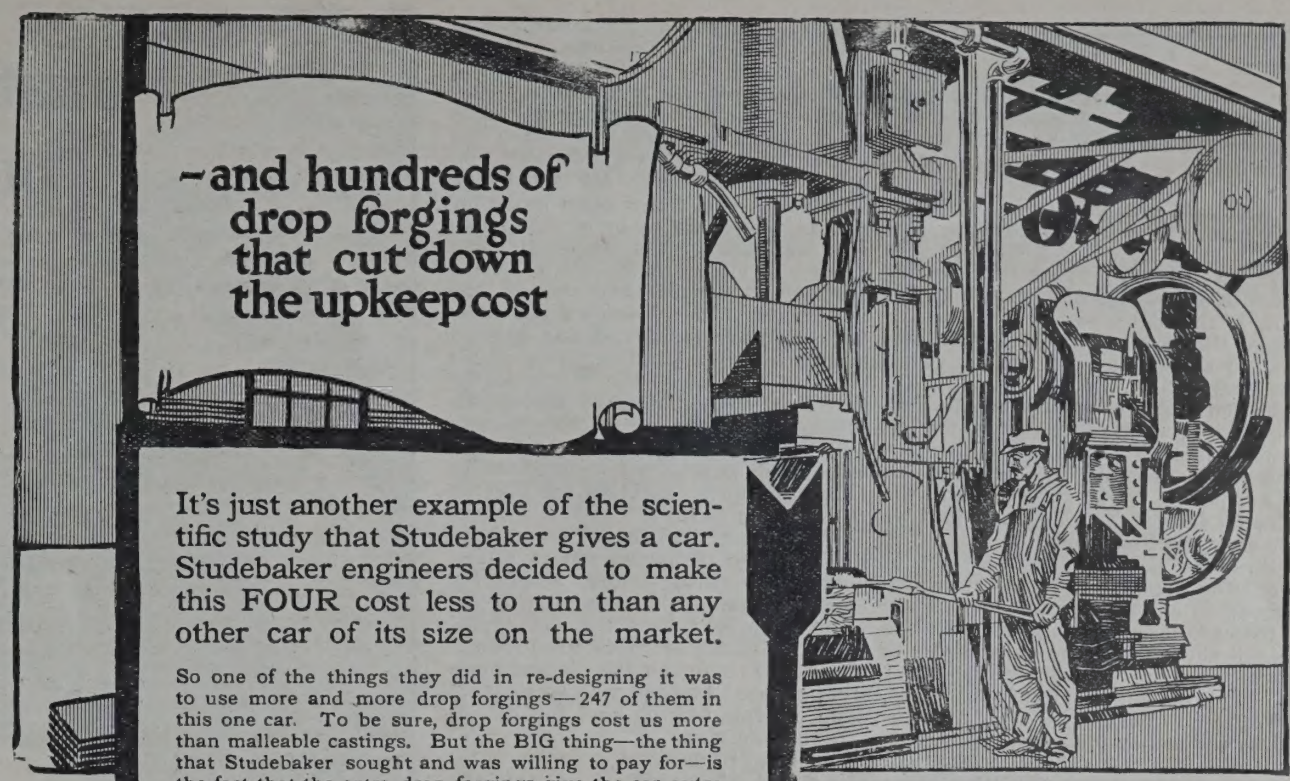
Ever since I can remember the politicians have been kicking up an awful fuss about things which they say are wrong—but isn't it funny how little they have accomplished toward putting an end to the things of which they complain?

I don't see much difference between the new democratic postmasters and their republican predecessors. They wear the same kind of an old necktie, celluloid collar, smoke the same brand of tobacco or stogies, all need a shave and a hair cut—and almost the last one of them is ugly enough to scare a baby half to death.

Some of these days we are going to have to find out a little more about the way the big Packers run their business —because to a man up a tree it looks as though they pay the farmer what they please for his cattle and hogs, regardless of the law of supply and demand. Some of these days there is going to be a powerful row along these lines. Mind what I tell you.

Our opinion of men and things is often formed from some particular experience we have had with them. We cuss the railroads because perhaps on some occasion in the past we had a row with a station agent. So we don't like the telephone company because the little girl operator was too busy chewing gum and reading a novel to get the number we wanted promptly. I had an old uncle once who hated a corn sheller like "pizen" because on one occasion he had gotten his whiskers mixed up in the fly wheel.

The other day the engine which was pulling the passenger train on which I happened to be riding broke down near the little town in which we did our trading when I was a boy on the farm. While they were waiting for a new engine I walked back to the station—and there in silence I viewed the dilapidated remains of what, 25 years ago, was one of the busiest little trading points in Missouri. Here, years ago, I sold rabbits for a nickel apiece and many is the load of corn and oats which I have hauled to the elevator which now is in the last stages of decay. Everywhere there was a look of desolation and hopelessness. There are no new buildings while the old ones present a tumble down appearance—all things speaking silently and yet eloquently on the decay of our country villages which I think is one of the burning problems of the time —and one which deserves much more attention than it has received.



—and hundreds of drop forgings that cut down the upkeep cost

It's just another example of the scientific study that Studebaker gives a car. Studebaker engineers decided to make this FOUR cost less to run than any other car of its size on the market.

So one of the things they did in re-designing it was to use more and more drop forgings—247 of them in this one car. To be sure, drop forgings cost us more than malleable castings. But the BIG thing—the thing that Studebaker sought and was willing to pay for—is the fact that the extra drop forgings give the car *extra* safety and *longer* life and *rigidity* that makes it EASIER riding—and at the same time, cut down its weight and its upkeep cost.

Of course, that policy of going to any manufacturing expense to make the car BETTER is only what you might expect in a car that Studebaker built. For you KNOW, as your fathers before you KNEW, the sterling integrity and high ideals that name of Studebaker stands for.

But you'll appreciate even more what that name of Studebaker stands for on a car when you see this FOUR at your local Studebaker dealer's—and see how convenience and SERVICE-giving quality have been built into every detail.

It's the ideal car for use on the country roads that Studebaker knows so well—EASY-riding and EASY to drive—handsome as any car you ever saw—and with POWER, lots of it, more than enough for any roads or any hills you'll ever face. And backed by a National Service organization so COMPLETE that wherever you drive, you are "never more than a town away from Studebaker Service."

Why not see this FOUR to-day—this FOUR that Studebaker built to stand the test of country roads? See it and drive it yourself—and judge how much you CAN get for $985

—because it's a

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Electric Lights
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Electric Lighting and Starting—FULL Floating Rear Axle—Timken Bearings—Safety Tread Rear Tires—One-man Type Top

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WHAT DRAINAGE HAS DONE FOR KNOX COUNTY

By request of a delegation of farmers, subscribers to The Missouri Farmer, I am writing a story of the Valley Drainage District, which was organized in Shelby County.

The ditch which starts on our place, the Farm of the Big Meadows, was recently investigated by a committee of farmers for the purpose of reporting back to a drainage district, which has not, to this date, gotten a decree. It seems they are meeting with the same hostile opposition—the history of all drainage enterprizes. I will not argue the ditch problem with the uninformed, as this is the class that advances impractical plans as against all science and experience. At this date ditching is a science. I will state some of the benefits derived from drainage that we are at present enjoying:

First, an increase in acreage of crops; an increase in the amount produced; an astonishing increase in the value of lands. Not only the price has raised, but demand has quickened and sales are more frequent. Instead of the lands having a speculative value, they are now considered a tangible asset by the money lenders.

All this has come about in less than two years. From a condition that promised to bankrupt its operators it now promises, under ordinary conditions, a paying investment. Many acres of corn sold this year from twenty and a half to thirty dollars per acre for standing corn.

The length of this article will not permit us to explain in detail many important truths that farmers and land owners should know, but one principle should never be forgotten: Trust in God and keep your soil dry. It will work just as well a dry year as a wet year, for the dry soil will absorb moisture of the air—the dew.

As this article is being written to give our experience in ditching, it will not be complete without a pen picture of the class that has ruthlessly and viciously robbed the land-owners and the State of Missouri of a splendid income.

The worst hindrance is the man who has bought large tracts for speculative purposes. He pays the tax on unimproved lands and expects to get his profit in the rise of value that is going to come about through the industry and perseverance of the man adjoining him. It is the old story of the unearned increment.

"Fine is the dance
And doubly sweet the lay:
That for the dear dance
Another pays."

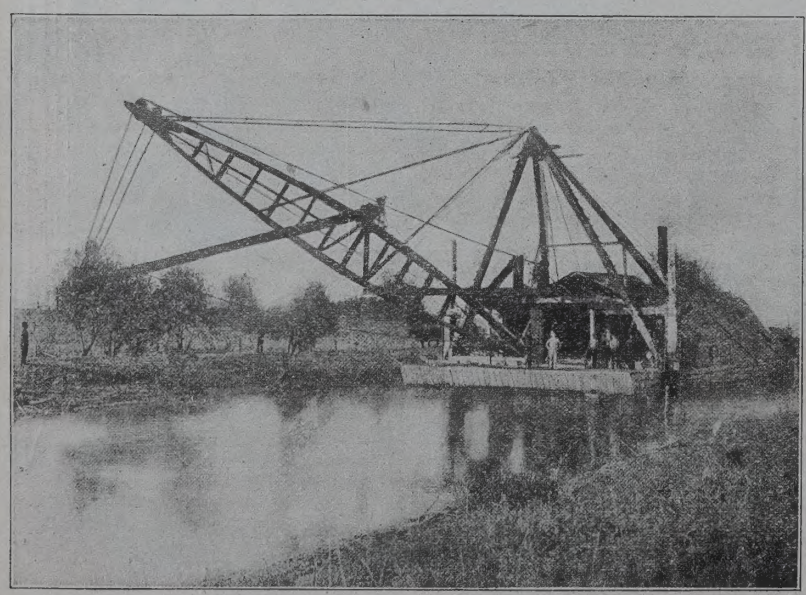
He fattens like a leech on the blood of others; or rides to the heights like a sparrow on an eagle's back. The next hindrance is the man encouraged by the demagogue politicians. His credulity preyed upon by the pettifog lawyer, who works him for a retaining fee, knowing that his client has no show. The next is a character that believes it is presumptuous for anyone to try to tell him a better way; and you insult his intelligence by presuming to teach him. He is the hardest of the lot to handle, because he is not receptive and declines to learn. As a rule, he is a cynic of the first order. He sees no good in anything or anybody and all men of vim are dishonest in his eyes. He sees the sinister in their motives. During the administration of a ditch enterprise this man will ride day and night to poison the minds of his neighbors. He will resort to untruth, calumny and distortion and is as cruel as a hog-louse that bites a hog on the back until it sheds tears, in order to get a drink. He is the man who will argue that a blind horse for farming purposes is better than one that can see, for the reason you can drive him closer to the ditch. He is the boy at school that cut off the wings of a butterfly, stuck a pin in its body to make it fly and was kept in after school for giggling. One of his plays is to increase the hatred of the lazy craw-fish artistocracy against his thrifty neighbor. He is the one who will juggle the present bottom land owner out of his land by frightening him with the prospective tax that he will have to pay.

The truth of the matter is you have the privilege of paying ten to fifteen dollars per acre, strung along for twenty years. This very act will develop your land from the raw unfinished material to finished product, which will command the highest price from a class of buyers who will appreciate the value of the land and its improved condition.

The story of developing twelve miles along Salt River bottom is, to the writer, a tragedy. Hearing of this wonderful valley he came to investigate its merits eighteen years ago and finding it in every way up to his expectations acquired a considerable tract at an average cost of about $20 per acre. Our intention was to develop the same at once, but all attempts to interest the adjoining land owners proved fruitless. We put in a system of shallow drainage that intercepted the hill water only; and made cuts through the short bend of the river—an expensive experiment and an entire failure. We found that the greatest hindrance to growing corn was the pressure water—that water which rises from fountains or springs and produces a water-level that is too close to the roots of the corn. This condition and the overflow was getting worse every year. Things were getting desperate. We were out of money and out of credit. The native population had no desire, or perhaps, no knowledge of how to develop their lands. They began to offer them at nominal price and the lands were picked up by experienced men who knew the science of ditching, for, at this date, ditching is a science.

Our thanks are due Messrs. L. D. Breedlove, F. W. Waters, Ed Roy, Dick Vickers and C. L. English, who came to our assistance, furnishing along with our own lands the majority of acres which made it possible to convert a desert valley into one that is now wide and fruitful. Our thanks are also due John H. Nolen, of the reclamation department of the State, for starting us right in ditches yet undug. We had many obstacles to surmount and many difficulties to ovecome.

On streams that the howling savage still controls, history waits. Why do weeds grow faster than corn? Ignorance spread faster than knowledge? Why the destiny of every race has been cut out by the sword is one of the problems yet to be solved. The owners of this swamp land, discouraged with depleted bank accounts, started to better their condititition. They met with hostile opposition that knew no limit; even down to the lowest treachery by persons entirely uninterested financially.



How the work is done—a big ditcher at work

Well, the ditch is finished. It is nearly twelve miles long and has increased to an average of sixty feet wide at the top. Its sides are clear from all rubbish and it is naturally eating itself to a size that will accommodate all overflows. Being dug in that natural groove between river and foothill causes it to dry up all spouty places, springs and pressure water. It has warmed the ground by drawing out of it the cold water. The air that rushed in when the water disappeared, has caused the earth to slacken, which makes the ground porous. The heat permeates it, resulting in the proper temperature to make the corn grow readily. The dryness of the soil absorbs the dew to almost a fourth of its weight. This same condition of the soil keeps away the frost by drying the air. Moisture likes a vacuum. We have gained close to two weeks in the fall and two weeks in the spring. Drainage has improved the quality of the land immeasureably. April planting has happened. Drainage has deepened the soil, causing it to resist the drouth. The water level being reduced the corn does not stand in the spring, but flourishes at the start. Drainage has raised the temperature of the land. It freezes deeper and thaws earlier. You cannot compare these swamp lands with the hill lands adjoining them or with the upland prairie. They belong to another class.

Sharpen your pencil and figure from an investment standpoint. An acre of ground that will raise forty bushels of corn—and this is conservative, for we have raised 80 to 100—forty bushels sold at fifty cents per bushel is five per cent on four hundred dollars.

Young man, if your father has gotten into a rut, take the matter up, yourself. Consider that the 40 or 60 acres down there in the bottom can be made to produce or earn interest on from two to four hundred dollars per acre. This is no guess work. It is a matter of history backed by the best business men. Some of the men are too selfish to tell you to get in. Keep in mind that the branch bottoms in all countries are the last to be developed. It has been the history of the world. The reasons are natural enough. It requires more labor and capital. The neighborhoods have to act in concert, with the co-operation of the State. At this writing we believe the good State of Missouri has furnished us the best law in the world. As a matter of flattery to the farmer, will say that the finest points of the law were originated and suggested by farmers.

We are not going to forget to thank The Missouri Farmer and the press in general, for its advocacy of all good reclamation schemes.

If you want to go over the entire property, which includes ten thousand acres or more, come to the Farm of the Big Meadows. We will show you that we have sold the highest priced lowlands, considering the distance from a railroad, that has ever been sold in Shelby county, $125 per acre, subject to all ditch tax. We will be able to substantiate all we have claimed.

There are thousands upon thousands of acres of river bottom land that can be brought up by proper drainage to a degree of merit that will make them

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Just like raising bumper crops

Every man who *packs* Prince Albert tobacco into his old jimmy pipe gets back 100% pleasure and satisfaction. Sort of like getting bumper crops!

Prince Albert certainly will give you more happiness than any tobacco you can smoke, because it not only has a remarkable flavor and aroma, but it is made by an exclusive patented process that *cuts out the bite!*

PRINCE ALBERT

the national joy smoke

will surely revolutionize *your* pipe-smoke notions.

And Prince Albert is just as joyous, just as sunshiny, rolled into a home-built cigarette as in a pipe.

Invest ten cents for a tin and *know for yourself* how good Prince Albert really is.

Sold everywhere in toppy red bags, 5c; tidy red tins, 10c; also in pound and half-pound tin humidors and in handsome crystal-glass pound humidors with the sponge in the top that always will keep your supply of P. A. delightfully fresh.

R. J. REYNOLDS TOBACCO CO.
Winston-Salem, N. C.

bring equally as much as similar lands in other states. It is erronous to compare bottom lands with soil from three to six feet deep, with hill lands in the same neighborhood. The time is fast coming when there will be a difference in selling price of from one to four hundred per cent.

Land must be figured on a rental or income basis. If the side hills or uplands do not make the interest charge, they are too high. If the lowlands are producing an income to exceed what they cost, they are too low.

In answer to some questions: Our district has a fund that was left over and is now on interest, same to be used for maintaining, repairing, etc. The average cost on the first district was $13.05, second district a little more. Some lands, not subject to the worst overflow, were assessed very low; also the high timber lands, close to the bank, were not given the full penalty.

Good judgment and fairness have prevailed all through the administation and construction. The ditch was dug for much less than the estimates. It is not the first ditch ever dug. Hezekiah also stopped the upper water course of Gihon and brought it straight down to the west side of the City of David. And Hezekiah prospered in all his works.

Henry Funk,
Farm of the Big Meadows,
Clarence, Mo.

OUR INSECT PESTS AND THE WINTER TIME

Nineteen Hundred and Fourteen was a memorable year from the standpoint of the number of insect pests doing damage to the crops and pastures of Saline County. Figuring very conservative damage percentages, and more conservative than most farmers would be inclined to figure them, the army worm, Hessian fly and chinch bug easily damaged pasture, hay, wheat and corn to the extent of $700,000 in Saline County alone. This leaves out of consideration grasshoppers, which were unusually bad, the grass web worm, the corn ear worms, the wheat louse, the clover weevil, the corn bill bug, the corn root louse, the melon aphis, the striped potato beetle, the codling moth, the San Jose scale and the cabbage worm, every one of which did damage. Some of these latter ones even did more damage than was thought. The appearance of the San Jose scale is a real calamity from the standpoint of the orchardist. There are few commercial orchards in the county, but the scale is present in one of the largest of them, and this will mean special spraying in order to control the pest. The myriads of white cabbage worm moths seemed to be rather harmless, but some rape patches were observed in late summer which had been ruined by them. The wormy corn has had a bad influence on the live stock of the country and may have increased the cholera fatality (it does not cause cholera) and caused some loss of horses. On the whole, the things that crawl and creep doubtless did destruction in Saline to the amount of a million dollars at the lowest estimate.

Some visitor to the Farm Bureau office called 1914 the year of seven scourges, and he enumerated them in the following order as nearly as we can remember: 1. The Hessian fly; 2. The army worm; 3, The drouth; 4. The chinch bug; 5. The wind and hail storms that laid the corn upon the ground and damaged the crop; 6. Foot and mouth disease which upset the markets; 7, Hog cholera, which has been unusually prevalent. Perhaps some one could add a few to this, and at least give the unsettling influence of the European war a place, but it sounds better to say "Seven Scourges", so we will add no more.

Just what a severe winter will offer in the way of relief from the various insects is a matter of interest.

First, in the case of the army worm, little can be told. That insect is dependent upon favorable conditions at the time when it usually comes out. It is in the pupal stage in the ground at the present time and will doubtless survive the winter there, but that may not mean that we will have army worms next year. In the first place, the pupal army worms in the grass meadows now are the grand children rather than the children of the horde that was here in the spring of 1914. There were very few of the second crop seen and there is an interesting fact in connection with this, too. Those numerous worms in the spring were, if conditions favored it, to pass through a pupal stage into a moth stage. These were to lay eggs which would bring a second crop of worms late in July. The moths were here all right in such numbers as to cause alarm although they were out of hiding only at twilight time. The eggs from these worms, if there were eggs, never hatched or at least never brought our second crop of worms. The few that there were left the seed for next year's crop. There are seldom two bad broods of these pests in a season and there is no reason to expect them next year more than we have usually expected them.

It is another case with the Hessian fly. It now rests in many wheat fields in the flax seed stage in which it is very resistent to winter conditions. The flax seed is not an egg but a pupa into which stage the cutting worm passed last fall. The fly seemed to be in nearly all the volunteer wheat and in the early fall sown wheat. We have even had reports that it was present in some of the very late wheat although we have not seen it there. If it is there it means that owing to the continued warm weather in the fall, some of the flax seeds which usually remain in that state over winter hatched out a late bood of flies. If so, it was the early sown wheat that made the second brood possible.

To the question of present control of this insect, there is only the answer that it is now too late. Of course, for the protection of uninfested fields, infested fields could be plowed up, but there is no likelihood of such a thing being done. Every one would prefer now to run the risk of some weather condition unfavorable to the fly at hatching time coming along to save the day. Everything indicates that it will only by some such favor on the part of spring weather that will save us from another Hessian fly loss in 1915. If it comes, it is likely that voluntary committees of farmers will have reached the point next fall of waiting upon neighbors who want to sow wheat early and asking them, for the sake of thousands of dollars' worth of wheat, to refrain from doing so.

The chinch bug presents still another case. He is at present a life-sized, full grown bug, just like he was last seen when he fell out of the corn husks and stalks that he had been sapping the vitality from. He has hunted the best protection that the corn shocks, hedge fences, and fence corners will provide. The winter will kill the chinch bug if he is disturbed in his winter quarters. A chinch bug clean up week might save the county thousands of dollars. It merely means cleaning up all such places as those mentioned.

In this connection the hedge fence always comes up for consideration. This way-side shrubbery has a mighty hard time to justify its existence any way. It harbors insects; it cuts the yields of many acres of corn which it shades and robs of moisture; it makes blind corners that favor collisions and runaways and possibly deaths; it shades roads and makes them muddy in the spring; untrimmed as the hedge is ordinarily, it is a blot upon the landscape. In the light of these facts, why the hedge fence? A clean up of the hedge fence and chinch bug together would be a good thing.

Paul V. Maris,
Farm Adviser of Saline County.

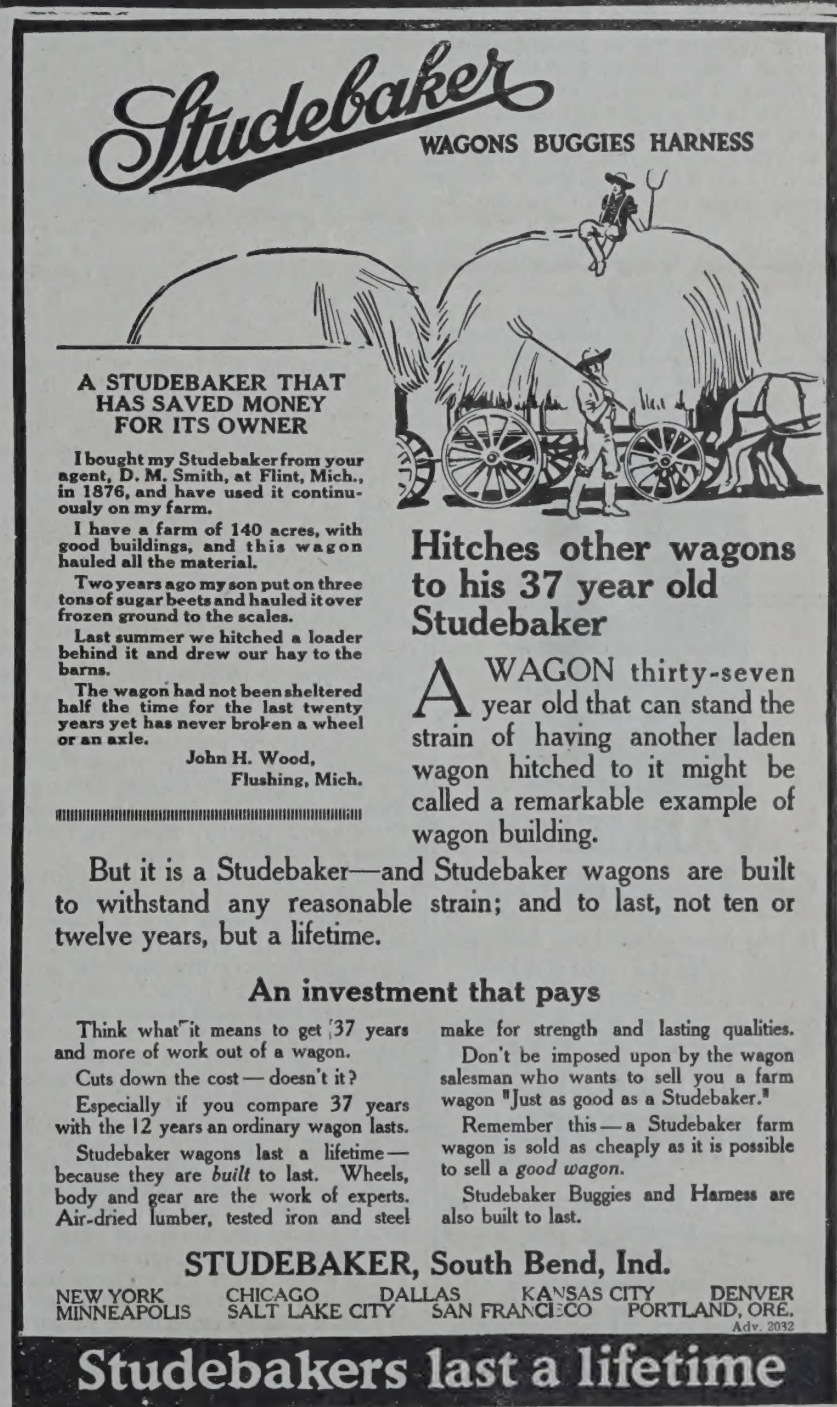
SWAT THE HOG LOUSE

At this time of the year the hog raiser cannot afford to overlook the louse question in his herd. Hogs that are lousy do not make profitable gains. The louse is a blood sucker and therefore weakens the hog and renders it more susceptible to disease. During spring and summer a mud wallow with a little oil on the surface of the water affords the hog one means of combating the louse, and during the warmer months the dipping tank is efficient, but with the advent of winter both these means are practically out of the question, and then some other plan must be adopted.

There are at present a number of different kinds of patent hog oilers on the market that are proving very satisfactory adjuncts to the hog yard. They are all designed to apply crude oil, the most satisfactory louse-killer, to the hog. Some of them serve as a rubbing post and as the hog rubs against the post oil is applied to the point of contact—which by the way, is usually where the louse is. The oil spreads once it reaches the body and is death to both the louse and the nit.

These oilers are very simple in construction, do not get out of order, will last a life time and are not expensive. They can be moved about from place to place. Hogs and even small pigs learn how to operate them very quickly. If your herd is troubled with lice we would suggest that you investigate this proposition.

R. P. Royce.



FARM MANAGEMENT PAGE

D. H. Doane, University of Missouri

"Help me to see a potential friend in every man I meet."

Though philosophers fail, love will teach us that great motto: "Live in the present moment." Only by speaking the present word softly, thinking the present thought kindly, and doing the present act gently, may we make today bright with the light of that perfect future of which we dream, and make that perfect future real through the life of today.—Ella Wallace Wells.

Nearly every season sees one best time for doing each field operation. The man who wins is the one who is prepared to take advantage of that particular time.

Boys and girls planning to undertake club work in the form of corn growing, tomato growing or other activities that take the full year, should have plans pretty definitely made by this time. The one who wins is the one who puts brain with muscle. Now is the time to use the brain part.

Do You Remember Pat?

He is the little fellow that brought the speaker a peach up at Mr. Gartin's a year or so ago. I drove by his home not long ago and saw him out in the field some distance from the road, near enough, however, that we could wave. This is a story that another told me on that occasion.

Due partly to Pat's influence there were soybeans on the farm this past year. Pat watched this crop jealously throughout the whole season, noting every detail of the preparation of the seedbed and putting in the crop. When cultivating time came Pat thought that it was not being done right and he tola his father so, as he was doing the work. The father naturally rather tersely attempted to brush the boy aside, but he persisted. "I'll tell you, dad, the professor said soybeans should be cultivated so and so, and I know we've got to do it that way. I can prove it by what he wrote on the subject and I will go to the house and get the paper and show you." Arguments did not seem to avail in this case and so off went Pat to the house, brought the paper to the field and produced the written evidence. Pat has the spirit of the Farm Management Page—"Do." The soybean crop was a success.

A New Farm Management Bulletin

Mr. O. R. Johnson and W. E. Foard, members of the Farm Management Department here, have recently published a bulletin on "Land Tenure." It is the result of a farm management investigation in western Johnson County and shows some very interesting and helpful facts in reference to the landlord and tenant situation.

For example, it shows that the average labor income for all the farmers of the community was $422. The average for the tenant was $501 and for the owner $314. This means that the average farm owner of this community has left only $314 for his labor at the end of the year.

Another interesting item has to do with the value of an education. In considering the difference in labor income made by the farm owners who had more than a district school education as compared with those who have just a district school education, it was found that the difference amounted to $616 a year. The difference in the case of the tenant was $304. This would indicate that an owner could afford to invest $12,000 in an eduaction and at 6 per cent it would return him a profit. Yes, an education does pay.

There are many more interesting and helpful points that every eader of The Missouri Farmer will get from this bulletin. Write to the College of Agriculture and say that you want Bulletin No. 121.

Sheep Feeding and Farm Management

This seems to be the proper time to tell of our results with sheep feeding and for that reason we are devoting most of our page this time to this subject.

The Missouri Farm Management Association members have closed another year of successful feeding of western lambs. The plan or system followed is practically the same in all cases and is one that was planned and organized some five or six years ago. It is a composite of the most successful principles and practices of sheep feeding that exist on the farms of successful feeders throughout the Middle West. It is adapted to the man who has had little or no experience and is willing to follow closely, definite suggestions and instructions. One of its chief features is the fact that it adapts itself to such a great variety of farm conditions, and with a little peparation can be worked in on most any Middle West farm where there is as much as twenty acres of corn.

It would seem that now is the time to tell the results of last year and speak plainly in reference to the necessary preparation for the coming year. We cannot expect good results if we make our plans for feeding next September or October, when the time for purchasing the feeders is at hand. The successful feeder makes preparations **now.** Briefly, these are the necessary preliminary steps.

At corn planting time cowpeas should be planted with the corn in the hill. This is done with a cowpea attachment to the planter. Planters that have satisfactory attachments are the Black Hawk and John Deere. Others may also have good attachments, but I do not happen to be familiar with them. The peas are planted at the rate of about eight or ten pounds to the acre, about three peas to two grains of corn. It is not wise to have a greater proportion of peas to corn than the amount mentioned. If the seed is inferior, plant more but be sure that the growth will not exceed three pea vines to two stalks of corn. The best varieties of cowpeas that we have found in the order named are: Blacks, Clays, Red Rippers and Whippoorwills. We have had no experience in putting the peas in listed corn and I am not prepared to make suggestions in reference to this method. The peas can be planted just as successfully, however, with drilled corn as checked. With the planter I have mentioned the peas are planted right up in the hill and do not in any way interfere with the cultivating of the corn.

In addition to the peas in the corn there should be provided about one-tenth of an acre of rape for every acre of corn and cowpeas. The rape should be put by itself in the same field with the corn or nearby. It should be drilled in rows in the spring at the rate of about four pounds to the acre. It is customary to broadcast rape, but this method of seeding is not dependable. The rape is used to finish off the lambs after the first early frost, and I count it one of the most essential parts of a successful feeding plan.

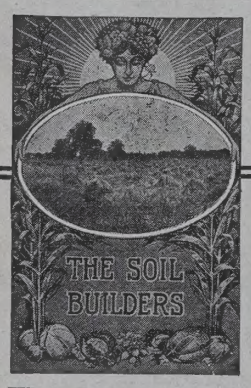
The lambs are purchased during September or October and are first turned into the corn and cowpea field. They should weigh around fifty-five pounds and be free from wrinkles. As soon as they reach the farm they should be turned onto a comparatively short pasture and left there until they get well filled. After this they may be turned into the corn and cowpeas and allowed to remain there for two or three hours the first day and then turn back in the pasture. Turn them onto the corn and cowpeas again the second day and allow them to stay a little longer, gradually increasing until they finally get on full feed. This should take from two to three weeks, and as soon as they are eating the cowpeas readily they should be left in the field all the time. Water should be hauled to them in barrels or tanks if it is not possible for them to drink from a stream or pond. It is advisable to count the lambs in and out of the field frequently so that close observation may be kept in the way they are going onto the feed and to note whether any of them are getting off or not.

When the first frost comes any remaining cowpeas will be killed and then the lambs will have to be finished on the rape. If the frost should be an early one, it will come before the lambs are finished and a change from the green cowpeas to any harvested feed is almost sure to bring about a setback. Consequently, it is necessary to have other green feed ready for them and this need is filled by rape. They are turned onto this feed and allowed to consume the rape, and it should furnish them pasture during an ordinary season for about twenty to thirty days. This will finish them and get them in sufficient condition to top the market, if other factors are up to standard.

It is advisable to allow the lambs to gradually work onto the rape before the cowpeas are completely consumed. This brings about the change in a less abrupt form.

The question that naturally comes up at this time is in reference to whether the lambs eat the corn or not. Under ordinary conditions they do not. Western lambs are unfamiliar with grain and unless the corn is down very badly or they run out of undergrowth feed, they will not bother the grain to any extent. Ordinarily, a deck of lambs will not eat more than five or ten bushels of grain.

If it is possible to speak of average or expected results, the following might be given. In a forty-acre field where there is a good growth of cowpeas and sufficient rape to finish on, there should be enough undergrowth to fatten a double deck—300 to 325 lambs. A feeding period lasts from sixty to ninety days, and a fair gain is from sixteen to twenty-four pounds. Buying price varies from five and one-half to seven cents and selling price is generally from one to two cents above purchase price. A fair profit is about one dollar per head net. From the following figures some actual results for this year may be gathered.



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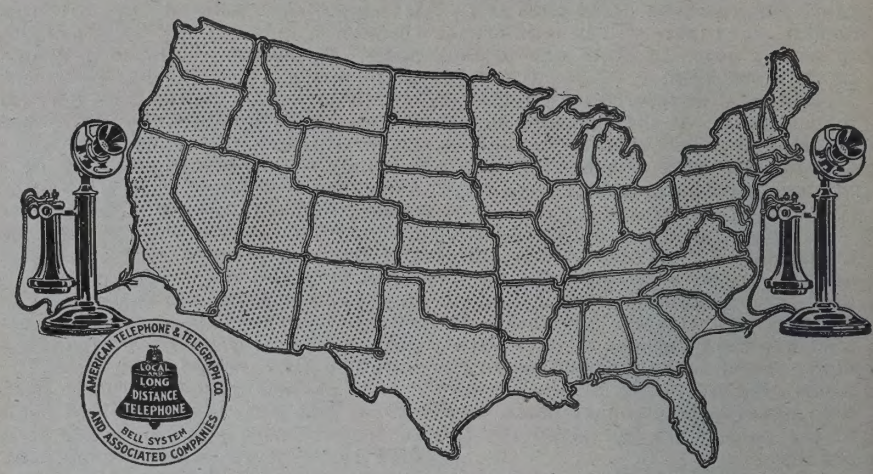
The Telephone Unites the Nation



AT this time, our country looms large on the world horizon as an example of the popular faith in the underlying principles of the republic.

We are truly one people in all that the forefathers, in their most exalted moments, meant by that phrase.

In making us a homogeneous people, the railroad, the telegraph and the telephone have been important factors. They have facilitated communication and intervisiting, bringing us closer together, giving us a better understanding and promoting more intimate relations.

The telephone has played its part as the situation has required. That it should have been planned for its present usefulness is as wonderful as that the vision of the forefathers should have beheld the nation as it is today.

At first, the telephone was the voice of the community. As the population increased and its interests grew more varied, the larger task of the telephone was to connect the communities and keep all the people in touch, regardless of local conditions or distance.

The need that the service should be universal was just as great as that there should be a common language. This need defined the duty of the Bell System.

Inspired by this need and repeatedly aided by new inventions and improvements, the Bell System has become the welder of the nation. It has made the continent a community.

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It might be well to add here that Farm Management Association people have fed lambs for four or five years and there has been but one of these men who has had previous experience. In no instance have any of our men lost money and this in the face of severe losses by some very experienced feeders following other methods.

It is probably best to mention that in the last two or three years there have been indications of a disease supposed to be "big head" that has attacked some flocks of sheep soon after they were landed on the farm. These attacks have been most disastrous and have resulted in some very serious losses. The trouble is probably one that originated on the range but came to its culmination on the farm of the feeders. The system of feeding has had nothing whatever to do with it and it may attack any bunch of sheep at any time. Its occurence is quite rare, but in fairness to those contemplating feeding, these points should be mentioned.

A few specific instances telling of just how the men handled their sheep individually, might be interesting.

This year Mr. Hall bought a single deck rather early. After getting them home they started to die. He shipped them out as soon as possible, but lost about $300 on the deal. Soon after this I went to his farm and we had a long talk about the whole matter. He was very much discouraged. He had an excellent amount of undergrowth on the farm, the best that he had ever had. The lambs that he had had seemed to be the best that had ever been shipped him, and it seemed that fate had struck at a most inopportune time. I believe he even had visions of some means of travel between town and home other than the old gray horse and buggy, but it now appeared that the vision of profit was turned into a most severe loss. It was a pretty hard thing to make suggestions. However, this was our final conclusion. There was the best amount of feed on the place that had ever been produced there. If the feed was not consumed the present loss was bound to be registered at the end of the year. There was an opportunity to get it back in the same way that it was lost, and so the final conclusion was "Try it again, just twice as heavy."

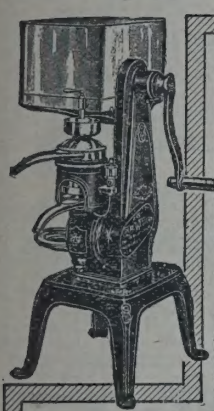
A few weeks later a neighbor saw Mr. Hall driving two decks of lambs out to his home and he held up his hands in horors and exclaimed, "Man, it must be you are crazy." "Well," Mr. Hall replied, "If I lost my knife out in the horse lot, I wouldn't go to the yard to hunt for it." Less than fifty days after the second lot of sheep was purchased one deck was shipped back and they netted nearly $2 a head, which cleared up the loss on the deck that was purchased early in the season. Eighty days later the second deck was shipped and a net of a little over a dollar a head was realized, which brought the profit on feeding lambs up to the normal expectation for the year. It always takes feed, it always takes good care, good judgment is a requirement and in some cases a big supply of **nerve** is required, to successfully feed sheep.

Mr. Todd heard of the sheep feeding plans at Farmers' Week a year ago. This year when someone was talking about going to Farmers' Week he said, "Well, I am going back because Farmers' Week last year meant a clean thousand dollars to me and what's more, I have it in the bank to prove it." That is his result from his first experience in feeding lambs under the Farm Management plan.

Mr. Beazly records his first experience with a profit of $258 on a single deck of 160 lambs.

Mr. Gartin had some bad results and lost some lambs from what he thought was the big head. He shipped them to market and the commission man told him that they were not ready and to take them back and continue to feed them. This he did and the final results show a very handsome profit.

I think all of our readers will agree that the Farm Management plan for feeding lambs has justified our Farm Management work, if nothing more ever comes from what has been undertaken. We surely hope that we can be of continued assistance to our friends and that the circle of those who may profit will grow larger.



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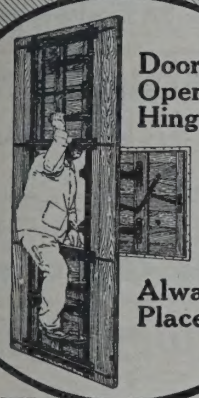

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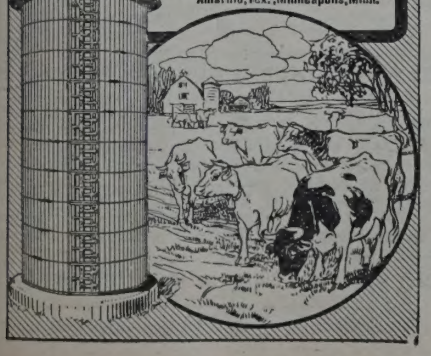

Increases Value of Horses & Mules

It makes them **fresh and full of life and vigor to clip them in the spring** before the work begins. When the heavy winter coat that holds the wet sweat and dirt is removed they get more good from their feed, are healthier and work better. They are more easily kept clean and their improved appearance greatly **adds to their selling price.** It also pays to **clip the flanks and udders of your cows — you get clean milk,** free from impurities that can't be strained out.

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The Government this year is asking farmers to put increased acreage into grain. Military service is not compulsory in Canada but there is a great demand for farm labor to replace the many young men who have volunteered for service. The climate is healthful and agreeable, railway facilities excellent, good schools and churches convenient. Write for literature and particulars as to reduced railway rates to Superintendent Immigration, Ottawa, Canada, or to

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Rural Social Centers

We need social centers where our young people can be entertained, amused and instructed under the direction of cultured, clean and competent leadership, where aesthetic surroundings stir the love for the beautiful, where art charges the atmosphere with inspiration and power, and innocent amusements instruct and brighten their lives.

To hold our young people on the farm we must make farm life more attractive, as well as the business of farming more remunerative. The school house should be the social unit, properly equipped for nourishing and building character, so that the lives of our people can properly function around it and become supplied with the necessary elemets of human thought and activity. Peter Radford,
Lecturer National Farmers' Union.

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RESULTS OF FARM MANAGEMENT ASSOCIATION LAMB FEEDING (1914)

	Total no. purchased	Avg. wt. a head	Avg. cost at cwt.	Av. no. days on feed	No. acres cowpeas in corn fed	Other feeds	Av. wt. at selling time on market
Todd	658	54 lbs.	$6.75	52	120 A	None	67 lbs.
Davis	250	57	6.80	66	26 A	15 bu. corn	65
						4 acres rape	76
Gartin	350	52	6.75	70	70 A	100 bu. corn	66
						30 bu. corn	71
Wehrman	150	58	6.80	60	60 A	None	80
Hall	131	60	6.75	46	45 A	45 bu. corn	70
Hall	127	60	6.75	83	45 A	145 bu. corn	78
Beasley	160	59	6.80	46	56 A	35 bu. corn	68
R. A. Harriman	149	53	6.70	54	20 A	None	64
R. S. Harriman	140	54	6.75	50	50 A	11 acres rape	
Total	2115			498	492 A	370 bu. corn	
Average		56 1-3	$6.76	55 1-3	1-4 acres per head	1-10 bu. corn per head	70

	Avg. selling price	Total cost of selling	Total number lambs lost	Avg. net profit a lamb	Total invest. including all costs	Total gross recepits	Total net recepits	Interest on investment for period
Todd	$8.65	$133.00	18	$1.52	$2635.00	$3674	$1012	38%
Davis	8.85	37.35	3	1.08	524.00	645	120	23%
	8.00	39.15	2	1.31	646.00	822	176	27%
Gartin	8.85	58.33	4	1.47	595.00	879	284	48%
	9.10	24.05		2.03	902.00	1207	304	33%
Wehrman	8.35	00.00*	3	2.25	642.00	983	341	53%
Hall	8.30	00.00*	0	1.83	587.00	827	240	40%
Hall	8.50	42.00	1	1.15	694.00	838	144	25%
Beazley	9.00	40.30	2	1.63	755.00	1013	258.47	35%
R. A. Harriman	9.15	42.10	2	2.11	610.00	925.34	314.57	50%
R. S. Harriman	8.75	64.00	0	1.47	578.00	784.00	206.00	35%
Total		480.28	35		9168.00	12597.34	3400.04	
Average	8.68	22c per head	4	1.62				37% for 2 months or 222% per year

*Sold on track

BOWSHER Feed Mills

Crush ear corn (with or without shucks) and **grind** all kinds of small grain and **head kaffir.**

Stock Thrive Best on Ground Feed

Bowsher Mills are differently constructed from others. **Light running**—handy to operate. In 10 sizes from 2 to 25 H. P. Sold with or without elevator. We also make Sweep Grinders. Write today.

FREE *Catalog and folder on values of feeds and manures.*

T. B. BOWSHER CO.
South Bend, Ind.

When writing advertiser please mentioned The Missouri Farmer.

ADVANTAGES OF THE POULTRY BUSINESS

The poultry business has several great advantages. One advantage is that it can be conducted in a modest way in the back yard of the city dweller or on a large farm, where many hundreds, even thousands of fowls may be hatched, reared, and prepared for market, either as broilers or matured stock. Women, too, have proven themselves quite as able and successful as men, both rearing chickens in the ordinary way, or by the use of incubators and brooders. I know of people who have sold 200 and 300 dollars' worth of eggs and poultry raised on the back half of a city lot in one year. Not only one year but year after year in succession. Every time the hen cackles she is singing praises to the great poultry industry, and the proud American eagle will have to take off its hat to the hen.

Nine out of ten flocks of poultry are lousey. Perhaps that's the reason you are getting no eggs. Catch your hens, examine them carefully around the vent in the fluff. The chances are you will find them there. Then get busy with a good lice powder—getting the powder well down to the skin. A lousey hen can't produce many eggs. Do not dip your fowls in a stock dip, they may catch cold and die and then you won't have any fowl to dip.

If you have the "chicken fever," do not try to cure it with aconite but better get an incubator or a dozen pullets.

Experience has taught us that business is good when you advertise for it. If you have surplus cockerels, pullets or eggs for sale, try an ad in The Missouri Farmer poultry column.

The Missouri Farmer is willing and anxious to help its readers raise more and better poultry. If you have any poultry problems to solve let us know what they are and they will be answered through the columns of this paper.

Let us help you build your poultry house or repair the old one. We may help you to know how to keep your poultry house in a clean, healthy, sanitary conditions; how to keep your old hens from getting too fat; how to mate your pens for best results; how to feed baby chicks; how to raise every duckling; how to make ducks lay in winter; how to keep your eggs from spoiling in hot weather.

The more questions you ask the better we will know you are interested in poultry.

There are instances known where people have ordered incubators and brooders and then absolutely ignored the manufacturers' instructions as to their operation. Few, if any, incubator instruction books are written without giving reliable and valuable information on all phases of poultry raising, from the egg to the dressed fowl for table or market. Nor is this special information a matter of guess work? It all means a great deal more profitable results from the poultry yard. To study it diligently with a view to using it, brings more profit than to criticise it as being of little importance. No class of business men in the country have spent more money for postage stamps, stationery and other things for writing letters to give practical and helpful information than the incubator manufacturers, and they have been doing it on a slim margin of profit on their goods. If the poultry industry of today is on a profitable basis, these manufacturers have contributed largely to that end.

The cleaner the hen house, the healthier the hens and the more eggs they will lay.

It is true that the busy man always has time to do one thing more.

Keep the ice out of the drinking vessels. You are not drinking much ice tea yourself now days, are you?

If an incubator does not hatch as large a percentage of chickens as hens, it's your fault, not the machine's fault.

Fowls are like people in some erspects—they need a variety of diet.

Poultry is one of the farmer's best crops.

Put sage in the dressing and common sense in your poultry work.

If you want a pocket of money out of the 1915 poultry business, get busy and stay busy.

Sell just what you advertise, live up to every statement made and an honest mistake is easily adjusted.

Sunflower seed is more than 90% waste matter. Why do you want it in your hen feed, when it has practically no food value. E. L. Andrews,

Queen Poultry Yards, Maryville, Mo.

YOU SHOULD START RIGHT

This is one of the most important seasons of the year in the poultry yard for it is during this season that the flock should be renewed. Much of your success next year depends upon the flock you raise this year. A little care now in selecting, mating, incubating, and brooding, will do much towards making an active, healthy, vigorous, profitable flock.

Upon placing a male with hens which have not had a male with them, the eggs become fertile in about three days and remain fertile for fifteen to twenty days after the male has been removed.

Feeding the growing pullets a moistened mash to hasten growth. Missouri Poultry Experiment Station, Mountain Grove, T. E. Quisenberry, Director

If the eggs are infertile the birds should be examined. Collections of louse eggs on the base of feathers or the accumulation of droppings on the feathers about the vent, often prevent the proper communication between male and female.

An 80% fertility and 80% of the fertile eggs hatching is considered a reasonable hatch. This means 64 chicks out of 100 eggs set or about 10 chicks out of a sitting of 15 eggs.

If the eggs are to be held before sitting, they should be kept at a temperature of from 40 to 60 degrees and should be kept covered so the albumen will not evaporate.

When the chick comes out of the shell it is made out of the albumen or white of the egg and has used little or none of the yolk. If the albumen has evaporated too much, there is not enough material to build a chick large and strong enough to get out of the shell. This is one of the causes for chicks dying in the shell. This evaporation may take place either before or during incubation.

Early hatched pullets mature and begin to lay before winter begins. They make good winter layers and are good breeders the following spring while the late hatched pullets do not lay before spring and if used in the breeding yard, produce a low per cent of chicks which are small and weak.

It is advisable also to rear the entire flock as near the same time as possible, for in flocks where there are chicks of all ages, the youngest ones seldom amount to anything. Then, too, if they are all reared in one brood, it takes only a short time till the chicks are large enough that they need very little attention. On many farms only a small number is hatched at a time, requiring almost the entire summer of work and worry to renew the flock.

The indications are that the present Egg Laying Contest is going to be one of the most interesting and instructive contests ever held, owing to the fact that the birds were raised under practically the same climatic conditions.

The race so far is very even. The leading pens for the three months of November, December and January as well as the leading pens and hens for January, are scattered among the many varieties. The all-purpose breeds receive a large per cent of the honors.

	Eggs
Buff Wyandottes, Missouri	182
Buff Orpingtons, J. W. Jackson, Paris, Missouri	177
Barred P. Rocks, E. B. Evans, Mountain Grove, Missouri	176
Barred P. Rocks, Missouri	176
S. C. Reds, W. R. Kendall, Independence, Mo.	171
S. C. W. Leghorns, Mrs. R. L. Tigginbotham, Ashley, Mo.	168
S. C. W. Leghorns, Missouri	168
S. C. W. Leghorns, Missouri	168
Black Langshans, Ed Floyd, Mountain Grove, Mo.	167
Buff P. Rocks, Missouri	163

Each pen contains five hens. The five Barred Plymouth Rock hens in pen 34 laid 9½ dozen eggs in the 31 days in January, or almost two dozen each.

Following is the record made by the ten highest pens for the month of January:

Barred Rocks, Missouri	144
Buff Orpington, Missouri	100
Buff Orpingtons, J. W. Jackson, Paris, Mo.	100
S. C. W. Leghorns, Missouri	95
S. C. W. Leghorns, Mrs. R. L. Higginbotham, Ashley, Mo.	90
S. C. Reds, W. A. Magruder, Whiteside, Mo.	88
S. C. Reds, W. R. Kendall, Independence, Mo.	86
White Orpingtons, W. R. Kendall, Independence, Mo.	83
Buff Wyandottes, C. H. Rogers, Eagleville, Mo.	79
S. C. W. Leghorns, Missouri	76

The ten highest hens for the three months are as follows:

S. C. W. Leghorn, Mrs. R. L. Higginbotham, Ashley, Mo.	70
S. C. W. Leghorn, Missouri	56
Black Langshan, Ed. Floyd, Jr., Mt. Grove, Mo.	54
White Rock, Missouri	51
Buff Rock, Missouri	46
Barred Rock, E. B. Evans, Mtn. Grove, Mo.	46
Black Langshan, Ed Floyd, Jr., Mtn. Grove, Mo.	45
Buff Orpington, J. W. Jackson, Paris, Mo.	44
Buff Orpington, J. W. Jackson, Paris, Mo.	43
Barred Rock, Missouri	42
White Orpington, W. R Kendall, Independence, Mo.	42

EGGS FOR NEXT FALL

The Department of Agriculture, in a bulletin issued recently, says that if the farmer wishes to benefit by the high prices that eggs are certain to bring next fall and winter, he should begin to get ready for them at once, say the poultry specialists in the department. The way to have eggs late in the year is to hatch pullets early. It is the early hatches from which the early pullets are derived that are the largest money makers for the poultry producer. The early hatched cockerels can be marketed in almost any market in America when they attain a weight of three-fourths of a pound to a pound and a half each, which they should reach at about six to ten weeks of age, respectively, at a greater profit to the producer than at any other time of their lives. The early hatched pullets, if properly grown, should begin to lay in the fall at the time when eggs are scarce and high in price. Pullets must be well matured before they will lay many eggs. Pullets that start to lay in the fall before cold weather sets in will, as a rule, lay all winter. It is the early hatched pullets that produce eggs in the fall and early winter, when prices are high.

February, March, and April are the months to do your hatching in order to secure early hatched pullets.

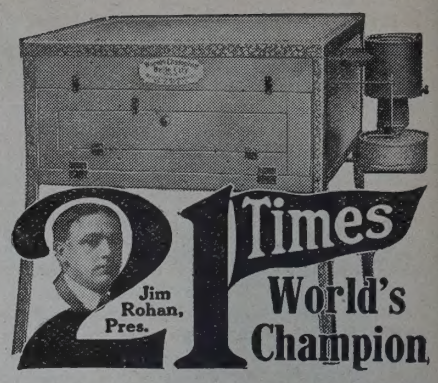
Yearling and two-year-old hens do not lay many eggs in the fall, as they are molting at that time, and the feed they consume goes not only to keep up the energy and life of the birds but also put on or grow a new coat of feathers.

In properly matured pullets all surplus energy beyond that needed to meet the requirements of the body is available for the production of eggs.

Wholesome Mush.

Mr. After-Thoughts Man:

The way we feel about the cover page "mush," is that it is not only palatable, but 100% nutritious, furnishing growth of soul and mind, and what helps these finer elements of our nature must help the mortal body. "Toward the Cross" was a sermon in itself. One of our most intellectual women, a teacher and church worker for years, called me up to say how fine it seemed to her. So you know how two women feel, and I know her judgment is good. Mrs. J. O. Johnston.



Get the whole story of the Belle City's World's Championship Hatches in my great Free Book "Hatching Facts." The winners of the 21 World's Championship Hatches tell the story of their money-making, prize-winning success in their own words, with their

21 Times World's Champion Belle City

besides giving you full information, facts, proofs, about these wonderful hatching machines. 327,000 in use.

Write for "Hatching Facts" Today—A Postal Brings It

It tells everything Illustrates the Belle City Incubator and Brooder in actual colors—shows what makes the Belle City the 21 Times World's Champion—gives facts about hatching success, bigger and better than you have ever heard of before. Book gives my **$800 Gold Offers.**

These offers open the way for you to greatly increase your poultry profits this season. Book gives full particulars of my 1-2-3 months' Home Test Plan, my 10 year money back guaranty, and my low prices—*Freight prepaid*—will surprise you. Write today to Jim Rohan, Pres.

BELLE CITY INCUBATOR CO., Box 166, Racine, Wis.

BIG HATCHES!

On One Gallon of Oil—One Filling of Tank!

RAYO Incubators produce higher average hatches because center heat insures even temperature. Hinged glass top puts eggs, thermometer and all in plain sight, saving labor. Oil tank needs but one filling for entire hatch. Flame regulator saves 3 to 6 gals. oil every hatch. Hatching chart and money making book on request. Write for them and new catalog.

Rayo Incubator Co., U.D. Sta 5160 Omaha, Neb.

TRY CHOLERINE

For Sick Poultry

Your money back if it does not give satisfaction. Dealers generally.

50c for a big bottle

GERMO MFG. CO., St. Louis, Mo.

Factory Agent

For

OLD TRUSTY INCUBATORS

Delivered to your station, freight paid

100 to 120 Size.....$ 9.80
150 to 175 Size..... 13.00
200 to 240 Size..... 17.50

Best hot water machine made. 500,000 of them in the hands of satisfied users. Prompt shipments.

E. L. ANDREWS, Agent

Maryville, Mo.

FAWN AND WHITE INDIAN RUNNER DUCKS

Most profitable of fowls. Healthy, fast maturing, steady layers, require little attention, and the birds I offer are specially bred for these good points. Have never been beaten in show room. Prize stock is dependable stock—it is good to start with and a good performance may be counted on, with reasonably good attention. Write to me—I'll be glad to tell you more good points about Indian Runner Ducks and quote prices on them. Also have Golden Laced, Silver Laced and White Wyandottes—blue-ribbon winners wherever shown.

E. G. LIMERICK, Route 3, Columbia, Mo. 'Phone 10-Y

MISSOURI HOME MAKERS' CONFERENCE.

This Department is Edited by Miss Alice Kinney, New Franklin, Mo.

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[The editor of The Missouri Farmer is impressed with the value of well directed club work among country women and we hope to have the support of every club organized in the state. We would suggest that the officers of these local clubs at once get in correspondence with Miss Alice Kinney, the Editress of this department and give her a report of any good work the local club is doing. There are now probably more than one hundred clubs organized in the state and what a great force for good these clubs will become when they are all working together for one good purpose.—The Editor The Missouri Farmer]

Greetings From Our President

To the Homemakers, the country women's clubs and farm women of Missouri:

As the new president of the Missouri Homemakers' Conference I extend to you greetings. While I greatly appreciate the kind spirit that prompted the action that made me your president, it is with reluctance I take up this great work that lies before me knowing as I do that "while the spirit is willing the flesh is weak" and it will require much hard work to make the coming year what it should be.

As a real country woman, a farmer's wife and a mother, I have at heart the interest and welfare of every farm woman and child in the state and hope with your co-operation and by our united efforts, we may accomplish much toward the betterment and uplift of rural conditions.

We have come to realize that unless our homes are made more attractive and better educational advantages are offered we need not expect to keep our boys and girls on the farm.

This uplift must come primarily through the mother, for the father is kept busy providing for the family, so it is she who moulds the plastic minds and guides the little feet, who prepares their food and makes their clothing.

The country clubs for farm women are the first steps toward this uplift; it is at these meetings we get a broader view of life and outside of our own little horizon we find so much that is worth while.

The woman has at last come into her own, the eyes of the world are upon her who has been and is the mother of so many of our greatest men and women. As the doors of opportunity swing back let us enter in and partake of every good thing in store for us.

It is my desire to get in touch with every club in the state so that we may co-operate and help each other. We are formulating plans and lines of work that we hope will be of benefit to every community and I shall be pleased to receive communications from each and every club in the state.

Mrs. Harry Sneed, Sedalia, Mo.
Meadow Lawn Farm, R. F. D. 1.

Report of Chairman of Poultry Department.

The object in forming poultry clubs is to give better knowledge relative to the importance of the poultry industry; to acquaint the contestants with better methods of handling poultry; to furnish profitable employment during spare time, and to stimulate better interest in poultry culture.

The Plan of the Contest.

The contest may be divided into:

1. The contestant is to care for laying hens or pullets for a period of one year.
2. The contestant is to keep records showing the feed cost, egg production and amount of feed per hen.

This is not to be an egg laying contest, but rather a contest in poultry management. To make a contest simply egg laying would severely handicap some of the members; to make it a contest of poultry management enables the contestant to be judged rather than the stock which he is keeping.

The contest is to begin January, 1915, and end January, 1916.

The contestant is to have not less than six hens, and it is not advisable to have over fifty. The contestant having a larger number will not be debarred, but will be working under greater difficulties—their reports will be greatly appreciated.

Fowls may be of any breed.

No particular kind of house is necessary. The house must be of sufficient size, clean, dry, well ventilated, well lighted and conveniently arranged.

Blanks for making records will be sent out by the College of Agriculture free of charge.

The judging will be by comparison, taking into consideration the following schedule of points: For each section in the schedule of points the best will be graded full and the remainder will be graded according.

The schedule of points will be as follows:

1. Record keeping.....40 points
2. Housing .....20 points
3. Management .....40 points
   1. Methods of feeding....15 points
   2. Handling of eggs.....15 points
      1. Frequency of gathering 5 pts.
      2. Frequency of marketing 4 pts.
      3. Size of eggs..... 2 pts.
      4 Method of marketing... 4 pts.
   3. Egg yield .....5 points
   4. Management of yards, cleanliness of yard and house .....5 points

Mrs. R. Lee Alford, chairman Poultry Dept. of Missouri Home-Makers' Association, Vandalia,Mo.

This is a department from which we have every right to expect great results, for most women of towns and farms are actively engaged in poultry raising.

Through this contest we hope to locate many of our women who are so successfully developing fine strains of all the pure breeds according to their own methods of selection and system of feeding.

All questions of care and feed will be ably answered by experts who are willing to give their valuable assistance to the interest of this department.

We shall be glad to have all enter at once and now is the season to make the trial.

Report of the Rural Improvement Club of Henry County.

By Miss Jessie Ellis Holland, read by Miss Adella Blew before the annual state meeting of the Home Makers' Conference, held in Columbia, Farmers' Week.

During the two previous sessions of this conference, I have come to you as a representative of that well-known rural club—The Country Culture Club of Hudson in (Bates County). This time, however, it is my pleasant task to tell you something about the Country Culture Club's baby—The Rural Home Improvement Club of the Mount Hope community of Henry County, and of what it has been doing since its organization. The inspiration and enthusiasm which we imbibed during the last

Golden and Silver Campines (Kennedy Strain), Eggs $5 for 15. Barred Plymouth Rock Eggs $2 for 15. Geo. Boettler, St. Peters, Mo. 2154

Single Comb White Leghorns. Great winter egg layers. A red stamp brings photographs. 30 eggs carefully packed $2; 15, $1.25. W. C. Carver, Vandalia, Mo. 2156

Eggs for Hatching, Barred Plymouth Rock and Single Comb Rhode Island Reds, 75 cents for 15, $4 for 100. Rock Cave Poultry Farm, Augusta, Mo. 2151

Fine Mammoth Bronze Turkeys for Sale. Prices reasonable. Nettie Lee Davis, Bellfeview Farm, Hume, Mo. 2151

Fine Single Comb White Leghorn Cockerels, $1 each. Armstrong Bros., Arthur, Mo. 2152

Indian Runner Ducks, White and Fawn. Eggs $1 for 15. Ruth Marksbury, Marshall, Mo. 216

Fawn and White Indian Runner Ducks, White Orpington Cockerels. Extra qualtiy, reasonable prices. Fred A. Foote, Hollister, Mo. 21tf

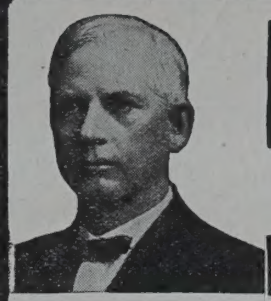
Big Barred Rock Cockerels.—25 tops, May hatched, splendid quality, weight 8 to 10 lbs. $3 to $5 each. Obadiah Prettyman, Fairfax, Mo. 1154

Barred Plymouth Rocks, Thompson Ringlet Strain, fine cockerels, priced to sell. Pen eggs $2 for 15, utility flock eggs $5 per 100. A. F. Skiefer, Defiance, Mo. 1156

For Sale—Single Comb White Orpington Cockerels, English strain. Prices very reasonable. Write E. L. Andrews, Maryville, Mo. 115tf

White Wyandotte Cockerels, extra good, $5. If not as represented, return bird and get your money. Eggs for hatching $3 for 15. Isham Boulware, Centralia, Mo. 216

White Holland Turkeys. Prices free. Grace Garnett, Marion, Mo. 212



Frank Hammond, President

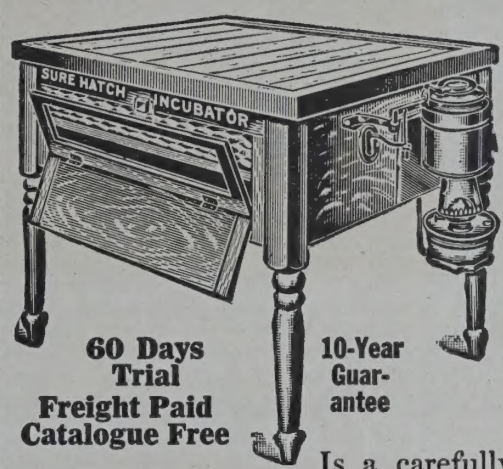
Right Now!

The Best Time to Make Money in Poultry

Thousands of tons of meat products are going across the ocean to feed the hungry people of war-stricken Europe. This may continue for several years, and it is easy to see what the effect will be in this country on the supply and prices of meat.

At no time has the promise of profit in Poultry been so sure as now; and no business offers such quick and large returns on a small investment.

***Even if eggs bring high prices in the winter months,* it will pay you much better to turn them into early friers and broilers or laying hens, because chickens grow up on the kitchen and farm wastes in a short time and with little labor.**



Sure Hatch

The Reliable Cold Weather Hatcher

60 Days Trial Freight Paid Catalogue Free

10-Year Guarantee

Is a carefully-built, high-quality machine with a 17-year record of success on thousands of farms.

Its copper hot water heating system, double walls, perfect insulation and automatic heat regulator, will keep the right hatching conditions in any climate, winter or summer—even in a room so cold that water freezes in the drip cup on the side of the machine.

This makes it possible for you to hatch chicks in winter, and with the aid of the Sure Hatch Brooder, bring them to market size early in spring when prices are highest. A single hatch will pay for the machine several times over.

Beginners succeed with the Sure Hatch because it is self-regulating and so well built that it cannot get out of order. There are today thousands of women and children who are helping the family income with a Sure Hatch and who never used an incubator until they bought the Sure Hatch. They are all enthusiastic about their machines and would not bother with hens, which are slow, unreliable, troublesome, and lose a big percentage of the chicks they hatch. THEY PREFER THE SURE HATCH INCUBATOR, because it's easy to manage, economical and successful.

Mrs. Jas. C. Reid of Blunt, S. D., got $63.00 worth of chickens from one hatch. Mrs. Susie McClellan of Litchfield, Neb., cleared $130.71 in one year on a 150-egg Sure Hatch. Our free catalogue gives the experiences of many women. Write for it.

We help you to succeed. Besides sending you full directions for operating the machine, we also send you free with the machine our Uncle Sam Poultry Book, the only book printed that tells how to succeed with poultry, based on official reports by U. S. Government Experts.

We will send your Sure Hatch the day we receive your order — freight paid on 60 days' trial, and under our 10-year guarantee.

You can depend upon fair treatment from us. The thousands of Sure Hatch users who have dealt with us for years testify to our square dealing.

Our Free Catalog which we are anxious to send you merely for the asking, tells all about every part of the Sure Hatch, by words and pictures, so you will know exactly what kind of a machine you will get when the Sure Hatch reaches you.

Don't Delay Get your Sure Hatch started in time to make money the coming Spring. Write a letter or drop us a postal, and will send you our Big Free Illustrated Catalog by return mail.

Sure Hatch Incubator Co.
Box 49 Fremont, Nebr.

Low Price of the Sure Hatch

You cannot afford to waste your time and money with a machine that will not hatch or which will produce weak chicks that cannot live—no matter how low the price. Such a machine is costly at any price. An up-to-date factory producing 100,000 machines a year, we are able to build a high-class machine at a low selling price.

Don't think that our prices are high because we talk about quality. They are not high. They are low, and you will wonder how we can sell them at the prices we do.

Now, don't forget that we want you to send at once for our free book which tells you all about the Sure Hatch machines, and gives you a lot of good suggestions on buying and operating an incubator as well as running the chicken business.

The Sure Hatch Brooder

Takes Better Care of Chicks Than the Hen

The hen is not a good mother as a rule. She loses from 25 to 50 per cent of her brood, before they get to the age when they can care for themselves — from rats, cats, dogs, hogs, vermin, and disease caused by being chilled.

The Sure Hatch Brooder protects the tender young chicks from all these dangers. It is automatically ventilated, maintains the proper temperature at all times. It is strongly built, durable, and costs so little that you cannot afford to do without it.

session of the Home Makers' Conference were such that when we returned home we were more impressed than ever before of the great need of a better social life in our home neghborhood.

Co-incident with this feeling, was the urgent idea kept before us by one of our most earnest workers—that the time was ripe for effecting an organization to put our enthusiasm into action. Acting upon her suggestion, we notified every girl and woman as far as possible in our community that we would meet in a centrally located home on February 10, 1914, for the purpose of organizing a rural woman's club.

Imagine the cheerful response of twenty-nine women at this meeting, and everyone placed her name on the club roster for membership, and two mothers, who were detained at home, sent in their names.

An election of officers immediately followed with a general discussion of plans for our initial year's work. Committees were named at this session to prepare constitution and by-laws for our organization and also the monthly programs for the entire year, which was published in a year-book for the convenience of members. At the first regular session our club was christened The Rual Home Improvement Club. And I would like to say that if you could see the willing effort our women have put forth to better community conditions, you would feel as I do, that they are earnestly striving to personally realize the full meaning of our adopted motto: "The best of myself for the best of others."

We have now held twelve regular meetings and feel that our work of home and community improvement has scarcely begun. At our second session it was decided that a community Sunday school was one of our greatest needs and plans were laid to organize one, which was done on April 5. The building and church lawn being in neglected condition, the men and boys of the community were invited to the church on the afternoon of April 3 to clean the lawn of the rank growth of sprouts and erect hitching racks, while the women and girls gave the building a thorough cleaning. Since then we have had a good, live Sunday School, the record of which shows an average attendance of almost fifty, and good Children's Day and Christmas programs were carried out under the supervision of an able superintendent.

On May 23, the club members and their families enjoyed a day's outing and fishing party which proved to be an event of delight and pleasure to everyone present. The next special feature of our work was a sane Fourth of July picnic to which we invited the Montrose Commercial Club, (this is our trading center about four miles from the church), The Camp Fire Girls, The Young People's Branch of the W. C. T. U. of the same town and all the neighboring country clubs. Two prominent speakers were on the program and each made an excellent address. A good crowd was present and partook of the bountiful feast, which was served to all at the noon hour.

Our club received first premium on the best collection of ten pieces of fancy work exhibited at the Appleton City Street Fair held in August.

It was our pleasure at our regular October meeting to have as our guests, Miss Louise Stanley of the Home Economics Department of the University, also Mrs. Harry Sneed and Mrs. Stevens, president and secretary of that well-known Home Makers' Club of Pettis County. Delightful and interesting talks were made by each, our only regret being that their time with us was necessarily so limited. On the evening of October 21, Miss Frances Catron, a well-known reader and impersonator, gave one of her pleasing entertainments to a good house, at Mount Hope church under the auspices of the club. Not only did we enjoy having a first-class entertainment right at home, but a neat little sum was added to the club treasury as well. In August the club members assisted the Sunday School in giving an ice cream social on the church lawn, the proceeds of which were to be used in placing a new organ in the church building.

On the evening of November 28 a reception was given the members of the club families and a few invited guests. A short program was rendered, followed by the serving of refreshments. On January 6, the club women served lunch at a public sale in the community and thereby added $17.50 to the club treasury. The club and Sunday School have appointed a purchasing committee for the new organ and in a very short time enough money to install a first-class instrument will be in the hands of the committee. Plans ae being laid to have the church building painted in the spring and as soon as the new organ is installed, our finances will be directed to this need.

You see we have done no great things but the little things when taken as a whole, have added a great deal to the welfare of our community. We are better acquainted with our friends and neighbors, our vision is broader, and not the least feature is the newly awakened community interest and pride which has long been dormant, and our outlook for furthering the community's welfare the coming year is very encouraging.

(We hope that every woman who reads the above will catch the inspiration and want to start a community center, for what these women have done others can do; tell us of your efforts, either as an organized club or how you solved your local problems so quietly, we need your methods to help others and broaden our own.—A. K.)

Prizes for Canned Vegetables

Mr. and Mrs. J. Ed Hall of Lamonte, Mo., are offering through the Missouri Homemakers' Conference, a $10 trophy or cash, to the young woman in the state who will most successfully can six jars of different vegetables in pint jars, these cans to be exhibited and scored at the January, 1916, Conference. This is the most liberal offer for culinary product that we have ever seen and fortunate is the young woman who wins it. This offer seems especially to appeal to those young people who have passed beyond the school club—and while the dream home of every normal woman is still in the future—why not improve the present, which is ever full of time and oppotunity, to get the proper training while near mother. We shall be glad to hear from all who are interested and wish to enter this contest; it is full time to start your seeds.

The following vegetables are possible to have on your table the year 'round and yet not have to purchase them from the grocer: Peas, Beans, Spinach, Swiss Chard, or any wild green, Asparagus, Corn, Tomatoes, Summer Squash, Egg Plant, Lima Beans, Okra, Beets, Cauliflower and Carrots.

WARNING AGAINST CANCER

"The only reliable cure for cancer," says the American Society for the control of Cancer, "is its early and complete removal." The Minnesota Public Health Association is campaigning against cancer and Dr. W. H. Hill, the executive secretary will gladly aid any one in doubt by advice or explanation. So important is the subject that the town council of Portsmouth, England, requires the publication monthly of the following information in the local press:

"1. Cancer, in its early and curable stage gives rise to no pain or symptoms of ill health whatever.

"2. In case of any swelling occuring in the breast of a woman over 40 years of age a physician should at once be consulted.

"3. Any bleeding, however trivial, occuring after the change of life, means almost invariably cancer, and cancer which is then curable. If neglected until pain occurs it means cancer which is almost invariably incurable.

"4. Any irregular bleeding occuring at the change of life should invariably be submitted to a physician's investigation. In a large number of cases it means commencing cancer.

"5. Any wart or sore occuring on the lower lip of a man after 45 years of age is almost certainly cancer. If removed at once the cure is certain, if neglected the result is generally fatal.

"6. Any sore or swelling occuring on the tongue or inside of the mouth in a man after 45 years of age should be submitted to investigation without a moment's delay, and the decision at once arrived at by an expert microscopical examination whether it is cancer or not.

"7. Any bleeding occuring from the bowel after 45 years of age, commonly supposed by the public to be 'piles,' should be submitted to investigation at once. A large proportion of such cases are cancer, which at this stage is perfectly curable.

"8. When warts, moles or other growths on the skin are exposed to constant irritation they should be immediately removed. A large number of them, if neglected, terminate in cancer.

"9. Avoid irritation of the tongue and cheeks by broken jagged teeth, and of the lower lip by clay pipes. Many of these irritations, if neglected, terminate in cancer."

Cancer attacks rich and poor, educated and ignorant, careful and careless. Of people over 40, one-eighth among women, one-fourteenth among men, die of cancer. Early operation saves 85 per cent, late 33 per cent, very late, hardly any.

LIGHT, COOK, IRON, WITH GAS

Mrs. Housewife:

Sit down now and just drop us a little note asking that we send you FREE our profusely illustrated booklet telling all about "Gas" and how easily it can be installed in your home.

This booklet starts off by mentioning some of the inconveniences experienced in homes without gas. Then it tells the conveniences of having gas. How every room can be instantly and brightly lighted. How there is no trouble attached to it at all. How a gas range is used in the kitchen instead of a coal or wood range. How gas irons are used for ironing. And how gas contrivances of all kinds lessen labor and save time. After it has covered these subjects very interestingly and fully it says:

"And Why Don't You Mrs. Housewife Have Gas in Your Home"

You can now. There has been a machine invented and patented that enables you to make your own gas even cheaper than "City Folks" buy it. And the gas you make will do everything city gas will do. That machine is the

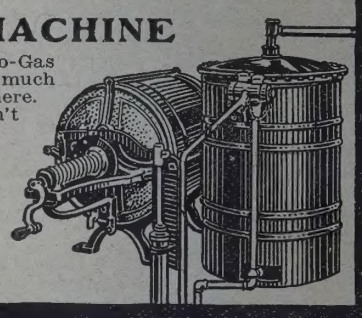
AERO-GAS MACHINE

Our booklet tells all about the Aero-Gas Machine. But this booklet says so much that we can't begin to outline it here. Why not send for it now. It won't cost you a penny and doesn't obligate you to anything.

Send for that FREE BOOKLET NOW. PLEASE. Address,

St. Louis Aero-Gas Machine Co.

517-519 North 2nd St., St. Louis, Mo.



LET THE BABY CLIMB

Babies and young children tend naturally to practice all those activities that are necessary to the best development of muscles, ligaments and bones. If opportunity is given them and they are permitted to follow their instincts, they will secure in nearly every case full and complete development of the strength, the form and the use of all the fundamental organs and tissues. But—few parents are willing to follow nature's guidance here. We permit our adult desires and fears to govern our control of the child's activities and we over-stimulate some activities and endeavor to prevent others. This is notably true with regard to walking and climbing. The former we encourage and promote in every possible way; the latter we discourage and prevent.

With few exceptions, every child will walk, and that without parental urging or teaching, when his muscular and nervous system has reached the proper stage of development. More injury is done to feet, ankles and knees by over-stimulating children to walk too soon, than by any other cause. This is also a contributing factor in developing adnormalities of the spine, by placing too much strain upon the unsupported back muscles and ligaments before they are sufficiently developed.

Directly associated with this practice is that of discouraging and preventing the child from climbing—"for fear he will fall and hurt himself." Here we take counsel of our fears rather than our reason and do the child an irreparable injury. All children tend to climb before they attempt to walk and, if permitted and opportunity is furnished, are able to climb freely and without fear by the end of the first year. Climbing up and down stairs is a source of unending interest and supreme joy by this time, a great pleasure denied to the child living in the modern tenement or apartment house.

Walking alone is exceedingly limited before the first part of the second year, and steady equilibrium is not acquired much before the eighteenth month, while at that time the child that is not prevented will climb into ordinary chairs and in high chair without assistance. Before the end of the second year ladders are climbed without fear and by the end of the third year tree climbing is acquired.

George W. Ehler,
University of Wisconsin.

A DAMPER ON DISCIPLINE

"Where's that child?" I said, an' went
An' cut a long beech gad an' trum
Branche off, an' rally meant
T' tan his jacket when he come—
Tan it right!—an' learn him not
T' gallivant through all outdoors
'Specially when he knows he's got
T' get the cows an' do the chores.

"Where's that boy?" I says, an' ast
The naybors folks, a'thinkin' they
Might o' seen him goin' past.
An' hailed him when he run away;
Nary hide ner hair they'd seen
No more'n me!—an' law, I stretched
Fingers 'round that limber green
Beech gad o' mine untwell they etched!

"Where's that child?" I ast, an' got
A leetle trimbly, I expeck,
Thinkin' mebbe like as not
He'd fell some-eres an' bruk his neck!
Hunted through the loft an' out
Behind the barn an' down the run,
Places yunguns think about
An' head for when they look for fun.

"Where's my boy?" I whinned an' then
As if in answer there he come
Down the pastcher lane again
An' headin' straight for us an' home—

Steppin' high an' straight an sta'nch
And proud as Grant, as like as not—
An' draggin' from a willer branch
The first horndays he ever caught!

"Where you been?" I says, an' looks
Right in his eyes an' there I saw
Pitchers of the fields an' brooks
An' things a yungun loves! My law,
All my temper left my head.
I throwed that beech gad good an' strong!—
'Stead o' what I'd planned, I said:
'Why don't y' take your pa along?' "

—John D. Wells.

ONE BOY'S SUCCESS

The boy who gets his mind set on growing the best corn in the county or the finest colt or the fattest pig is not going to be led into bad company and bad habits by the idler and loafer who has no particular ambition or aim in life. The picture in this column is that of Oscar Linhart, the champion boy corn grower of southeast Missouri for 1914 who grew 84 bushels and 45 pounds of St. Charles white corn on one acre of land and that in spite of the fact there was no rain on the corn from the time it was planted until in August. About the only remarkable thing about this boy's success is that he won, because aside from using good seed corn and selecting a good piece of land to start with there was nothing unusual in Oscar Linhart's methods of planting and cultivation. But the fact remains that this boy is well started on the road to a successful business career. He has demonstrated to himself and to others that a boy can win if he will try, but try he must before he can hope to win.

For the benefit of our thousands of boys who read The Missouri Farmer we asked Oscar to tell us the story of how he won the prize for the best acre of corn in Southeast Missouri and this is what he says: "I selected a piece of rich creek bottom land for my contest-acre. This land had been in red clover for two years. I plowed it five inches deep on April 23 and then let it alone until May 11 when I double disked and cross-harrowed it. On May 12th I planted it in check rows with a corn checker four feet apart both ways, three grains to the hill. I plowed the corn three times with a two-horse walking cultivator and I left the surface fairly level. The corn did not get any rain from the time it was planted until August. On November 10 I got witnesses to measure off the acre and help to gather and weigh the corn and it made 84 bushels and 45 pounds.

"I got $25 from Scott County for a premium and a special of $50 from Mr. Babcock of Cape Girardeau and $25 at the State Corn Show at Columbia. I got $4 for seventh prize at Columbia for a ten-ear sample. At our show in Sikeston I got third premium on ten ears and then sold 70 ears for $4. I am selling the corn for seed at $2 a bushel and have sold a lot of it already. The cost of producing my crop including rent was $10.17 or a little over 12 cents a bushel. In addition to the above premiums I also received a free scholarship at the Cape Girardeau Normal School. I wish all other contestants success." Oscar Linhart.

We would not want our boy readers to get the idea that it is possible for every body to win in a contest as easily as Oscar Linhart did, but here is the point we wish all our boys could get, and that is, that his success depended on his selection of a good piece of land. The land had been in clover for two years and that helped to put it in good condition for a good crop. If all the corn ground in Missouri could have a crop of clover grown on it one year in three it would probably increase the yield of corn one-fourth more than what it is now. Every boy who would enter the state contest this year can not select a good piece of creek bottom land but he can make his land better by scraping up a lot of the manure that usually goes to waste about the barn yard. It is wonderful what a difference a few loads of manure will make on the yield and quality of a piece of corn. Then the boy who is thinking of going into the contest or of raising corn to sell for seed should begin to plan now for his crop two and three or more years ahead. Arrange to sow some clover this spring on the land that will be used for corn in 1917 or 1918. It takes planning ahead to make a good farmer and every boy who aims to farm at all should strive to be a good farmer. Any boy can make a reputation for himself if he will try to do something a little better than the ordinary fellow is doing it. It will be seen in this case that it was the good reputation that enabled this boy to sell his corn for seed at $2 a bushel or nearly three times what ordinary corn was worth. Any boy can soon build up a business in selling good seed corn if he will learn how to produce good corn then take some of it to the local or state corn show so as to let others know what kind of corn he has. We would like to see several hundred of our Missouri Farmer boys get into the corn game this year and get in to win.

WORTH TWICE ITS COST

A subscriber from Callaway county writes about a water system he installed in his farm home as follows: "As you requested I am writing about our water system which was installed at your suggestion sometime ago. You recommended either a force pump at the well and a tank in the kitchen or a small pump attached to the sink in the house and we chose the latter. The pump cost $5 and I used 50 feet of pipe at 10 cents a foot—$5. Under the pump I placed a sink 18x30 inches which cost $3.50. I used 40 feet of 3-inch tiling for sink drain at a cost of 7½ cents per foot. The cost of the material was the only expense as I did all the work of putting it in myself. So you see for a cost of $16.50 we have a perfectly good water system. Everything about it works fine and we wouldn't be without it for twice the cost.

The alfalfa about which I wrote you was sown on millet land. It was sown with a drill and there was a mistake made in guaging the drill and only half enough seed was sown, and it rained the evening after it was sown so no more seed could be sown at that time. The alfalfa that is on the ground looks fairly well. Would you advise sowing again in the spring followed by a harrow? Thanking you for past favors and with best wishes to you and The Missouri Farmer H. G. Leonard, Callaway County.

Editor's Reply: This shows how cheaply and conveniently a water system can be installed in any farm home. When fifteen or twenty dollars will bring the water right into the kitchen with only a few strokes of the pump handle occasionally and then without the good wife leaving the room the waste water is carried out and away without effort, is it not strange that any farm home should be without this convenience?

Concerning the alfalfa, we would proceed as you suggest. When the ground is in good condition about the first week in April sow the remainder of the seed and give it a good harrowing. This will cover the seed, kill some weeds that are starting and cover the alfalfa at the same time. If the weeds and summer grasses do not smother the alfalfa you may have already a much better stand than you think. If the ground is inoculated and well suited to alfalfa that now on the ground will soon branch out and thicken up the stand surprisingly.

"PIG FEEDING" CLUBS FOR BOYS

After all, there's a right and wrong way to do everything, even to the feeding pigs. And now comes the agricultural extension division of the University of Missouri organizing "pig feeding" clubs for the boys and girls of Missouri.

"The purpose of these 'pig feeding' clubs," said A. J. Meyer, secretary of the agricultural extension work, is to teach the club members how to feed pigs economically to make the most gains at the lowest cost possible. This involves not only right methods of feeding, but right management, so as to keep the pigs healthy. It takes healthy pigs to make cheap gains."

Prizes will be offered for those club members who show that the pigs which they have been feeding have made the most gain.

Boys and girls who desire to enter clubs should obtain at least six members from one school district. If this is impossible, two or three districts may combine. Wherever possible the boys' and girls' clubs are tied up as closely as possible to the county schools. Any person interested in the organization of these clubs may obtain a circular giving complete information, if he will write to the Agricultural Extension Service of the College of Agriculture.

There are now 3423 boys and girls enrolled in the different clubs. There are 288 clubs. Up to January 1 there were 78 corn clubs, with a membership of 1134; 45 tomato clubs, with 508 members; 102 sewing clubs, with 1072 members; 50 stock judging clubs, with 561 members, and 13 poultry clubs, with 148 members. Since January 1, there have been 17 clubs organized with a membership of 188.

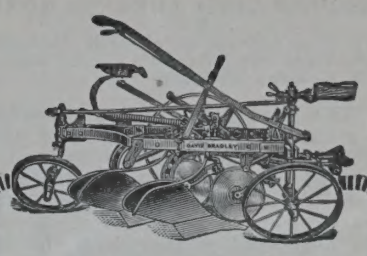
Can You Use Him?

I want to rent a good farm on shares—or I will take charge of a farm and run it for the owner under any fair arrangement. I am at present living in town. I have several boys big enough to do farm work and want to get them away from the city. I was raised on a farm and know all about farm work. J. E. Hackley, Columbia, Mo.

Stockfeeders, Attention

Elsewhere in The Missouri Farmer is the advertisement of the Chocktaw Sales Co. of the Live Stock Exchange Bldg., Kansas City, Mo., who are advertising Cotton Seed Meal and Cake, Linseed Meals, Molasses Feeds, etc. This is a reliable concern and if you are needing anything in their line, drop them a postal card and ask for full particulars.

My, what a great farm paper we could give our readers if all would renew their subscriptions promptly.



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David Bradley Plows embody more than 80 years' experience in plow making. They excel in the ease of handling, light draft and capacity for all kinds of work. David Bradley Plows with the famous Garden City Clipper Bottoms will end your plow troubles. We save you middlemen's profits. Write today for our special proposition on David Bradley Plows.

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A Great Offer A Real Bargain

Just the machine for you if your herd is small. Famous patented Curved Disc bowl, owned exclusively by us, skims warm or cold milk exhaustively. Finest grade of tinware. Enclosed dust-proof gears. *Quality is guaranteed in every particular.* Splendid shop organization, factory equipment and quantity output, accounts for low prices impossible without great output. Equally attractive prices on larger Separators. *Write for descriptive Separator book.*

ASK ABOUT FAMOUS "CHORE BOY" LINE OF GASOLINE ENGINES—MADE IN ALL SIZES $28 AND UP

ASSOCIATED MANUFACTURERS CO. 161 Mullan Avenue WATERLOO, IOWA

ASK FOR THE TOWER SYSTEM OF CULTIVATION

CORN BOOK

J.D.TOWER & SONS CO., 11th Ave. Mendota, ILL.

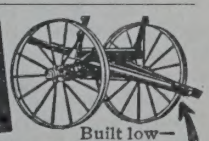
(In writing mention this Paper.)

Lightning Can't Strike if

Illustrated Book on Lightning free. Explains cause and tells what kind of rods will protect your building. W. C. SHINN, 141 No. 16th Street, Lincoln, Nebr.

Shinn Gets There First

Handy Wagons Save High Lifts



Built low—wide tires prevent rutting—light draft—save work and repairs. Write for free catalog of steel wheels and wagons. Electric Wheel Co., 63 Elm St., Quincy, Ill.

$150 PER MONTH and EXPENSES Salary or Commission—Introducing our King Butter Separator. Produces best grade of butter from cream or milk, sweet or sour, in less than 5 minutes. Retails $5 up. Write for free sample and salary proposition. De King Mfg. Co., Dept. 199, Chicago, Ill.

Save $50 on your Silo

Don't buy or **agree** to buy any **Silo** of anybody till you get our latest Folder with special **direct-from**-factory prices.

We positively and absolutely guarantee to save you $50 to $100 in spot cash, depending upon the size you want.

You save $50 first because you pay no agent's or dealer's profit; second, because you buy from one of the biggest Lumber and Building Material Houses in America, **and NINETY PER CENT of a Silo is LUMBER.** The wood Silo is not an experiment, it has been tried out and found satisfactory.

Every Gordon-Van Tine Silo is genuine, **Clear Oregon Fir,** a wood that the U. S. Forest Service says is the **strongest** and **longest lived.** And we use **one-piece** Staves only—no spliced two piece staves to open up and ruin ensilage. It is the only stave that can be used any side, in or out.

Has New Adjustable Wall! **All hoops are tightened from the ground. No guy wires needed!**

No doors or door frames to weaken the structure, or warp and get out of shape, but instead is a **real modern** construction.

A Silo with framework as solid as **Steel,** none stronger. **Built like a city "Skyscraper."** Impossible to creep off of the foundation, is the easiest Silo on the market to erect.

The Gordon-Van Tine roof allows you to put more ensilage in our Silo than you can in any other Silo of a like diameter which is four feet higher. Sold under a written guarantee of **satisfaction or money back.** Prompt delivery guaranteed, no matter where you live. We make quick shipments of silos direct from Davenport. Send for complete, illustrated Folder showing many advantages. Then compare with other Silos you know. Remember we unqualifiedly **GUARANTEE** to save you **FIFTY DOLLARS** in real money.

Can you afford to choose a Silo till you have seen what a genuine bargain we have to offer? If you write NOW, you will receive complete details by **return mail.**

GORDON-VAN TINE CO., 5702 Case St., Davenport, Ia.

Largest Factory-to-Farm Lumber and Building Material House in America.

FARMERS NEED CHEAPER MONEY

Part of an address delivered by William C. Brown before the recent Farm Congress, St. Joseph, Missouri.

"As a Nation we are just awakening to a realization of the fact that agriculture, the cultivation of the soil, is the real basis of all wealth, the great center from which radiates every other avenue of human endeavor. We are just beginning to appreciate the fact that, unless agrculture progresses and prospers, no other business can hope for substantial prosperity.

For years the production per acre of the farms of the United States has been compared with that of Germany, France and England, and we find the average varies from one half to two-thirds that produced on the other side. In these countries, on land which has been cropped for a thousand years, the annual yield of wheat per acre is more than double that produced from the comparatively virgin soil of the United States, other crops in about the same ratio.

In explanation of this it has been argued that for generations vast reaches of fertile uncultivated land, constantly beckoning to the eager pioneer, resulted in depressing the price of the products of the farm to a point which afforded no margin of profit, if, indeed, it equalled the actual cost of production. Hence there was no reason or incentive for stimulated production by improved methods or by the application of scientific knowledge to farm operations.

Increase in population has overtaken production, and, if the present rate of increase continues, we shall, by the middle of the present century, have in this country two hundred million mouths to feed.

We are producing at the present time approximately six hundred and fifty million bushels of wheat per annum. [This year the crop was estimated 891,017,000 bushels, the largest on record.] By the middle of this century, or within thirty-five years, this production must be doubled, or we shall lack bread for our own people. With the extremely limited opportunity for increasing acreage, the only way, by which this condition can be met, is by bringing the production per acre of our farms up to that of England, France and Germany, and we cannot hope to accomplish this unless we give to the farmers of this country (insofar as it is possible to do so) every advantage enjoyed by the farmers of those countries. As compared with the farmers abroad, our farmers labor under two very distinct and burdensome disadvantages.

First, in the supply, efficiency and cost of labor.

Second, in securing capital absolutely necessary to achieve the best results from the operation of their farms.

From the handicap of less efficient and more expensive labor, I can see no practicable relief, but it does seem entirely practicable, by wise constructive legislation, to remove the great handicap imposed by the extreme difficulty of securing necessary capital on terms which will make possible its most efficient and beneficial use.

Twelve million famers in this country are adding each year approximately ten billion dollars to the wealth of the Nation.

This is being done on a borrowed capital of about six billion dollars, on which an annual interest of about five hundred and ten million dollars is paid. Statistics show that, counting commissions, renewal charges, and other expenses, the average rate of interest paid by the farmers of this country is about nine per cent, as compared with a rate of three and one half to four and one half paid by the farmers of Germany and France. It has been well said that "the soil is the ultimate employer of all industry, and the greatest source of all wealth."

The credit of the railroads, their ability to earn a return on the money invested in them, depends upon the success of agriculture and yet, while railroad securities have, under normal conditions, found a ready market on a four per cent basis, and the same is true of municipal and, to a great extent, of industrial securities, the farmer who has funished the real basis for the credit and the prosperity of all, has been compelled to pay double the rate of interest for money with which to purchase and improve his farm. The reason for this, or at least one great reason, is the fact that the railroads, the municipalities, and the great industrial concerns have at their command the machinery, or organization, which enables them to offer the public a security more readily negotiable or liquid than the farm mortgage.

The work of bringing a farm to its highest state of fertility and efficiency involves years of expenditure of labor and money, and thousands of intelligent, progressive farmers, who know exactly what is required to produce this most important and desirable result, are deterred from using their knowledge and enterprise by the dread of the shadow of a mortgage, on which a high rate of interest must be paid semiannually, the principal becoming due in from three to five years.

This great question is being considered by thoughtful men, and is finding a place in the platforms of several political parties. In a letter written by President Taft, under date of October 11th, 1912, to the Governors of the States, and speaking of the necessity for providing a better system of Agricultural Credit by creating the machinery necessary to make farm mortgages more liquid and more easily negotiable, he said:

"The value of this assistance to the farmer receives unquestionable testimonial in the growth of the system in the countries of Europe. But the advantages to be gained by the adoption of this plan go beyond the direct saving in interest to the farmer. The great necessity which prompted the establishment and extension of this plan throughout Europe was that of checking the rapidly advancing increase in the cost of foodstuffs, brought about by the inevitable increase in consumption and the failure of the long drained soil to afford a corresponding increase in production. That problem faces the people of this country today—not in so severe a form as it threatened the older countries of Europe, but, still as a great and pressing economic problem."

In a paper addressed to Congress in August, 1913, President Wilson earnestly and eloquently advocated action in behalf of Farm Credits. In this paper he said:

"There is no subject more important to the welfare and industrial development of the United States.

One of the chief, and most serious disadvantages has been that the farmer has not been able to secure the extended bank accommodations he every year stands in need of, without paying a most burdensome rate of interest, and saddling himself with mortgages and obligations of various kinds under which he fairly staggered, if he could carry them at all.

In other countries systems of Rural Credits have been put into operation which have not only relieved the farmer, but have put his enterprises upon a footing of easy accomplishment. The countries in which agriculture was steadily languishing, because it was wholly unprofitable, have seen their farm lands blossom again and their people turned once more to the soil for a living. Our farmers must have similar means afforded them for the handling of their financial needs easily and inexpensively. They should be furnished these facilities before their enterprises languish, not afterwards—and they will be. This is our next task and duty."

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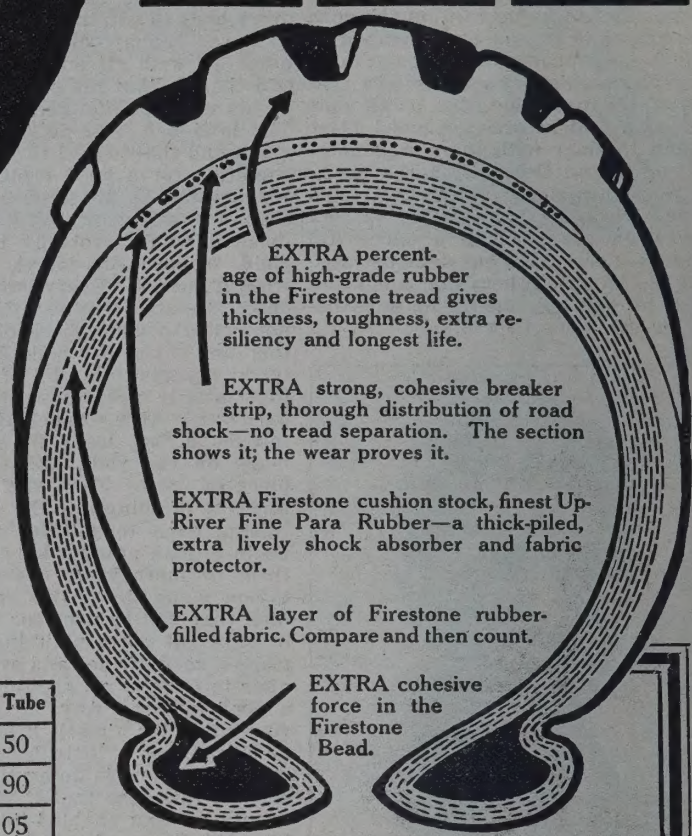

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Firestone Net Price List to Car-Owners:

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30x3	$9.40	$10.55	$2.20	$2.50
30x3½	11.90	13.35	2.60	2.90
32x3½	13.75	15.40	2.70	3.05
34x4	19.90	22.30	3.90	4.40
34x4½	27.30	30.55	4.80	5.40
36x4½	28.70	32.15	5.00	5.65
37x5	35.55	39.80	5.95	6.70
38x5½	46.00	51.50	6.75	7.55

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Tires and Tubes

MISSOURI'S DAIRY INDUSTRY

The following paragraphs are taken from recommendations and suggestions made by the State Dairy Commissioner, E. G. Bennett, to the State Board of Agriculture. Mr. Bennett makes some good, wholesome suggestion that we commend to those who are engaged in the dairy business.

A few years ago practically all of the butter sold in Missouri was made on the farm. The coming of the cream separators and the establishing of large central creamieries that make a market for cream products in sections that have no local creameries, have greatly reduced the amount of butter made on farms and there are sections of the state where at certain seasons of the year, it is impossible to find country butter for sale, due to the selling of butter fat to the creameries. There is far more work attached to making butter than in operating a separator, and the reduction of labor in this connection and the ready market for cream has had much to do with stimulating the industry, causing many to increase their herds and others who were not milking cows, to engage in the work. The use of the silo, providing a cheap and succulent feed, the employment of better barn equipment and the ready market at profitable prices for all surplus dairy stock, has contributed largely toward making dairying more popular and causing the industry to grow. The untiring efforts of the dairy department of the Agricultural College along educational lines, reading of good farm literature, the publicity and information given to the farmers at institute meetings throughout the state, bringing to the minds of the business men through commercial clubs and other sources, the importance of encouraging the farmers to milk more cows, have no doubt been the strong factors in our dairy development.

Average Production Not Sufficient

There are many dairy cows in Missouri capable of making meritorious producing records. But the production of the average cow is entirely too small, and since success in dairying depends so largely on her we must increase the production of the average cow. If all those engaged in dairying in Missouri realized the importance of this and made special efforts for greater results, it would mean hundreds of thousands of dollars added to the present output annually. It is estimated that the average dairy cow in the United States produces 150 pounds of butter fat per year. The records show that 30 cows of the different dairy breeds have each produced around 1000 pounds of butter in a year. There are many cows over the country that have more than 500 pounds per year to their credit and entire herds with individual averages of over 400 pounds per year. So if the average is but 150 pounds, there must be many cows producing less than this amount. Dairying is the principal business in Denmark. Twenty-five years ago they were producing annually about 120 lbs. of butter fat per cow, through the application of business methods, their average production has increased to 240 lbs. per year, and they started with a beef breed of cattle. Surely this shows us a large field for labor. According to figures based on the federal census of 1910, Missouri has over 800,000 milch cows, many of these are pure bred and registered, and many grades carry a large percentage of pure blood, this would indicate that we have a much better class of cows with which to increase our average than did the Danes. An increase of 5 lbs. of butter fat per cow per year would mean more than one million dollars additional to the dairymen's income of this state annually, this and greater increases can be accomplished by those engaged in this work at little if any more expense.

How to Increase the Average Production

In order to make dairying profitable, attention must be given to details connected with the work. Economic production of feeds is first among the details to be considered. Dairy products are bringing good prices and we cannot hope for them to go much higher and we must realize that if the prices go too high the consuming public will seek a substitute. So we must study the economic questions of dairying, for increased profits. Close study of the feed problem will decrease the cost of feed and increase the production of milk. Clean and comfortable quarters are advised, cows will respond to good or bad treatment. The milk scale and Babcock test must be employed, in order to know the profit or loss. Sum up the cost of her feed and the value of her product and her worth is easily determined. Through the use of this method one can have all his cows paying a profit, rather than take the earnings of the cows that pay, to feed those that are being kept at a loss. Require a fair standard of production, and after giving all the cows an opportunity to make good, dispose of those that do not meet requirements.

Better Breeding Essential

While all those engaged in dairying cannot have registered herds, on account of the growing demand for better blood and the increased prices paid for pure bred stock over grade stock, it is advisable to constantly strive to improve the breeding of the herd, and when new blood is introduced, know that it comes from ancestry of merit. It should be the desire of every breeder to raise calves that are superior to their ancestry. The pure bred stock, through tabulated pedigrees, can be authentically traced for several generations and enable one to breed intelligently, while grades are not recorded, and their ancestry are usually unknown. In building up the herd it is advisable to keep the heifers from the profitable cows and use sires from the most productive ancestry obtainable, keeping in mind that animals of good type sell readily and for more money than those whose appearance is not typical of the breed to which they belong.

Local Associations

Believing that the details mentioned are most important in the advancement of the dairy industry, and that keeping these matters before those engaged in the work, tend to stimulate and increase interest, this department has encouraged the organizing of, and has assisted in the organizing of several local dairy associations. I find these associations arouse a co-operative spirit, questions of interest are freely discussed, and result in the members buying feeds, seeds, etc., together at considerable saving; discussions on breeding, feeding and selection of animals are indulged in, and where activity is shown among the members of these associations, decided improvement follows. Some of these organizations contemplate holding association sales the coming year; these sales no doubt will result in the cattle sold being replaced with better bred and more productive stock. I have addressed sixty-seven meetings during the year, in various sections of the state, and invariably advise that local associations be organized. Many of these meetings have been with commercial clubs. The business man readily sees that developing the dairy industry in his community means more cash customers and an increase of business. More commercial clubs should be made familiar with what dairying will do for community betterment.

A Marked Increase in Pure Bred Stock

The bringing to Missouri the past year of more than a fourth of a million dollars worth of pure bred registered dairy cattle is worthy of attention. Many of these cattle are of the best and most fashionable blood of the breeds they represent, and the breeders of the State are to be congratulated for having added such splendidly bred animals to their herds. The breeders of Jackson County alone have expended more than $100,000 for pure bred stock the past year and boast of some of the finest herds of Jersey cattle as well as some of the best equipped dairy farms in the United States. This county is headquaters for the Southwest Jersey Cattle Breeders' Association, and the rapid increase of well bred dairy stock in this community is due to the activity of the members of this association. Jackson County is already recognized as a dairy center, and breeders from other states are seeking location in that section. It has been my pleasure to meet with this association on several occasions. The spirit of co-operation and progressiveness manifested at these meetings, will make Missouri a great dairy state. This association had arrangements made to hold its second annual dairy show in connection with the Royal Stock Show in Kansas City last fall, but this was declared off on account of the outbreak of foot and mouth disease. The outlook for this show was most promising, as the increased entries of stock and the program as arranged assured a most successful show. The association has decided to have these shows annually, and they will, no doubt, be very helpful in further developing the industry in that section. The members of this association are all Jersey cattle breeders. It is hoped the breeders of the Holsteins and Guernseys will make further effort to popularize those breeds in this state. They have long ago proved themselves worthy of the position they hold in the dairy world and should be in more general use in Missouri. Exhibiting dairy stock at our state fair by Missouri breeders would surely be worth while. The many pure bred cattle brought into the state the past year should cause these breeders to advertise their surplus more extensively at home, and our state fair offers splendid opportunities for those desiring to advertise and popularize their herds.

Farmers interested in fertilizers should get in touch with Darling & Co. whose advertisement appears elsewhere in this issue. They can give you a lot of useful general information which is free for the asking.

The Jersey

comes into maturity early, is long-lived and is often found making records even to advanced age. She stands above all other breeds for *economic production.* Shall we mail you free a good book on the Jersey?

THE AMERICAN JERSEY CATTLE CLUB, 324 W. 23d St., New York City.

STOP DISTEMPER AT THE START

(6)

Distemper and all similar head and throat diseases in horses, sheep and dogs, are caused by contagious germs. Stop the disease at the start, kill the germs with a bottle of

CRAFT'S DISTEMPER REMEDY

For 22 years Craft's has been sold on a positive guarantee to cure Distemper, Influenza, Epizootic, Pink Eye, Coughs, Colds, Shipping Fever and Catarrhal Fever, or your money refunded. Craft's is not only the **BEST**, the **SAFEST**, the **QUICKEST** and most **CERTAIN** remedy on the market, but it is also invaluable as a preventive. Even if your animals are not sick at the present time, if you are wise you will get a bottle of Craft's at once to give to your horses as a preventive. It will drive out the germs, tone the blood, re-invigorate the appetite and put your animals in a first-class healthy shape. Buy a $1.00 bottle today and safeguard your animals from disease. Small trial size bottle, 50c. Your dealer has it or can get it for you. Be sure to get the genuine. Imitations are never so good. Remember, you take no risk—**YOUR MONEY BACK** if it fails.

VALUABLE HORSE BOOK FREE

A Practical Veterinary Book. Tells how to cure all the common diseases of horses. Of value to every farmer, stockman and horseman. Write for your copy today. A postal brings it by return mail.

WELLS MEDICINE CO.
33 Second St., LAFAYETTE, IND.

I'll RID YOUR STOCK OF WORMS — I'll PROVE IT BEFORE YOU PAY

I Want You To Know The Value of SAL-VET

(219)

I want you to feed it at my risk—I want to prove to you on your own farm that SAL-VET will rid your stock of worms—put them in healthy condition—easier to keep on no more feed—more profitable in every way, and less liable to disease. I don't want you to send me a penny in advance—just mail the coupon. I'll ship the SAL VET just as agreed—no money down—let you feed it 60 days—and if it does not do what I claim, then I'll cancel the charge. Is not this a fair, open offer?

SAL-VET

The Great LIVE STOCK Conditioner

is the medicated salt which contains no antimony; is fed without trouble; no dosing or drenching. All animals need it—take to it readily—and so doctor themselves. You will find animals that you do not suspect of having worms, just full of them. Stock fed on SAL-VET grow thrifty and profitable, do better, act better, and are in better shape to resist disease.

The Great WORM Destroyer

"I enclose check in payment of the SAL-VET sent recently. Four times this sum would not begin to pay for the benefit I derived from feeding SAL-VET."—W. H. WALLACE, Franktown, Va.

"I am feeding SAL-VET to 750 lambs and about 100 hogs. During this time there has been no sickness whatever among this stock. I consider SAL-VET cheap insurance."—THOS. J. LILLY, Wheeling, Mo.

"SAL-VET is certainly a great medicine. I have been feeding it all winter so far; since I started my stock are better than ever before."—ALBERT MEANS, WALTHILL, Nebr.

PRICES

40 lbs...	$ 2.25
100 lbs...	5.00
200 lbs...	9.00
300 lbs...	13.00
500 lbs...	21.12

No orders filled for less than 40 lbs. on this 60 day trial offer. Never sold by peddlers nor in bulk; only in Trade-Marked SAL-VET packages. Shipments for 60 days' trial are based on 1 lb. of SAL-VET for each sheep or hog, and 4 lbs. for each horse or head of cattle, as near as we can come without breaking regular sized packages.

LOOK FOR THIS LABEL

on all SAL-VET packages. Don't be deceived by imitations. Don't buy "Sal" this or "Sal" that. Get original genuine Sal-Vet.

Send No Money—Just the Coupon

Fill out coupon, tell me how many head of stock you have, and I'll ship you a 60 day supply of SAL-VET. You simply pay the of SAL-VET. Feed it according to directions. If SAL-VET has not done all I claim, and you report results in 60 days then I'll cancel the charge, and you won't owe me a cent.

SIDNEY R. FEIL, President

THE FEIL MFG. CO., Chemists
Dept. MF&B CLEVELAND, OHIO

Sidney R. Feil, President, THE FEIL MFG. CO., Dept. MF&B 2-15 15 CLEVELAND, OHIO

Ship me enough SAL-VET to last my stock sixty days, the feeding for which I am to pay you the price specified, if it does what you claim. If it fails as directed and will not do what you claim, you are to cancel the charge and I will owe you nothing.

I have.....hogs.....horses.....cattle.....sheep

Name.....

P. O.....

Ship to.....

State.....

PRACTICAL FARM PAPERS—No. 5

A local paper tells of dogs killing nineteen out of twenty-three ewes which were in a small lot near a barn last week. Two weeks ago I read in a Louisville, Kentucky, paper, of thirty-eight head of sheep, chased by dogs, jumping over a precipice into the Kentucky river, all being killed. Estimating the average value of these fifty-eight sheep at $5 each, it would take all the benefit of dogs a good many years to pay the bill.

One of my near neighbors lost $100 worth of stock last spring from rabies, they being bitten by a stray dog that no one could identify, but that neighbor got that dog.

We have not as many dogs in this country as we had twenty years ago, but there are still too many to make sheep raising anything but a very precarious business.

There is a dog law in this state, $1 per year on every dog and $2.50 per year on females, the dog tax going into a fund to pay for dog-killed sheep.

As a rule the females are kept by tenant farmers who pay no tax, and this class also keep 75 per cent of all the dogs in the country, but as few sheep as are kept, the 25 per cent collected on the entire dog population is usually enough to pay the losses sustained.

To my mind, the best dog law would be one taxing male dogs at least $[illegible] and females $25, the assessor to collect the tax or leave the dog dead on the owner's premises. Friend Laughlin's plan of neutralizing the dog and sawing off his tusks, might answer in some cases, but I have a very vivid recollection of killing just such a dog some thirty years ago, just after he had torn up three fine ewes.

The worst winter since 1865 has taught some Ohio farmers the necessity of getting in a full supply of corn, rough forage, coal and wood before bad weather comes. Personally, we got in nearly all the corn crop, all in fact except a few acres of the late planting, and put 160 shocks, 144 hills each, of corn stover, in the barns. Then we hauled in more stover whenever a good day came, so February 1 finds us with a full month's rough feed in. "The boys" insisted on getting an extra load or two of coal, and while I did not favor this very much I let them go ahead, and now I am glad that we do not have to hike out and haul coal three miles over icy roads.

One or two neighbors were afraid that corn would not keep, so they put off getting a supply in, and the coldest days of the winter I have seen them out digging frozen corn shocks from under the snow.

We have kept the manure hauled out closer than usual, spreading it on the land intended for corn this year. It beats the world how a good spreader does encourage a man to keep the manure hauled out, and we also find that it encourages us to try to make more manure. Since we have the spreader, we do not find that the problem of corn stalks in the manure is a serious one, which a recent contributor suggests as an argument in favor of shredding, in fact I cannot see that the stalks are in the way at all except in loading up, and they certainly do make a good amount of humus.

Wheat is small but looks well under the snow. I have a small wager with a friend who thinks that wheat will sell at $1.50 per bushel at the machine in July, and I hope that I will lose it.

There is no disease among live stock here, and very little sickness among the people. Our State Legislature is in session, and that is really the only thing we have to stand in fear of at the present time. Corn is 80 cents a bushel, hogs $6.60 per cwt., butter 25c a pound, eggs 27 cents a dozen, hens 13 cents a pound. C. D. Lyon.

SEED CORN AND SOY BEANS

Boone County White Corn, Ebony and Mammoth Yellow Soybeans; also Cowpeas. Only strictly new, first-class seeds handled.

G. H. Morthland, Molino, Mo.

Johnson County White SEED CORN

The greatest drouth resistant and heaviest yielding variety of corn grown. My seed was from the originator's prize winning stock; cost me $10 a bushel, and what I offer was all in the crib before freezing weather.

Price extra select crated ears, $5 per bu. No. 1 Shelled Seed. $3 per bu. $5.50 per two bushel bag.

Only my own growing and selection. Better order early.

C. D. LYON, Georgetown, Ohio

YOU SAVE 50%

This wonderful offer laid down at your railroad station for $5.00. We lose money on this offer, but we want to become acquainted with you. Send $5. cash, money order or draft, and we will send you these goods and pay all the freight charges.

We Guarantee Satisfaction.	Our Price	Retail Price
28 lbs. Granulated Sugar	$1.00	$1.70
5 lbs. Coffee	1.25	1.50
5 lbs. Broken Head Rice	.25	.35
3 lbs. Evaporated Peaches	.27	.35
1 lb. Baking Powder	.19	.35
1 lb. Regal Mixed Tea	.30	.50
1 lb. Ground Black Pepper	.30	.40
10 cakes Laundry Soap	.35	.50
3 cakes Toilet Soap	.10	.15
1 4-oz. bot. Vanilla Extract	.25	.50
1 4-lb. pkg. Soap Powder	.15	.25
3 lbs. Meaty Prunes	.24	.35
1 large can Talcum Powder	.15	.25
5 lbs. Rolled Oats	.20	.35
You save $2.50, or 50%	$5.00	$7.50

These are only a few of our thousands of bargains in Groceries, Shoes, Dry Goods, Clothing, Fencing, Paint, Roofing and many other articles. Your name on a postal card brings our Free Bargain Book at once.

PEERLESS SUPPLY CO., Dept. B16 St. Louis, Mo.

Market the Milk

Raise your calves for beef, and get the bigger money to which you are entitled. But do not feed the calf whole milk, with butter fat worth $600 a ton.

You can sell all the mother cow's milk or butter and make your calf pay you 200% profit on its feed, by raising it on

RAISE YOUR CALVES WITH BLATCHFORD'S CALF MEAL

Blatchford's Calf Meal

The Recognized Milk Equal

You get 100 gallons of rich milk feed from 100 pounds of Blatchford's Calf Meal, and it costs you only one-fourth as much. It will make your calf grow faster.

Blatchford's Calf Meal is composed of all the elements the young calf needs in the most trying period of its life; is thoroughly steam cooked—prevents bowel troubles and other ills due to improper feeding.

Blatchford's Pig Meal insures rapid, sturdy growth of young pigs at weaning time. Prevents setback.

Write us for our Free Book on "How to Raise Calves Cheaply and Successfully Without Milk."

Blatchford Calf Meal Factory
13 Madison St., Waukegan, Ill.

L. C. Beard, Hagerstown, Md., writes: "I can say Blatchford's Calf Meal will pay anyone 100 Pct. that has calves to raise." 2

WINTER CARE OF EWES

The winter care of the flock is just as important as the careful cultivation of the corn crop. This is the growing season of the lamb crop to be harvested in the spring.

The Food: The condition or the amount of flesh the ewes are carrying must guide the feeder. Ewes in good condition need not be fed grain until about a month before lambing, when they should gradually be accustomed to it. Ewes in thin or poor condition should receive from one-fourth to one-half a pound of grain. Straight corn is not the best grain ration. The grain feed should contain some of the blood and muscle building material. A ration of 6 parts corn; 3 parts wheat bran; 1 part linseed oil cake, by weight, has proven very satisfactory at the Missouri Agricultural Experiment Station. A ration of corn, oats and bran, equal parts by weight, can also be recommended.

The sheep should receive as much clover or alfalfa hay as they will eat. The amount of hay eaten can be cut down by use of corn silage or corn stover. Two pounds of clean, sweet corn silage can be used to replace about one pound of hay. Well cured corn stover is also relished by the ewes. Ordinarily there is little danger of the sheep eating too much of it if hay is fed once a day. The greatest danger of corn stover comes from making it the exclusive feed. Under this condition, compaction with other attendant troubles will often result.

Clean salt and water should be kept before the flock.

Sheep should always have a dry, well-bedded floor to lie on.

The flock should have sufficient hay rack and grain trough room so that all can eat at a time without excessive crowding. A complete report of the work done by the Missouri Experiment Station with breeding ewes is found in Bulletin No. 120.

Howard Hackedorn.

TUBERCULOSIS IN CATTLE

From a very comprehensive report by the State Veterinarian, Dr. D. F. Lucky, to the State Board of Agriculture, covering the work for the last year. We print the following on the work of controlling tuberculosis in cattle.

During the first three months of the year, Drs. Tuck and Brown devoted their time to testing cattle for tuberculosis and superintending the tests about Kansas City and St. Joseph, which were made by private veterinarians under the requirements of the city ordinances of those cities. Some sixty-five competent graduate veterinarians in the territory surrounding Kansas City and St. Joseph were supplied with our official tags, blanks, and tuberculin. All this testing was done under the supervision of Drs. Tuck and Brown. The veterinarians who took part in this work were called together and given instructions in regard to the administration of the intradermal test, the insertion of tags and making of reports. It was positively understood with each of them that whenever a reacting animal was found in any herd, the matter should be immediately reported to Dr. Brown or Dr. Tuck. Forthwith, all reacting animals were quarantined, the premises disinfected and provision made for the disposition of diseased animals. In due course of time an official retest of the herd was made without further expense to the owner.

During the year, we have tested officially or supervised the testing of 1601 lots containing 19,334 head of cattle. We have found one or more tuberculous animals in 113 herds. A total of 393 head were condemned. Of this number, 343 head have been slaughtered and 50 head remain in quarntine for breeding purposes. Of the 343 head which have been slaughtered, 318 showed lesions of tuberculosis. We believe that all herds in which the disease was found have been left clean with the exception of those herds which have not received the usual retest. Considering the number of cattle tested, the number of head showing no lesions, and the number of diseased cattle which we probably failed to pick out, we feel safe in saying that we have not made more than two errors to the thousand head of cattle tested.

NOTES ON FARMERS' EXCHANGE

Our files are filled with a superior grade of farm seeds which we can furnish from numerous points over the state direct to you. Whether you are a member or not you should write us for a list of our members who have something to sell. It pays to buy seed close to home for many reasons. Our plan furnishes you seed near you and acclimated. We can furnish you **Seed Corn, Seed Oats, Cow Peas, Soy Beans, Clover, Timothy, Alfalfa, etc.**

We also have a good list of breeding stock. If you desire to purchase a **Stallion** or a **Jack** or work stock, we can suit your needs.

Farmers Needing Efficient Labor.

We can furnish men to do the most practical sort of farm work. Many of these men are trained here in the Short Course in Agriculture as well as on their home farms. These men are capable of taking charge of your work when you are away. Some of these men are ordinary men wanting ordinary positions, but many of them are competent to take up work with men who realize the value of really efficient labor. Write us now and we can put you in touch with a man who will suit you and be on the job March 1 or later if desired.

We will send information or answer questions about any of the above articles our members have, if you will express your desires.

Missouri Farmers' Exchange.
Columbia, Mo.

Preparing a Good Seed Bed

Thoughtful farmers are beginning to realize more and more that a good seed bed is absolutely essential to the production of a good crop—and in the preparation of such a seed bed, good plows are highly necessary. If you are now using old worn out plows we would suggest that you drop a postal card to the Rock Island Plow Co. at Rock Island, Illinois, or the Janesville Machine Co. at Janesville, Wis., and ask them to send you their literature. You will find it full of useful information.

The Flexible Movement of the Spade in Plowing

When you drive a spade into hard ground, you sort of "wiggle" it around between each push. It seems to go down easier—you remove the resistance of clinging soil.

It is this principle that we have succeeded in getting into Janesville Plows. Our object was to lessen the pull on your team and turn a neater furrow. The S. & S. auger twist mouldboard glides through the soil with a flexible movement. This flexibility is possible only in a single bail plow like the Janesville. The plow bottoms have just enough movement in the frame to ease the *pinch* at the point of the share and its cutting edge. This takes the hard work out of plowing. The furrows shave off clean—the finished field shows a skilful job.

JANESVILLE PLOWS

Manufacturers of Farm Implements

With S. & S. Auger Twist Mouldboards

were used by the winners in the plowing matches at Big Rock, Wheatland and Grant Park, Ill., in 1914. In every contest the winner had to show the best work. Our plow was thoroughly tested — 12 good farmer judges pronounced it superior to 21 entries of other plows made by 5 companies.

Janesville plows left the depth and width of the furrows uniform—buried all trash and stubble, broke up the ground thoroughly—left the surface smooth and clean.

Why not do your spring and fall plowing this year with the Janesville flexible S. & S. bottom? Save your team—why pull a plow bottom set solid in the frame? Get the spade movement into your plowing and sidestep hard work.

Write for Literature

and let us tell you more about this construction. Let us send you our book of photographs of good plowing that has taken prizes. Write today for literature on Janesville Plows, Harrows, Disk Cultivators and Corn Planters.

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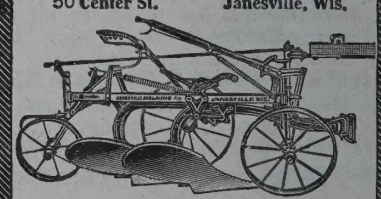
50 Center St. Janesville, Wis.



S. & S. Bottom or Sulky Gang, and Walking Plows

ALFALFA SEED Choice, recleaned alfalfa seed of my own raising. Grown without irrigation. $9 per bushel, F. O. B. Piedmont. S. E. Morey, Piedmont, Okla. 2153

SEEDS GARDEN AND FIELD
Clover, Timothy, Stock Peas, Seed Corn, Etc.
Our 1915 Catalog FREE by Mail.
SCHISLER-CORNELI SEED CO., 811 N. 4th St., St. Louis, Mo.

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Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased.

Dependable service at a reasonable charge. Address, Cameron, Mo.

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Pure bred live stock and heavy farm sales my specialties. Terms reasonable. Satisfaction assured.

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PURE BRED LIVE STOCK

Seventeen years experience with America's best breeders.

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Pure bred live stock. Sales made anywhere on reason able terms. Write for dates.

Otterville Missouri-

GALLOWAY CATTLE
Young stock for sale at all times. Herd established 25 years

J. & W. R. CLELLAND, New Hampton, Mo.

ChoiceAberdeen-Angus
Established 30 years. 100 head in herd. I am offering good useful Bulls. and Heifers of excellent individual merit and breeding. Prices reasonable. Our customers make them popular.

D. L. Sutherland & Sons Windsor, Mo.

Aberdeen-Angus
I am offering a number of young bulls, cows and heifers —good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.

J. D. Blackwell Fayette, Mo.

ANGUS CATTLE
HERD FOUNDED 1904

Seven early calves—3 BULLS and 4 HEIFERS, sired by Dean's Eric 139686 Every one the right kind, and priced to sell.

V. E. LAWRENCE, SALISBURY, MO.

Herefords on Approval

Twenty registered Hereford bulls, 10 to 20 months old. Ten registered Hereford heifers, 10 to 14 months old. Excellent breeding, splendid individuals. Will sell one or more delivered F. O. B. cars your railroad station, subject to your approval. I have been breeding Hereford cattle for 20 years and know that I can please you.

J. A. STEWART, Columbia, Mo.

Whiteford Herefords
A strictly high-class herd of best breeding and individuality. Headed by the great bull

HUGH WHITEFORD, GUILFORD, MO.

IDLEWILD SHORTHORN CATTLE
Milk and Beef Type. Dual purpose in name and in fact. Herd 50 years old. In one family, on one farm. The type is fixed. I have a strain that I believe rivals the famous Duchesses. Fine beef cattle that are heavy milkers. And deep milkers of fine beef type. Call, or this blood is safe by order

W. P. Harned, Vermont, Mo.

PEABODY FARM SHORTHORN CATTLE & BERKSHIRE HOGS
We are offering 10 good young bulls, well bred 3 roans, 5 reds, 6 to 13 months old. Also a few extra good young boars, two of them fit to herd first-class herds. Choice young Bronze Toms and Barred Rock Cockerels.

JUNE K. KING & SONS
MARSHALL, MO.

LIVE STOCK NOTES

By R. P. Royce, Fieldman

WINTER AND SPRING SALES

Durocs

Feb. 23. Chas. L. Taylor, Olean, Mo.
Feb. 24. Sheley & Clatterbuck, New Bloomfield, Mo.
Feb. 25. C. C. Boyd, Centralia, Mo.
Feb. 27. C. D. Caldwell, Milan, Mo.

Poland Chinas

Feb. 19. W. A. Baker & Sons, Butler, Mo.

Hereford Bulls and Heifers

J. A. Stewart, Columbia, Mo., is advertising twenty registered Hereford bulls, ranging in age from ten to twenty months old, and ten registered heifers. Mr. Stewart will sell this stuff on approval, and we assure you his prices are reasonable.

Sale of Percherons and Jacks

A. S. Mercer, Rayville, Mo., will hold a public auction at his farm at Knoxville, Ray county, Thursday, February 25. Included in the sale will be Percheron stallions; four extra good acks, and five jennets. Particulars may be had by addressing him at Rayville, Mo.

Swine Breeders Endorse Legislation

A letter to The Missouri Farmer from R. L. Hill, secretary of the Missouri Duroc Breeders' Association contains copies of resolutions which endorse the following bills before the General Assembly of Missouri.

The Duroc breeders are all progressive Missouri farmers and they no doubt express the sentiments of a majority of the farmers of the state.

They favor the enactment of a law to prevent the sale of adulterated seeds.

They favor an appropriation of $85,268 to meet the Federal appropriation for Agricultural Extension Work among farmers.

They favor the passage of a law requiring the registration of stallions used for service in Missouri.

They favor a law providing for the inspection of commercial feed stuffs. All these laws to be placed under the supervision of the College of Agriculture.

They favor a law that will protect the sheep owners from the ravages of dogs.

Percheron Stallion at Public Sale

Attention of our readers is directed to the advertisement of the Salisbury Percheron Horse Co., Salisbury, Mo., announcing that on Saturday, February 20, they will sell at public auction their good stallion, Albert 48238.

Here is an opportunity to buy a good stallion at your own price.

Adenhill Durocs

R. L. Hill is advertising a choice lot of Duroc fall pigs,—either sex, sired by the prize winning boar, Col. Wonder II. This is a thrifty lot of pigs and are being sold very reasonable. Write Mr. Hill for prices.

Sheley and Clatterbuck's Bred Gilt Sale

Wednesday, February 24, Sheley & Clatterbuck will sell fifty head of high class Durocs, consisting entirely of fall yearlings and spring gilts. This is the second sale made this year by this well known firm, and this particular sale is an event of more than ordinary interest.

In former issues we have given considerable information concerning this herd, but for the benefit of those who are not familiar with the above firm we will say that this herd represents one of the choicest collections of Durocs to be found anywhere.

It was founded on the right principles and has always been kept up to the high standard. Breeding stock from this farm will be found in practically every good herd in the country, and whenever Messrs. Sheley and Clatterbuck have entered the show ring they have been consistent winners.

At the head of the herd are the four boars, Beauty's Model Top, Instructor, S. & C's Valley Chief and Col. Prim. The first two boars are grand champions, Beauty's Model Top holding the honor of winning the grand championship at Sedalia two years in succession, and Instructor was grand champion at the Illinois State Fair in 1912. S. & C's Valley Chief was the first prize aged boar at Sedalia last year, and was the choice of many for champion. Col. Prim has never been shown, but has proven his ability as a sire. We know of no herd containing four as good boars as the ones named above. The brood sows, the dams of the offering, represent the very best of breedin gand individuality.

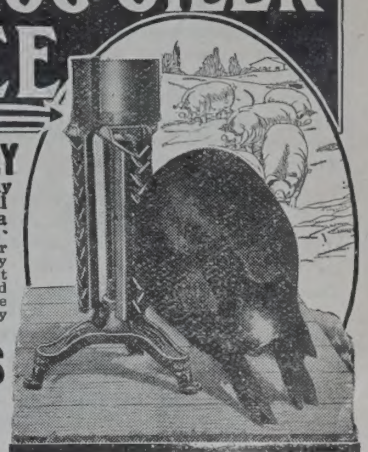
The entire lot to be sold are sired by one or the other of the four boars mentioned, and are bred to them. Included in the sale are a number of Missouri State Fair prize winners, and all are bred practically the same as the successful show herds exhibited by this firm.

It is hardly worth while to go into detail about the many attractions cataloged. Breeders and farmers will have no difficulty in finding what they want. However, we will mention a September yearling, Carnation, by S. & C's Valley Chief. This good young thing is a litter mate to the boar, Sensation Chief that was shown last year, and she has a show record herself. Carnation is out of a Beauty's Model Top dam, and therefore represents the very best cross ever made in this herd. This gilt is easily one of the best things that will be sold this year. She has plenty of size and bone, and quality to please the crankiest crank. Anyone looking for something extra good will not go wrong on this lady. There are a number of other very choice things listed—just the kind you would expect to find in a Sheley & Clatterbuck sale and we take pleasure in recommending this sale to our readers.

This sale will follow Chas. L. Taylor's Col. Wonder sale at Olean on Tuesday, February 23,, and on Thursday, the 25th, C. C. Boyd will disperse his herd of

A.V. Rowe Pres.

TRY This HOG OILER 30 Days At My Risk FREE



SEND NO MONEY

If you will write and tell me how many hogs you have I will send you at once, all freight charges paid, as many of my New Idea Hog Oilers as you want to try and one gallon of Medicated Oil free with each Oiler. You can put them up in your own hog yard and let your hogs rub against them 30 days at my risk. If you don't say my Oilers are the simplest, safest, most durable and most economical Hog Oilers on the market, and the best investment you can make for your hogs I will pay the return freight charges and not ask you to pay me a single penny either for the use of the Oiler or for the Oil consumed.

ROWE'S NEW IDEA HOG OILERS

have no valves—nothing to get out of order. Stock can't break them. Dirt can't clog them. Oil can't be wasted. Rain can't wash out oil. Every drop is applied as needed **right on the itch** when the hog rubs. Pigs of all sizes and ages can rub on these Oilers and keep themselves vermin-free, mange-free and healthy. Three rubbing bars on each Oiler. One Oiler accommodates 30 to 50 hogs. Uses either crude or Medicated Oil. **Helps prevent hog cholera.** Keeps animals comfortable, contented—and they put on flesh faster—make you more money.

I'll Furnish the Oilers—I'll Furnish Oil—I'll Pay the Freight

Prove these claims at my risk on your own farm before you pay. Just write and tell me how many Oilers you want to try. Send no money. Order direct from this advertisement or if you prefer write for big illustrated folder today.

Alvin V. Rowe, Pres., ROWE MFG. CO., 101 Liberty St., Galesburg, Ill.
Also Makers of Famous CAN'T-SAG Gates

Save $2 to $12 on Each Oiler at these Cut Prices, Pay if Pleased

1 Oiler	$ 7.75
2 Oilers	15.00
3 Oilers	21.75
4 Oilers	28.00

1 Gal. Medicated Oil Free with each oiler. If you wish to send check with order deduct 25c for each Oiler ordered. Money back if not satisfied

Caldwell's Annual Duroc Sow Sale

Saturday, February 27th., Milan, Mo.

FORTY BRED SOWS AND GILTS

My sale this year will include the best lot of sows and gilts that I have ever offered the buying public. The offering represents the blood of such noted boars as **KING OF COLS. II, PRINCE OF COLS., BIG BUDDY CLIMAX** and others. Send for catalog.

T. E. DEEM, Auctioneer.

C. D. CALDWELL - - - - Milan, Mo

Percheron Stallion
This horse is pure bred, five years old, coal black, will weigh a ton, and is a sure foal getter. No horse in the state can show a better lot of colts. Will sell cheap.

J.H. Crosswhite, - Waverly, Mo.

Percheron Stallion for Sale. Good breeder and good style and action. Will sell at bargain. C. W. Garhart, Salisbury, Mo.

Percheron Stallion for Sale.—Percheron Stallion, sired by Grigsby's imported stallion; dam, a good Percheron mare. This is a high class grade stallion, good bone, sure foal getter, fine colts. He has the colts to show and will be sold worth the money. This ad. will appear but once. Inquire of William Hanecy, St. Joseph, Mo., 518 Francis St. 2151

BARRED ROCK COCKERELS
I have a few choice birds and will make very low prices on two or more to one customer. Also anything you want in Jersey cattle.

J. B. SMITH, Platte City, Mo.

PUBLIC SALE

We will sell at public auction on Saturday afternoon, February 20, 1915, our dark bay Percheron stallion ALBERT 48238.

Salisbury Percheron Horse Co.
Salisbury, Mo.

Registered Percheron Stallion
Registered Percheron Stallion, five years old; black. Weighed 2020 pounds as a three-year-old. Good breeder; can show colts. Will sell at a bargain or trade for a high class jack. Must have large bone and foot, and measure 15.3 to 16 hands, standard, good head and ear. Also have three Denmark saddle stallions for sale. One four-year-old, two three-year-olds. Sired by Rex Donnell 2042 and out of mares I showed at World's Fair. Plenty of size, style, and finish. Priced to sell. Thirty-five years a breeder.

DR. W. E. CHEATHAM
EXCELSIOR SPRINGS, MO.

Durocs. These three sales are all close together, railroad connections are good and buyers can arrange to attend all three sales.

The advertisement will not appear again and this is the only opportunity we will have to call your attention to this sale, so we would suggest that you write at once for the catalog. R. P. Royce will represent this paper. Kindly tell them where you saw their ad.

Last Call for Taylor's Col. Wonder Sale.

For the last time we call your attention to the Duroc bred sow sale to be held by Chas. L. Taylor, at Olean, Mo., on Tuesday, February 23.

In former issues we have referred to this sale as one of the best sales to be held anywhere, and we again repeat that breeders and farmers in search of high class Durocs can not afford to overlook this offering. This is Mr. Taylor's first sale and he has selected nothing but top sows and gilts. It is strictly a Col. Wonder offering inasmuch as every one cataloged is either sired by Col. Wonder or is bred to him or to one of his sons.

No boar owned in Missouri has made a greater record than Col. Wonder. He was first prize junior yearling at Sedalia, and the American Royal in 1912; was first prize aged boar, and grand champion at Sedalia in 1913. His sire, grand sire and great grand sire were grand champions. His dam was the first prize junior yearling at Sedalia in 1911, and first prize aged sow at the same place in 1912. Her sire B. & C's Col. was a grand champion and her dam was a prize winner. Col. Wonder sired the grand champion sow at Sedalia last year, and unless some one brings out something mighty good it looks as though he would be the sire of another grand champion for this year. The offering will contain as much grand champion blood as will be found in any sale.

Mr. Taylor has put in a large number of real attractions to which we have referred in former issues. If you want blood that has proven its value, attend this sale.

Sheley and Clatterbuck will sell the following day and C. C. Boyd will sell the next. Attend all three sales. You are sure to find just what you want. Write for the catalog and mention this paper. R. P. Royce will represent this paper.

Boyd's Dispersion Sale of Durocs

Elsewhere in this paper will be found the advertisement of C. C. Boyd, Centralia, Mo., in which he announces that on Thursday, February 25, he will disperse his entire herd of Durocs.

The Duroc interests of this state will regret to learn that Mr. Boyd has decided to quit the business, but owing to other business Mr. Boyd finds that he can not devote as much time to his herd as it deserves, hence his decision to retire from the Duroc ranks.

Several years ago when Mr. Boyd began buying the foundation for his herd he secured choice stock from the leading breeders of the Corn Belt, and everything he offers carries as good blood as will be found. The brood sows and gilts will not be up in as high flesh as one would like to see but they are bred right. The real attraction of the sale will be the four herd boars, Select Col. 2nd, C. C's Col., Boyd's Cherry Chief, and C. C's Top Col.

Select Col. 2nd is absolutely one of the very best boars the writer knows of and any breeder can afford to journey a long way to buy him. He is by Select Col., and out of Belle Crimson by Crimson Wonder Again. Select Col. 2nd was shown at the Missouri State Fair in 1913 and stood second to Chas. L. Taylor's great boar, that was made grand champion, Col. Wonder. Select Col. 2nd, has everything a great boar should have; he is bred right; has extra size, and bone; a remarkably good head and ear; wide, high arched back; deep smooth sides; heavy hams; is excellent on his feet, and one of the nicest cherry reds one could ask. Buy him and you will make no mistake. He has proven himself a high class breeder.

C. C's Col, by Chief of Cols. was the first prize senior yearling at the Missouri State Fair in 1913, and this young boar will make some one a good herd boar.

In addition to the above Mr. Boyd will sell a registered Percheron stallion, and two good jacks, also about twenty head of grade calves—steers and heifers—and a number of high grade Holstein cows.

Send at once for the catalog. This sale will follow Chas. L. Taylor's and Sheley and Clatterbuck's. Buyers can therefore attend all three sales at practically the cost of one. Kindly mention where you saw the ad.

Caldwell's Annual Bred Sow Sale

Kindly notice the advertisement of C. D. Caldwell, who will sell about forty head of good big useful Duroc bred sows and gilts at Milan, Mo., on Saturday, February 27.

Mr. Caldwell is one of the leading breeders of his section of the state and for several years he has been assembling a nice herd of Durocs. His offering this year is quite the best he has put through a sale. The offering will include a number of tried sows, fall yearling and spring gilts. For the most part they are sired by Big Buddy Climax, by Climax Paul, and Leavell's Wonder by Handsome Wonder. The dams of the offering carry the blood of each sires as King of Cols., Whitehall Col. Top Inventor, and other well known boars.

Mr. Caldwell is not attempting to specialize on any one family but rather has selected his breeding stock with the sole view of producing the large, easy feeding kind that the farmer wants.

This sale will afford an excellent opportunity to buy bred sows and gilts that you can take home with every assurance that they will make good for you.

The sale will be held in town in a comfortable building and visitors will be entertained at the Stanley Hotel. Col. T. E. Deem will have charge of the sale and any bids you may care to send will be taken care of by him. Write at once for the catalog and mention this paper.

Percherons and Saddle Horses

On another page will be found the advertisement of Dr. W. E. Cheatham, Excelsior Springs, Mo., in which he offers for sale or trade a registered five-year-old Percheron stallion. The Doctor advises us that this horse weighed 2020 pounds as a three-year-old. He is also pricing three young saddle stallions, sired by the good horse Rex Donnell 2042 and out of mares that were shown at the St. Louis World's Fair.

If interested, Dr. Cheatham will be glad to quote you prices. Mention this paper.

Thompson's Spotted Polands

Jas. A. Thompson, Holt, Mo., is offering a nice lot of summer boars and gilts of the popular old fashioned Spotted kind. The sire of this young stuff is Spotted Boy by Spotted Giant, J. D. Gates' great boar that many count as the greatest Spotted boar in this state. The dams of the lot offered for sale are for the most part by the great boar Spotted Jumbo, the boar at the head of Jas. M. Andrews' herd. Here is a chance to buy as good blood as is obtainable, and at a price that is extremely reasonable. Write Mr. Thompson for particulars and mention this paper .

Lockridge's Sale Report.

On Tuesday, February 3, Will G. Lockridge held his first public sale of bred sows and gilts, at Fayette, Mo. This was one of the most successful sales held this year and resulted in the very satisfactory average of $50.65 on thirty-three head from his herd. The twelve head consigned by J. M. Pemberton averaged $37.75.

The weather was not at all favorable and consequently a great many buyers from a distance were kept away, but the way the local support got up behind the sale was a source of great satisfaction to Mr. Lockridge.

The top of the sale was $100, at which price A. O. Lowe, Fallon, Nevada, secured the very toppy fall yearling by Long King's Model out of a Success sow.

Mr. Lockridge is to be congratulated upon the way he handled the sale, and on the nice condition of his offering.

Col. R. L. Harriman conducted the sale in his very finished manner. He was assisted by Cols. A. W. Hammond and Geo. C. Crigler.

The Pemberton consignment lacked a little in size, but was a very uniform lot.

Lockridge Consignment

No. 1, H. C. Edwards, Higbee, Mo.	$75.00
No. 2, E. E. Bisfield, Rocheport, Mo.	55.00
No. 4, Mrs. Elkins, Fayette, Mo.	49.00
No. 5, Mrs. Elkins	57.00
No. 6, W. B. Wallace, Bunceton, Mo	80.00
No. 7, A. O. Lowe, Fallon, Nev.	100.00
No. 8, A. D. Patterson, Fayette, Mo.	55.00
No. 9, E. B. Cater, Macon, Mo.	76.00
No. 10, E. C. Carter, Mexico, Mo.	64.00
No. 11, H. Osborn, Moberly, Mo.	50.00
No. 12, J. M. Gibbs, Glasgow, Mo.	47.00
No. 13, Wm. Himan, Shannondale, Mo.	40.00
No. 14, Dr. Givens, Fayette	62.00
No. 15, Will Givens	40.00
No. 16, E. H. Carter	43.00
No. 17, Will Givens	61.00
No. 18, W. B. Wallace	50.00

CLYDESDALE HORSES FOR SALE

MISSOURI FARMERS, DO YOU RECOGNIZE THE OPPORTUNITY?

The war in Europe means that the United States will furnish the Draft Horses and Draft Breeding Stock for the world for years to come. There was never a better time for you to get into the game and Missouri farmers should take advantage of the opportunity. I have Prize Winning Stallions and Mares of all ages for sale at lowest prices.

F. L. CROSBY, Highview Farm - - - - - - - Mexico, Mo

SALE OF PERCHERONS AND JACKS

Will be sold at public auction at my farm at KNOXVILLE, RAY COUNTY, MISSOURI, THURSDAY, FEBRUARY 25, 1915. The list includes two fine Percheron stallions, four extra good jacks and five good breeding jennets. For particular address

A. S. MERCER, Route 1, RAYVILLE, MO

IMMUNE DUROCS

I have for sale some first-class boars weighing from 100 to 275 pounds, at $15 to $30, one fine show prospect $40; also young sows and gilts, all bred; gilts are 15 to 15 months old. Priced at $30 to $35. The entire lot are immune. Write me your wants. Have sold stock in 48 counties in Missouri and many others states. I believe I can please you.

J. E. WELLER - - - - - - - - - - - - - Faucett, Mo.

THOMSONS' DUROC BARGAINS

Four bred Sows, 6 spring boars, 7 fall boar pigs. Best of breeding and individuality. Everything guaranteed, and priced to sell.

W. H. and GEO. E. THOMSON, Columbia, Mo.

15 DUROC SPRING BOARS & GILTS

We still have 15 boars and a number of open gilts which we will price to sell quick, and are booking orders now for 25 pigs, farrowed Nov 10th.

J. C. Garrard & Son McBaine, Mo.

White's Champion Duroc Jerseys

75 spring boars and gilts by three champions—Crimson Wonder Again, Golden Model 34th, and Crimson Col. I Am. A few tried sows. Prices reasonable.

A. WHITE, JR. Box 422 PALMYRA, MO.

GREATEST DUROC BARGAIN EVER OFFERED

For the next 30 days I will sell extra choice Duroc spring boars, sired by the champion COL WONDER at $25 and $35 each. The best lot I ever raised. First come first served. Send check with order. These boars are right, and represent the best bargains ever offered the breeders and farmers of Missouri.

CHAS. L. TAYLOR - - OLEAN, MO.

ANDREWS' SPOTTED POLAND CHINAS

We now offer 75 summer boars and gilts sired by our great herd boars, SPOTTED KING and SPOTTED JUMBO. We are long on hogs and short on corn. Priced for quick sale.

ANDREWS STOCK FARM — — — — LAWSON, MO.

Sold Out of Spotted Hogs Now

Have some extra Big Type (black) boars and gilts by A Wonder, Big Orange and Mo. Orange. I am closing out all of my black hogs. Prices to move quickly. Write me.

B. B. MEGOWN, New London, Mo.

THOMPSON'S SPOTTED POLAND CHINAS

Old fashioned Spotted summer boars and gilts. Sired by one of the best yearling boars in the Corn Belt, **SPOTTED BOY.** All immune. Priced reasonable.

JAS. A. THOMPSON. :-: Holt, Missouri

BIG POLAND CHINA BRED GILTS

Headed by King David 179495 by Long King, and Leader 201105 by Grand Leader, a pair of great boars that are siring the right kind. A fine lot of spring gilts bred for early farrow. Get my prices.

HALLECK BLAND, Rfd. No. 5 CENTRALIA, MO.

"OAKWOOD HERDS" of Shorthorns and Poland Chinas

Young stock of all ages for sale. Special prices on my big-type Poland Chinas. Quality and breeding the best. Satisfaction guaranteed or your money back.

H. S. Williamson Rfd. 6, Centralia, Mo.

Dean's Mastodon Poland China Hogs

Extra good spring gilts, tried sows and fall yearlings, bred for early farrow. Best of breeding and prices right. Telegraph and railroad station, Dearborn, Mo.

CLARENCE DEAN WESTON, MISSOURI

SUPERIOR HERD BIG-TYPE POLANDS

We have at all times anything you want in strictly big-type Polands. Special prices on spring boars and gilts in pairs or more—not related. Write us your wants.

Freeman & Russ Kearney, Mo.

ADENHILL DUROCS--BRED GILTS and SOWS

Sired by Champions Tatarrax Again, Crimson Col. I Am and Col. Wonder II. Priced reasonably. Also a few serviceable spring boars of same breeding. Priced to sell. A fine lot of fall pigs sired by Col. Wonder II.

R. L. HILL - - - - - - - - Adenhill Farm, Columbia, Missouri

BAKER'S REAL BIG-TYPE POLANDS

Our winnings at the State Fair prove that we "have the goods." Spring boars and gilts of excellent breeding and individuality at very reasonable prices. Also a number of fall boars, big, stretchy fellows.

W. A. BAKER & SONS — — — — — BUTLER, MO.

JERSEY CATTLE

Bulls ready for service. They are sired by the Owls Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

SUNSET JERSEYS

Special Offering: Seven magnificent young bulls, 10 to 15 months old; seven beautiful bred heifers,soon due to freshen. Dry weather prices. Herd headed by the $5000 Blue Belle's Golden Roseboy 85230. Send for circular giving description of herd, production, breeding, etc., and mention your wants. Also Big Boned Spotted Poland Chinas. A herd of 200 head. All ages for sale. Free circular. **The Ennis Farm, Horine Station, Mo.** (Just south of St. Louis).

HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndyke Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

M. E. Moore & Co., Cameron, Mo.

HOLSTEIN BULLS FOR SALE

Registered Holstein Bulls. I have three young bulls out of A. R. O. dams with fine records, ready for light service. Also one bull calf out of a cow with 18 lbs. butter record and sired by Missouri Chief Josephine Lad, son of the famous Missouri cow. Also one bull calf out of a cow with 24 lbs. butter record and sired by a grandson of Colantha 4th's Johanna, the greatest cow in the world.

Marshall Gordon, Columbia, Mo.

POLAND CHINA HERD HEADER

A big, handsome yearling, smooth as silk, good enough for any herd—$30 for quick sale. A few selected gilts, 200 pounds and up, bred for April farrow, $25 each. Pigs, 3 months and over, both sexes, $10 each, 3 for $25. All these are of choicest breeding and individuality and priced the lowest.

K. H. BROWN, - - Bolivar, Mo.

25 BIG POLAND CHINA GILTS

The big-type, big-bone, quality kind, BIG ORANGE, A. WONDER and PAWNEE LAD breeding. Bred to MISSOURI KING by IOWA'S KING, for March and April farrow. They are big and priced to sell. Write at once.

Obadiah Prettyman, Fairfax, Mo

ELM LAWN HERD IMPROVED CHESTER WHITE SWINE

Choice boars and gilts of September and October farrow for sale at reasonable prices. Everything recorded free.

W.B.Taylor and Sons,Weatherby, Mo.

RAUSCHER'S CHESTER WHITES!

One of the Oldest Herds in the West

A few choice spring gilts bred for early farrow. Several richly bred big spring boars. A fine lot of fall pigs. Size, quality, and bone. Prices reasonable and every pig guaranteed.

H. Rauscher & Son, Kahoka, Mo.

MISSOURI VALLEY HERD O. I. C. SWINE

We have a fine bunch of fall pigs from mature stock on the "bargain counter" for quick delivery. Everything guaranteed as represented. Call on or write

J. M. Dryden, Phelps City, Mo.

PRAIRIE VIEW STOCK FARM

Spotted Poland China spring boars and gilts, also a few bred sows. Write me your wants.

J. A. Winebrenner, Tipton, Mo.

Dooley's Spotted Polands

Big bone spotted pigs now ready to ship—$25 single pig, $45 pair, $65 trio. Pairs and trios no relation. Also registry furnished. Send check with first letter.

Edgar Dooley Etterville, Mo.

No. 19, J. M. Gibbs	38.00
Kansas	75.00
No. 21, H. Osborn	51.00
No. 22, H. Neusman	50.00
No. 23, Bert Harriman, Pilot Grove, Mo.	42.50
No. 24, C. L. Conway, Nelson Mo.	40.00
No. 25, C. L. Conway	50.00
No. 26, Wm. Himan	46.00
No. 28, S. Bismark, New Franklin, Mo.	30.00
No. 29,	37.00
No. 30, Will Givens	37.00
No. 31, Morris Wheeler, Fayette	39.00
No. 32, Dr. Givens	32.00
No. 33, J. M. Gibbs	33.00
No. 34, R. M. Clark	31.00
No. 35, Peter, Maclachlan, Estill, Mo.	36.00
Pemberton Consignment	
No. 40, D. M. Kump, Fayette	56.00
No. 41, G. R. Reynolds, Higbee	48.00
No. 42, Mrs. Elkins	46.00
No. 43, T. S. Pollard, St. Louis	37.00
No. 44, Herman Settles, Fayette	32.00
No. 45, G. R. Reynolds	31.00
No. 46, Mrs. Elkins	34.00
No. 47, L. W. Jacobs, Fayette	30.00
No. 48, L. B. Ford, Fayette	36.00
No. 49, L. W. Jacobs	32.00
No. 50, Mrs. Elkins	33.00
No. 57, A. Fisher, Little Blue, Mo.	36.00

Porterfield's Sale Report

The annual Duroc bred sow sale held by J. A. Porterfield, at Jamesport, Mo., Monday, February 8th, did not result as satisfactorily as had been predicted.

The lot sold was by far the best Mr. Porterfield has offered the public and deserved decidedly better prices than the average shows. Few sales to be held in this state this year will have a nicer lot of bred sows and gilts than those offered in this sale and an average of only $33.75 does not represent their value. Mr. Porterfield was game, though, and never complained about the way they were selling. The top price was $72.50 paid by Robt. Cooper, Spickard, Mo., for a Top Inventor sow; by the way, this boar, Top Inventor, is proving to be a very prepotent sire and is transmitting his good qualities in a way that enables one to tell a gilt sired by him the minute she enters the ring.

Col. Deem officiated on the block and although he and his assistants, Cols. Nelson, Deem, Buckingham and Hamilton did all in their power to make the crowd see its mistake, they were unable to get them to appreciate the kind of stuff Mr. Porterfield was offering. A complete report of the sale follows:

No. 1, Robt. Cooper, Spickard, Mo.	$72.50
No. 2, Walt Mann, Jamesport, Mo.	34.00
No. 3, S. D. Hunter, Princeton, Mo.	36.00
No. 4, Dr. Porterfield, Hickory Creek, Mo.	40.00
No. 5, W. S. Cray, Jamesport	37.00
No. 6, S. D. Hunter	35.00
No. 7, R. G. Wiggins, Mercer, Mo.	37.00
No. 8, H. C. Clark, Clarkdale, Mo.	26.50
No. 9, Dr. Porterfield	33.00
No. 10, Dr. Porterfield	28.00
No. 11, S. D. Hunter	30.00
No. 12, Will Mann, Jamesport	33.00
No. 13, Will Mann	34.00
No. 14, Robt. Cooper	35.00
No. 15, J. M. Brown, Jamesport	39.00
No. 16, S. D. Hunter	27.50
No. 17, J. W. Mann	30.00
No. 18, J. L. Condon, Dawn, Mo	32.00
No. 19, S. D. Hunter	28.00
No. 20, Dr. Porterfield	32.00
No. 21, J. L. Condon	52.00
No. 22, W. E. McMahon, Blackwater, Mo.	30.00
No. 23, W. S. Cray	33.00
No. 24, O. Smith, Jameson, Mo	32.50
No. 25, W. O.McNeal, Jameson, Mo.	26.00
No. 26, Vaughn Stewart, Spickard, Mo.	30.00
No. 27, J. M. Brown	29.00
No. 28, Monte Wiles, Jamesport	34.00
No. 29, C. D. Caldwell, Milan, Mo.	43.00
No. 30, J. C. Hill, Jamesport	70.00
No. 31, Robt. Cooper	30.00
No. 32, Walt Mann	28.00
No. 33, J. L. Condon	36.00
No. 34, Frank Cronk, Argentine, Kans.	35.00
No. 35,	23.00
No. 36, Geo. Black, Jamesport	25.00
No. 37, Robt. Cooper	35.00
No. 38, J. W. Mann	30.00
No. 39, S. D. Hunter	25.00
No. 40, J. M. Brown	26.00
No. 41, Wm. Watson, Jamesport	21.00
No. 42, Wm. Drummin, Jamesport	29.00
No. 43,	27.00
No. 44, C. D. Caldwell	30.00
No. 45, C. D. Caldwell	37.00
No. 45½, Taylor Martin	30.00
No. 46, Robt. Cooper	38.00
No. 47,	41.00
No. 48	40.00

SHELEY & CLATTERBUCK'S

Great Duroc Gilt Sale

Wednesday, February 24th,

New Bloomfield, Missouri.

Fifty Fall Yearlings and Spring Gilts sired by and bred to

Champions, Beauty's Model Top and Instructor, S. &. C's Valley Chief, and Col Prim.

On the above date we will sell fifty fall yearlings and spring gilts. The tops of our herd. They are by our great show and breeding boars. Included in the offering are a number of State Fair prize winners. We are selling the sensational September yearling, **Carnation,** by **S. & C's Valley Chief,** and out of a **Beauty's Model Top** dam. This gilt is a litter mate to our great young boar, **Sensation Chief.**

The entire offering is high class in every respect and we will be glad to send our catalog to all who request it. **This advertisement will not appear again.** Write at once, mentioning this paper.

P. M. Gross, Auctioneer.

R. P. Royce will represent The Missouri Farmer.

Sheley & Clatterbuck

NEW BLOOMFIELD, MO.

Chas. L. Taylor sells the 23d at Olean, Mo., and C. C. Boyd sells the 25th at Centralia, Mo.

Dispersion Sale of

Boyd's Durocs

TO BE HELD

Thursday, February 25th, Centralia, Mo.

I have decided to disperse my herd of Durocs and on the above date I will offer:

40 Sows and Gilts: 4 Herd Boars

Included in the lot is my great boar **SELECT COL. 2d**—pronounced by all to be one of the very best boars in the state. **C. C.'s COL.** is another prize winner. **Boyd's Cherry Chief** is listed.

The entire offering carries the best blood of the breed. Everything immune.

No sale will offer a greater attraction than SELECT COL. 2nd.

Write for catalog.

P. M. Gross and W. O. Smith, Auctioneers.

R. P. Royce, Fieldman.

C. C. BOYD - - - - Centralia, Mo.

C. L. Taylor sells Feb. 23, at Olean, and Sheley & Clatterbuck, sell Feb. 24 at New Bloomfield.

LAST CALL FOR

TAYLOR'S DUROC SALE

Breeders and farmers will find it to their interest to bear in mind that on **TUESDAY, FEBRUARY 23, at Olean, Mo.,** I will offer fifty head of very high class Duroc bred sows and gilts. This is strictly a **Col. Wonder** offering, as everything is either sired by him, or bred to him or one of his sons. Write for catalog.

CHAS. L. TAYLOR, Olean, Mo.

Sheley & Clatterbuck sell at New Bloomfield, Mo., the day following, and C. C. Boyd sells at Centralia the next day.

THE CHINCH BUG AND THE FARMER

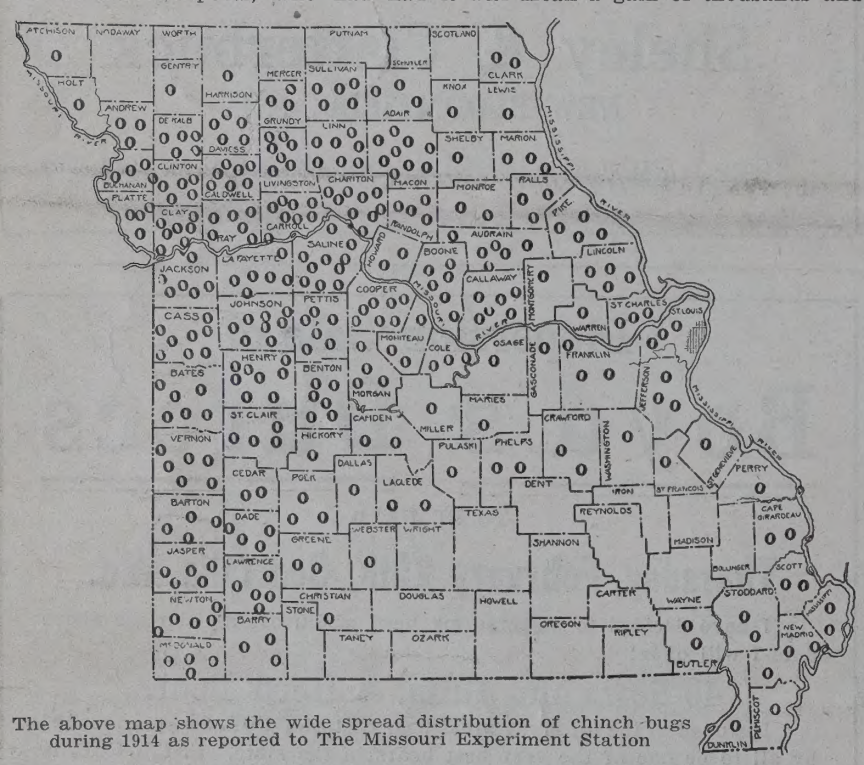
Last year there was a business proposition up between the chinch bug and the farmers of Missouri. It resembled a peculiar form of tenantry and from the farmer's point of view proved most disastrous. The farmer furnished the ground,, the seed, the implements and all of the labor. The tenant assisted only with the work of gathering the crops before or after maturing. In some cases the tenant received half the crop in other cases the entire crop. The amount they received depended upon the number of tenants, the activity of the farmer and the activity of his neighbors. Often the tenants were so abundant on one farm that after all of the crops there had been gathered in they moved on to help with the gathering of crops on adjoining farms.

The tenant's (chinch bug) share of last year's wheat and corn crops alone was, at least, five million dollars. That is a terrible amount and especially with so short a crop and when there is such a human demand for food in this and foreign countries and yet the total would have been many times as great had not the farmers detected a flaw in the contract early in the season before the wheat crop was ripe. The tenants disclosed their greedy disposition early in the season and in many sections, at least, the farmers, with the aid and advice of practical and scientific experts, who had had previous dealings with the same tenants, succeeded in so reducing the ranks of the tenants that they were unable to incorporate so much of the later crops. In some cases they were completely annihiliated, though unfortunately too often nothing was done.

Such a system of tenantry between man and man would be intolerable, then why should it be tolerated when between man and the chinch bug or any other destructive insect pest for that matter? There is no real reason why such conditions should exist. It is entirely within the power of the farmers of any community or of the state as a whole to prevent such losses. And yet as this is being written the business relation between the Missouri farmer and the chinch bug is exactly the same as it was a year ago with the possible exception that there are at this time more bugs in hiding than a year ago. The question then is, do you, Missouri farmers, propose to produce this year's crops and let the chinch bugs come in for their unearned share? What have you already done to get rid of the harboring bugs on your farm? What have you done to assist or induce your neighbors to get rid of theirs, and lastly, what do you and your neighbors propose to do between now and the first warm days of spring, when the buds begin to swell and the air is teeming with the millions of nature's creatures searching for feeding and breeding places?

There are yet a few weeks during which telling work can be done to prevent the chinch bug injuries. The most practical and effective means of reaching the pest in its harboring places is to select favorable times and burn over such places. Most of the bugs will be found harboring in dry, protected places deep down in grass clumps, in meadows, pastures and waste lands, though many are harboring under leaves, along hedges, fence rows and in dozens of other places. Not anything like all of the bugs can be reached but a large portion can be destroyed and each bug destroyed means hundreds of hungry bug stomachs less next summer. Where burning is not feasible, perhaps plowing would be possible. Anything which will destroy the harboring and helpless bugs outright or expose them to rain, snow and frost will put the detested tenants so completely out of commission that they will be able to do little damage.

Is the proposition worth considering? It only means a few days' work at most and if it saves only ten bushels of wheat, worth fifteen dollars, the time would be well spent. But if the work is done carefully and seriously it will mean a gain of thousands and even millions of dollars to the farmers of the state.



The above map shows the wide spread distribution of chinch bugs during 1914 as reported to The Missouri Experiment Station

Talk it over with the boys and with your neighbors from a business point of view alone and if it seems to be worth while, lose no time putting it into operation for favorable days for the work will now be few. Keep in mind that once the pest leaves its winter quarters the work is off, so far as remedies are concerned, until the bugs again lay themselves liable during the summer migration at wheat cutting time.

If the writer can offer any further suggestions of value at this critical phase of the game or can assist in any other way, feel free to call on him.

L. Haseman,
Department of Entomology.

Unusual Interest in Poultry.

The great lot of letters we have been receiving about poultry matters shows that there is greater interest in this profitable industry this year than ever before—and it shows also that the average farmer proposes to make everything count in 1915. The first essential is a good incubator and if you have not yet provided yourself with a reliable one we suggest that you drop a postal card at once to the manufacturers whose advertisements appear in our Poultry Department and ask them to send you their literature. There is no reason why the hens shouldn't pay for a new bed room suit, kitchen cabinet, power washing machine—or why they shouldn't provide all the necessary living expenses.

Send us a check or a dollar bill and let us renew your subscription for three years before you get busy with your spring work. Do it today.

POTASH

is food for thought as well as for crops this year.

When shipments were interrupted by the war, it was estimated that there was enough Potash on hand in the United States to provide two and three per cent. Potash in mixed fertilizers for this spring's trade. Some manufacturers had more than enough for these percentages.

Since then minor sources of Potash have been fully utilized, and additional shipments from the usual source are still being received.

The supply is below normal, but this need not prevent farmers securing some Potash, nor should it lead farmers to decide not to use fertilizers.

There is no reason to return to the out-of-date goods without Potash, although some authorities may try to "wish" them on us.

We have not used enough Potash in the past. The largest annual import of Potash was only one-seventieth of the Potash *taken from the soil* by our *1914 corn crop* and only one-fifteenth of the Potash lost every year in drainage water.

Spring crops use from two to ten times as much Potash as Phosphoric Acid. Get as much Potash in the fertilizer as possible. A few firms are offering to furnish from four to ten per cent.

There is no substitute for Potash. It may be harder to get just now, but

Potash Pays

GERMAN KALI WORKS, Inc., 42 Broadway, New York
Chicago San Francisco Atlanta Savannah New Orleans

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE MISSOURI FARMER

COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE AND THE MISSOURI EXPERIMENTAL STATION

Hap-Hazard Methods

When one travels about over Missouri and looks out of a train window upon the farms on either side of the right of way, he is impressed with the fact that what we need in this great state at this time is not a lot of new Agricultural information so much as that we need to intelligently apply the information we already have—and this is one of the discouraging things which stares a farm paper in the face hat is really serious in its fight for better farming methods.

Upon every hand one sees self-binders, plows, cultivators, corn planters and other farming implements standing out in the fields where they were last used—the victims of the elements which vie with a mixture of rain, snow and sunshine to destroy their usefulness. What is the use of discussing the problem of why the average farmer doesn't make more money with men who thus deliberately destroy the implements with which they must carry on their work?

So, too, you see hundreds of barnyards where the manure piles are left to deteriorate until their fertilizing value is almost entirely destroyed—as well as being permitted to become an unsanitary nuisance. And this despite the fact that there never was a time when better soil fertility was more of a vital issue than it is at the present time. There are long periods during the year when farmers have plenty of time to attend to this kind of work—and yet, while some of their more progressive neighbors haul in manure from the nearest town, these shiftless ones do not even utilize that which accumulates upon their own premises.

Again, hundreds of fields which, because of their inclination to wash should never feel the touch of a plow are planted in corn or some other crop, season after season, until the dashing rains have sent whatever fertility the soil possessed on its way to the Gulf of Mexico. There are very few farmers who are not aware of this fact—and yet they continue year after year to practice these destructive methods.

In a few weeks from now, when the spring work begins, one will be able to see nightly bon-fires in every direction—farmers raking their corn stalks together and burning them up in order that they may not impede the work of the different farm tools, etc.—and yet, when they do this, they are not only wasting the fertility value of the stalks but deliberately destroying about 40% of the feeding value of their corn crop. If the corn stalks had been made into silage last fall, both their fertilizing and feeding value could have been utilized to the fullest.

Again, while some farmers, by proper pruning and spraying methods are compelling their orchards not only to generously supply their own needs but to yield a substantial profit besides, there are hundreds of others who have abandoned their fruit trees to the relentless onslaught of insects which ply their work of destruction without molestation—and thus the average orchard is a nuisance and an eye sore rather than a source of profit.

These are only a few of the unpardonable neglects of which many farmers are guilty—not through a lack of knowledge but simply because they seem unable to pull themselves out of the old rut of hap-hazard methods. As we have emphasized time and again, present land values and the present cost of farm production mean that the careless farmer is on the road to certain failure and bankruptcy. Years ago, when the soil was permeated with its virgin fertility and when land was cheap, economic methods were not as vitally important as they are today. True, shiftlessness and waste are unpardonable under any circumstances—but this is more true now than ever before. With nearly one hundred million souls who are struggling for a livelihood within our borders it means that we must make every acre give the best possible account of itself from this time forward. Let's acquire all the new and helpful ideas we can get hold of—but in the meantime, let's make good use of the common sense information which we already possess and which is almost as old as the farm game itself. If you have been guilty of any of these things in the past, why not turn a new leaf in 1915?

GEO. B. ELLIS
MANAGING EDITOR

VOL. VII MARCH 1, 1915 NO. 5

WILLIAM HIRTH
PUBLISHER

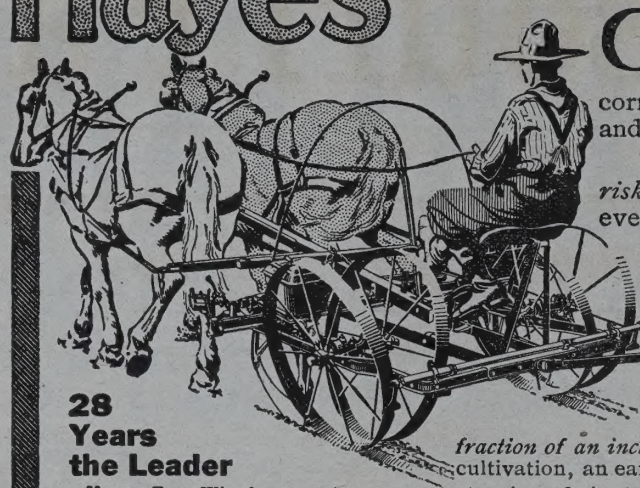
SMALL FARMERS MUST ORGANIZE

In discussing some of the handicaps of small farmers in comparison with the very large farms, T. N. Carver of the United States Department of Agriculture points out that immigration of cheap labor gives the large farmer a big advantage over the man who does his own work, but as it is now the small farmer has the advantage, and the bonanza farmer will continue to give way to the one-family farm.

"Another thing which threatens the prosperity and even the existence of the small farmer is the handicap under which he finds himself in buying and selling. The big farmer who can buy and sell in large quantities, and also employ expert talent in buying and selling, and in securing credit, has an advantage over the small farmer who must buy and sell in small quantities and give his time and attention mainly to the growing of crops rather than to selling them. Much of the supposed economy of large-scale poduction, even in merchandising and manufacturing, is found, upon examination, to consist wholly in an advantage in bargaining; that is, in buying and selling. When it comes to the work of growing farm crops, as distinct from selling them and buying raw materials, the one-family farm is the most efficient unit that has yet been found. But the big farmer can beat the individual small farmer in buying and selling. It would seem desirable, from the standpoint of national efficiency, to preserve the small farm as the productive unit, but to organize a number of small farms into larger units for buying and selling. Thus we should have the most efficient units both in poducing and in buying and selling.

"If this is not done, the only farmers who can enter successfully into the production of agricultural specialties, where the problem of marketing is greater than the problem of producing, will be the big, capitalistic farmers. The small farmer may hold his own in the growing of staple crops, in which field the problem of efficient production is perhaps greater than that of successful marketing. The reason for this is that there is a well-organized market for staple crops and the problem of marketing is therefore somewhat less difficult than in the case of agricultural specialties. But even in the growing of staple crops the small farmer will have a hard time of it if he is forced to compete with the big farm when it is cultivated by gangs of cheap laborers. The two worst enemies of the small farmer are the opponents of co-operative buying and selling on the one hand and the advocates of enlarged immigration to the rural districts on the other. The latter would help the big farmer in the buying of labor for his farm, and reduce the price of the small farmer's own labor when he undertook to sell it in the form of produce."

Hayes Four Wheels—Bigger Yields



GOOD seed and good soil is only the *starting point* in raising a big corn crop. You can no more afford to plant with an old, worn out corn planter or a complicated new one full of fads and fandangles than you can to plant *poor seed.*

You can't afford to waste your time and labor or *risk your entire crop* with a planter that covers unevenly, misses hills or does not check accurately.

Uneven depth of planting means a bigger loss than many realize. It's *especially bad* in cold, backward seasons; often amounts to several times the cost of a planter in a single year. Avoid planting part of the corn so deep that no matter how good the seed or how rich the soil *many of the hills never come up*—or leaving other hills uncovered so that the sun and wind *destroy or stunt their growth.*

Hayes Four-Wheels regulate depth of planting to the *fraction of an inch.* Corn all comes up at the same time, allows earlier cultivation, an earlier harvest, a *better quality* and *bigger quantity.*

28 Years the Leader

Hayes Four-Wheels guarantee *surer germination and quicker growth.* Wheels pack the dirt from the sides to hold moisture and leave a ridge on top so that the corn sprouts quickly and comes up several days sooner. The ridge gives greater surface for the sun's heat and prevents washouts in hilly fields. This method *assists the budding sprout,* protects its vitality and makes stronger and healthier stalks.

Hayes Four-Wheels *cover where all ordinary open wheels fail*—even in wet and sticky ground. Guaranteed not to clog. Short coupled, light draft and turns in shortest space. *Checks with absolute accuracy,* regardless of team's speed. Cross rows straighter than the way you drive.

The **Hayes** Drop *never misses a hill.* Simple, reliable and most efficient. Fewer parts, less breakage and delays. Has no clutch to miss and give trouble. *Never cracks or grinds the seed.* Will drop accurately any size or shape kernel. *No bare spots* in **Hayes** planted fields. No replanting necessary. Increased yields soon pay for it.

Thousands in use for years with practically no repair expense and every one giving *time-saving, money-making* service. No complicated parts to get out of fix. Strong construction, *practically exempt from breakage.* No expensive and aggravating delays in the busy planting season. Easy and simple to operate and can be trusted to unskilled help.

Think these things over and start investigating NOW. Learn the overwhelming advantages in **Hayes** Four-Wheel construction. *Ask any* **Hayes** *user.*

Learn the experience of farmers who *have* increased their yields by big margins with the use of the **Hayes**—who *have* finished planting earlier—who *have* begun cultivation earlier. Every **Hayes** user will tell you the work is easier—faster—better; the results more satisfactory—more profitable. So much depends on the work of the planter that a farmer cannot afford to get anything less than the *best service.*

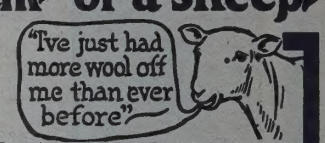
Can be furnished with perfect working Fertilizer or Cow Pea Attachments, Stub Runners or Disks.

WRITE! This planter is *guaranteed.* It *must* be all we claim and all you expect. Send for Free Book "AP" of Valuable Planting Facts. Write today, then you won't forget.

HAYES PUMP & PLANTER COMPANY, GALVA, ILL.

If a horse could talk—or a sheep

"Thank you boss, I feel fine after that hair cut"



"I've just had more wool off me than ever before"

Clip Before the Spring Work Begins

Horses and Mules will be healthier and render better service. When the heavy coat that holds the wet sweat and dirt is removed, they are more easily kept clean, look better, get more good from their feed and are better in every way. If you want to sell them they will bring a higher price. The best and most generally used clipper is

The Stewart Ball Bearing Clipping Machine

It turns easier, clips faster and closer and stays sharp longer than any other. Gears are all cut from solid steel bar. They are enclosed, protected and run in oil; little friction, little wear. Has six feet of new style easy running flexible shaft and the celebrated Stewart single tension clipping head, highest grade. **Get one from your dealer** or send $2.00 and we will ship C.O.D. for balance. Money and shipping charges back if not satisfied.

PRICE $7.50

CHICAGO FLEXIBLE SHAFT CO.
619 No. La Salle St. Chicago, Illinois

Write for complete new catalog showing world's largest and most modern line of horse clipping and sheep shearing machines, mailed free.

Get All The Wool

and a longer, better grade that will bring the highest price. You can easily net from **15 to 20 percent more on every sheep** you shear with a

Stewart No. 9 Shearing Machine

It is the most perfect hand operated shearing machine every devised. Has ball bearings in every part where friction or wear occurs. Has a ball bearing shearing head of the latest improved Stewart pattern. Complete, including four combs and four cutters of the celebrated Stewart quality **$11.50.** Get one from your dealer, or send $2 and we will ship C. O. D. for balance. Satisfaction Guaranteed or Money Refunded.

Price $11.50

Easier to Put Up Fits the Ground

THE "swinging joint" lets line wires swing freely with the ground. Fits hilly ground as smoothly as level stretches. This gives you a better looking fence—a longer lasting fence—and a more easily erected fence. Stays are doubly strong at every joint—strains and shocks are evenly distributed—fence keeps its shape. Write for the "APEX WAY"—learn how you can save work and money fencing your farm with Apex Fence and

APEX Steel Drive Posts

Made of elastic carbon angle steel. Here is the ideal fence post for the up-to-date farm. It is strong—light in weight. Costs less than wood posts set in place—lasts for generations. No post holes needed—you save cost of digging and tamping posts—save big share of hauling and handling. Steel posts ground the lightning and protect stock—you can burn fence rows clean.

Apex Posts can be driven through any soil, gravel or soft shale without injury. Replace decayed posts in old fences with Apex Posts and save the ugly job of digging holes next to standing fence.

Write for the "APEX WAY"

JANESVILLE BARB WIRE CO.
623 S. Franklin St., Janesville, Wis.

INSECT PESTS DESTROYED BY SHEEP

That many insect pests are protected during the winter by useless vegetation along country roadsides, and that the insects may be destroyed and the undergrowth may be turned into valuable mutton and wool, are facts not generally realized by farmers. The department's specialist in charge of cereal and forage-insect investigations recommends the pasturing of a flock of sheep in these places during the winter months as a most valuable measure for destroying great numbers of insects that might later in the spring spread to and breed in adjoining fields of grain. Where weeds are outside of a fence, or where no crop is growing in the field, pasturing sheep in summer will, of course, keep down the fall crop of insect-harboring vegetation.

The amount of land covered by useless matted vegetation growing along ditch banks, fences, and roads is of no small extent in America. This land, as a rule, can not be burned over because of the danger to fences. Besides, much of the common blue grass thriving in such localities is always too green to be burned and serves to protect the thick mulch of dead grass that accumulates beneath from year to year and forms an ideal refuge for all manner of pests. A small flock of sheep, given the range of fields and roads at this season of the year and where there are no growing crops, will dispose of nearly all useless vegetation. Only a little grain need be added to fatten them. If the farmer does not wish to keep the sheep permanently, he may often purchase "feeders" in carload lots at the large stockyards when they are just in condition to be fattened and later dispose of them.

Over the prairie country sheep will eat off grass and shoots of larger brush and plants, leaving the ground so bare of protection that insects either will not congregate there or gain protection there after the pasturing is done. In the East, where trees, brushes, and brambles enter into consideration, if this brush is cleared off in spring the sheep will in late fall dispose of the young growth that may push up through the summer. By herding the sheep along the roadsides and properly shifting them about according to condition in the fields, all of this waste ground can be made to yield a return to the owner, and incidentally add to the value of the farm.

On account of their light weight, sheep can be pastured in fields when the ground would be too wet for heavier animals. Their small feet, entomologists find, are also more effectual in destroying insects on the surface of the ground than the hoofs of larger animals.

Method Should Lessen Depredations of Many Pests.

The list of dangerous pests that winter along neglected roadside margins is long and formidable. The chinch bug, the spring grain aphis, or "green bug," and the clover and alfalfa seed chalcis fly have all been found by investigators wintering in great numbers in such undergrowth. Under certain favorable conditions in the fall the Hessian fly also breeds freely in quack grass, and in Canada one specialist has traced the western grass-stem sawfly directly from this grass to the wheat fields. This sawfly does considerable damage to wheat in the Dakotas. Young stalk borers (Papapiema nitela) were noticed in very young oats as early as 1884 by the department's specialist under conditions indicating that the parent moths had spent the winter in the matted grass along the border of the fields.

The department's investigator has successfully put the winter sheep-grazing plan into practice with some 3 miles of roadside and even more of fence margins. Many successful farmers have also tried it with profit, but they have not always realized that in addition to the destruction of the useless vegetation they were destroying insect pests that would have become positively dangerous later on. —Weekly News Letter.

FARM FENCE

41 INCHES HIGH FOR 21 CENTS A ROD

Stays only 6 inches apart. Wires can not slip. 100 styles of Farm, Poultry and Lawn Fencing direct from factory at money saving prices. Ideal Galv. **BARBED WIRE $1.45** 80-rod spool. Catalog free.

KITSELMAN BROS. Box 48 Muncie, Ind.

BROWN FENCE DIRECT FROM FACTORY — WE PAY FREIGHT

Over 150 styles for every purpose—hogs sheep, poultry, rabbits, horses cattle. Also lawn fence and gates.

13 CENTS PER ROD UP. ALL DOUBLE GALVANIZED

Write now for new catalog and sample to test.

The Brown Fence & Wire Co. Dept. 105 Cleveland, Ohio

Look over our different seed advertisements carefully—for planting time will soon be here and you should prepare for it in time. Every farm needs a good garden and you can't have one without good seeds.

The J. D. Tower Co. of Mendota, Ill., is putting out a new cultivator which should be investigated by every corn grower. Look up their advertisement elsewhere.

The Missouri Farmer

VOLUME VII MARCH 1, 1915 NUMBER 5

Farmers Need Organization, Now

By Geo. B. Ellis, Managing Editor

The man who has been feeding hogs or cattle corn that cost him 70 or 80 cents a bushel and has been forced to sell his finished product at recent market prices surely has a grievance. The greater his effort to help feed the world and to make a living for himself the greater his loss has been. And equally with the cattle and hog feeder is the man who was selling wheat at 65 or 70 cents a bushel last July and August when he knew it would take a dollar a bushel to give him a reasonable profit. When the great markets force the price of dressed meats higher and the price of fat hogs and cattle lower on the same day, the farmer has good grounds to assert that there is some influence other than supply and demand in control of the markets. When the farmer goes to the merchant to buy a farm implement he is told the price set is as low as is consistent with the first cost and a reasonable profit addded and the buyer pays the price knowing that if the profit was fixed on a reasonable basis he has the worth of his money. But when the same farmer drives his hogs and cattle to market the rule is changed and he is told that profits are not considered but it is just what the other fellow is willing to pay. When the farmer has a little surplus money on hand he takes it to his friend, the banker, and is told two per cent is all the money is worth and all the bank can possibly pay and they take only as an accommodation. When he gets in a tight place and wants to borrow some money his friend the banker says money is scarce and worth eight per cent, and they are not anxious to loan any more but just to accommodate a friend and old customer they will let him have it for ninety days. When you borrow money from the bank thirty days make a month, always, and if you renew your note a few times you find the year is five days short, whereas, if you happen to let them have your money it's funny, but the year comes out even to a dot.

The Farmer Pockets the Loss

When some state official, or may be it is a college professor, finds that he must live the simple life to keep within his income, or that he must cut out that Euorpean trip he feels so much in need of or he must do without a bigger and finer automobile that he needs so much to keep up with millionaire Jones, he is not a bit modest but proceeds to raise a howl about the high cost of living and inadequate salaries that can be heard across the continent. But the farmer is supposed to go right along in the even tenor of his way and sell cattle at $8.50 a hundred that cost him $10 a hundred to produce and live in hope that times may change and by another year he may be able to get back at least a part of his loss. Drouth and flood, windstorm and frost, insects and live stock diseases are sometimes inflicted on the farmer so frequently and so long that his profits of many years of frugal living are wiped out, but no lobby assembles at Jefferson City to put up a pitiful wail about the crisis of the farmer as it is now doing for the great railroads of the country. We might go on and fill these columns with similar comparisons, but what is the use? We all know these things exist so why not try to find out what is the remedy? Our remedy lies in better organization and closer co-operation among farmers.

Two years ago when the Legislature of Missouri passed laws unsatisfactory to the great insurance companies operating in the state what did they do? Did they submit without protest or action like we farmers would have done? Not a bit of it. Standing together as one man they defied the state, they dictated terms to our state officers, laws enacted by our Legislature were trampled under foot and they proceeded in their own way to do business. This they were able to do by the power of organization and co-operation.

Organized Effort Changed President

A general depression of business, the European war, short crops and higher wages were some of the excuses put forth by the railroads of the country for asking an increase in rates. The Interstate Commerce Commission after hearing their plea denied the necessity of it and refused the request of the railroads. What happened? The superb organization of the railroads, East, West, North and South, with its inter-related industries everywhere brought such powerful pressure to bear upon the president of the United States and upon the members of the Interstate Commerce Commission that they were compelled to reverse their decision of a few weeks before and to grant the request of the railroads. This the result of organized co-operative effort. I have not given these illustations to show what ought to have been done in these particular instances, but merely to show the power of organized effort. No one insurance company could have defied the State of Missouri. The largest company could have quit the state and had the others continued the insurance business would have suffered little inconvenience, but when all the companies stood together the state's laws were nullified. One or two of the largest railroads of the country acting alone could not have compelled the most powerful governmental agency in this country to reverse its decision because the transportation of our products could be carried on without much interruption if they had suspended operation. But when the combined power of all of them is used the business of the whole country is threatened and their object is accomplished.

I would not spend my time and effort to arouse farmers to get together and co-operate for their own interests if I did not believe there was a great necessity for it. Of all classes of men in this great country of ours we do not believe there is any other class so poorly paid as farmers, and I am not a pessimist either. The only reason farmers have prospered at all in the last decade is because they live a more frugal and simple life than that of city people. If farmers are to pay for good roads; if the children of the country are to be given equal high school privileges with the children of the cities; if the farm home is to have the same modern labor-saving, health saving conveniences that the city home has; if the farmer is to travel some with his family and learn what is going on in the world, then the farmer must have a better profit. Whether that profit is to come through greater efficiency or higher prices will depend on conditions from year to year but it will be the business of the farmer to demand a better profit and he can get it though organized co-operation.

Farmers' Income Too Low

To prove the profit of farmers is too low we have in addition to our own experience and observation the results of a recent careful survey of farm conditions in a representative county of Missouri, and it may be said this county is fairly representative of the grain and live stock section of the United States. The Missouri State University, through its department of farm management, has gathered complete data covering the operations of 669 farms situated in four townships in Johnson County and comprising about two-fifths the area of this large county. These 669 farms include 272 farms operated by the men who owned them; 218 who owned some land and rented some; 179 who were renting all the land cultivated. These 669 farmers were handling on the average 137.8 acres of land which was worth including his machinery and live stock, $11,531. With this investment and for one man's labor a yearly gross return of $1841 was made. Hardly enough to pay the salary of an assistant professor in the State University. Only about enough to pay the salaries of two stenographers in a business office but mind you this represents the farmer's gross income for a year's labor and interest on his capital of more than eleven thousand dollars. After deducting expenses and interest on capital, the average farmer, land owner and tenant, had the magnificent (?) sum of $442. If these figures are correct, and we think they are, then something is wrong somewhere with the farmers' income, and it is our duty to try to find out what it is.

As I write these lines I realize they will be read in fifty thousand farm homes, some of which have a much larger income than the above average, but we take it for granted the income given is fairly representative. There are certain things the individual must do for himself to increase his income, such as introducing better business methods, better farming methods and so on but these are not the things we want to call attention to in this article. In this article we want to suggest some of the things the farmers of a school district or a township can do to better their conditions both financially and socially, and to show how great that help might be if the organization extended to the whole state.

A Plan of Organization

One of the ablest authorities in this country on farm organization is T. N. Carver, a man who is, we believe, in thorough sympathy with the betterment of conditions surrounding farm life. Mr. Carver divides the needs of rural communities into: 1, Business Needs. 2, Social Needs. For organizing any community, it is recommended that each of these be divided into special lines and a committee appointed to make special study of each line. The lines suggested under Business Needs are: Better farm production; better marketing facilities; better buying facilities; better credit facilities; better means of communication. The Social Needs are: Better educational facilities; better sanitation; better opportunities for recreation; beautification of the country side; better home economics.

As soon as a local organization is formed it will be well to appoint a committee of three or more to make a special study of each of these lines of work and suggest a plan of procedure. There should be separate committees for each subject under consideration but it will not be necessary to undertake work along all these divisions at any one time.

Take the first of the committees, that on better production. It should be the first duty of the members of this committee to make a study of all the leading crops produced in the community. It will be an easy matter for this committee to secure the best literature from the state and the national departments and from other state departments and to appoint special meetings for the study of the subject. We are not going into detail here but it will be apparent to any reader that where a whole neighborhood takes up the study of a subject in concert that about all that is worth knowing will soon be commonplace knowledge in that community.

In our next article we will take up the discussion of the committees' work in Better Marketing Facilities and Better Buying Facilities, and will aim during the next few months to completely cover the whole plan of organization outlined above.

WHAT SHALL WE TEACH OUR BOYS AND GIRLS?

One cannot legislate into people the desire for knowledge. When the desire for knowledge exists the people will get it, legislation or no legislation. This has been abundantly proved in Johnson County.

The boys and girls of this county want to know about things of the farm and home and they are pestering their

C. M. Long, County Farm Agent, Johnson County

fathers and mothers half to death to find out about them. How did such a condition come about? It was brought about by team work on the part of the County Superintendent and the teachers and the farm agent.

The County Superintendent was raised on the farm, has been a school teacher and has a head on him, although devoid of hair, that is full of good common sense. He calls me his Assistant School Superintendent, and I call him my Assistant Farm Agent. That makes both of our offices bigger as we each have an assistant.

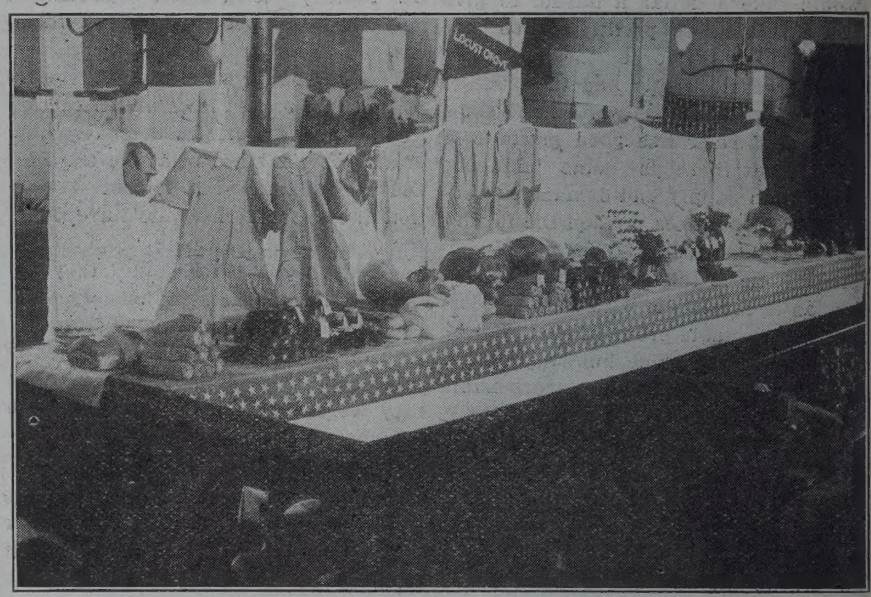
Interesting the People

Last July and August, we conducted a School Board and Patrons' Day in twelve townships. We loaded up the Ford with a tent that would hold about 350 people and we went right out into the center of these townships and set up the tent where a local committee had arranged seats and water and the women of the neighborhood had provided basket dinner. The districts were generally well represented, sometimes the crowd running up into hundreds and one time exceeding a thousand persons. We talked over the problems with the school patrons and told them that we were going to take them at their word on the teaching of agriculture and home economics. You know if you mention to many farmers, the teaching of these subjects in the schools they will say, "Oh, I guess I know more about farming than the teacher does." The mother will say the same thing about the home work. Both are often right, and we proposed to put them at the job. At these meetings an outline was presented as to what we wanted them to teach the children when school began and it was proposed to have an exhibit of the work four or five weeks after school opened. The parents agreed to help in this instruction. When the fall teachers' meeting was held, the plan was explained to them and their support solicited. As soon as the schools opened, the Ford was again in action and the Superintendent and I set out together to visit the schools and explain the plan to the children. A schedule was made so that the parents could come in if they wished. This they did when the weather permitted and more basket dinners with fried chicken, etc., followed.

At this time the school exhibit was planned and we urged the children to go to their parents for instructions in how to select or prepare their part. We also urged that when the instructions had been received that they select or prepare their exhibit alone. We are glad to say that this plan was nearly always followed. After the exhibit had been held at the school house they were to be brought together for the township exhibit. The best school at the township exhibit would represent the township at the county exhibit. Only ribbons were offered at the school exhibits except on two entries. These were for the boy having the best corn and the girl having the best loaf of bread. The prize was to be a trip to the County Round-up with the expenses paid by the school. At the township exhibit prizes were to be offered and each district was urged to raise five dollars and all the special prizes possible. Aside from the right to represent the township, the winning district was to get a pennant like the illustration herewith. At the county exhibit more prizes were offered to the children and a banner to the winning school and a gold watch to the teacher.

Did the Plan Work?

Ask the parents themselves. One lady said, "I have two girls and a boy and they almost tormented me to to death. One girl wanted me to show her how to sew on buttons and the other wanted me to let her bake the biscuits and make the bread, while the boy did not let his dad rest until he showed him how to select seed corn." Another lady said, "My little girl went at her tasks one at a time and learned how to do them. When it came to baking the light bread I tried to dissuade her, thinking it would only mean a waste of flour, but she insisted until I gave her a lesson and now she can beat me." Another mother said she had to make her girl quit her tasks each night to go to bed. One father said he could not get his boy to do anything but hunt corn. I asked him if he had any trouble getting this boy to go to school. "Why, no," said he, "I could not keep him away." Now that is what we want. We must make our school so interesting that we can't keep the children away. Someone has said, "A dog will run just as fast with a can tied to his tail as he will run after a cat, but he will not get half as much fun out of it." Likewise, we can make children go to school but they will learn twice as fast if they like to go. If you chuck Johnnie down and say, "now I am going to teach you to select seed corn," he will know no more at night than he did at the beginning.



Locust Grove School Exhibit, Chilhowee Township. Farm and Home Products. Miss Flora Crutchfield, Teacher.

If he comes to you and says, "Dad, show me how to pick out seed corn," or if the little girl comes and says, "Mother, show me how to make button holes," that is your opportunity. You can teach them more in fifteen minutes, when they are in this attitude than you can by the other method in a whole day. All over our county you can hear stories of how the children have taken greater interest in both the things of the home and the farm.

Superintendent Boston says that more agriculture and home economics have been taught in the county this fall than have been taught all put together before.

Other Results of this Kind of Education

The parents have been induced to come to the school and find out its methods and co-operate with the teacher. The people in the districts are thinking about their school and comparing it with the others.

It has aroused keener interest on the part of the children for this kind of teaching. The mother shows the girl how to work button-holes and make bread. The girl's products failed to get the blue ribbon at the contest. The mother begins to wonder if there is anything wrong with her methods of doing these things. Sometimes the child herself asks that question. The same applies with regard to corn and seeds on the part of the father and son.

The summer meetings, the meetings with the parents at the school, the coming together of the patrons at the school exhibit and the township exhibits promotes sociability and co-operation. Especially does the township exhibit do this. In order to hold the township exhibit a local committee must be appointed to manage the affairs and raise the premium list.

Aside from the five dollars from each district mentioned above, pigs, chickens, eggs, pure bred seeds and any other farm products were offered for premiums. The merchants were not asked to contribute much. This teaches us to pay for our own pleasure and entertainment. These prizes also enforce the lesson taught by the exhibit much more than gew-gaws and trinkets from stores. To add life to the occasion, team hitching contests and corn stringing contests were held. These tend to create a pride and efficiency in farm work.

The whole plan not only instructs the child in the things by which 90 per cent of them will make their living but it teaches them that the calling they are about to enter has something to it and they will have greater respect for it.

Summary of the Work in Johnson

Summer school-board and patrons meetings held, 10; attendance upon these meetings about 4500. Schools visited by Superintendent and County Agent, 55; patrons and pupils present at these schools, 1500; school exhibits at the school houses about 90; township exhibits held, 10; number of things exhibited, 7750; pigs as premiums in township exhibits, 20; total value of other premiums between six and seven hundred dollars; total number of ribbons awarded to children in the county, 5000; one county exhibit held; townships represented, 10; value of prizes offered $100.

In closing we will say that we feel that by this kind of work we can get more agriculture and home economics taught than by putting on our statute books the best laws in the United States regulating our teaching.

C. M. Long,
County Agent, Johnson County.

This school with only 14 pupils won the championship in the county in competition with 85 schools. Miss Catherine Wilkerson, Teacher

HOG CHOLERA ERADICATION
(Continued)

J. W. Connaway, Veterinarian Missouri Experiment Station

In the previous articles I showed the failure of efforts to get rid of hog cholera by the methods that have been followed by many veterinarians—in private practice and in official work. Official veterinarians have been misled by the fact that the "simultaneous method" is better for **immunizing** purposes than "serum alone," a fact that everyone admits. But efforts to permanently immunize all the hogs in a neighborhood, (much less in a county or a state), is an expensive procedure in dollars and cents to the farmers, merely for the vaccinating, and when the farmers discover that the simultaneous immunizing process perpetuates the disease and requires the vaccination of every crop of pigs—and in some cases the revaccination of the breeding herd, they want something better; they want eradication and freedom from the disease, so that they may be able to raise hogs, and avoid cholera, and avoid the vaccination tax. This is what the plans which were worked out by the Veterinary and Farm Management Departments of the University will give them. The plans have been tested and have been found satisfactory to the great majority of the farmers where the plans have been put into operation. I refer with confidence to the farmers of Johnson, Dade, Cape Girardeau, Cass and Bates counties who have joined the "anti-hog-cholea movement" in an organized way.

The Kansas City Serum Producers' Club, which has recently been so active politically, in the matter of fighting an alleged bill in the Legislature to prohibit the use of "Virus," has not only credited me with being the instigator of the mythical bill, but that I am also alone in the stand I take against the use of the simultaneous method as a measure for controlling hog cholera.

I am glad to say that I have good company among the veterinarians engaged in official work. Some think as I do. And it is gratifying to know that the anti-virus group is growing larger every year. For the logic of results is teaching the men in official work that "immunization," and the saving of large numbers of hogs, by the simultaneous method, is not controlling and eradicating the disease.

At a recent meeting of the U. S. Live Stock Sanitary Association held at Chicago I had an opportunity to talk with men in official work from various states, and I know that the inclination is now strong to abandon or greatly restrict the use of the simultaneous method, and to emphasize the sanitary and educational phases of the work, namely to organize the farmers into "anti-hog-cholera clubs" and teach them how to apply sanitary measues, and to use as little serum as possible and no virus.

It will be of interest to the Missouri farmers to know what the officials of other states are doing and thinking about these matters:

The State Veterinarian of Pennsylvania opposes the use of virus in that state. Both the State Veterinarian and the Veterinarian of the Agricultural College of Michigan do not favor its use for "eradicating hog cholera." The Commissioner of Agriculture of Virginia supplies serum to the farmers but places a ban on the use of virus. The State Veterinarian of North Dakota, who is also the Agricultural College Veterinarian, does not favor the use of "virus." The State Veterinarian and Colleges of Agriculture of Colorado and Nevada are opposed to the use of virus, and have regulations against its intoduction into those states. The veterinary authorities of Maine use serum but not virus. The veterinary authorities of South Carolina "taboo" virus, but use serum alone.

The State Veterinarian of Georgia says: "I have always been more or less opposed to the use of "virulent blood," and am in no mood or position to change my opinion. The more I think it over the more I am convinced that the use of virulent blood is to say the least of it a risky transaction. Your teachings of greater sanitary precautions are strictly in accordance with my ideas on the subject."

Minnesota takes a "wee drap" of "virus" but is tapering off rapidly so far as the College department is concerned. This department has always insisted on a large place for sanitation in hog cholera control work. Dr. Reynolds writes me as follows: "We are studying the question of developing a state wide campaign on the subject of sanitation and sense in connection with hog cholera. For some time I have been telling people they have no right to be scattering hog cholera with both hands and two feet and clamoring for serum at the same time. This is one point where we certainly agree."

In Kansas both methods are being used in official work and a combination of the two. In regard to the simultaneous method—Dr. Schoenleber summarizes as follows the conditions unfavorable for the use of the serum-virus method: "Do not use virus on pigs under 50 pounds weight—as immunity may not last; do not use it on pregnant sows (they are liable to abort); do not use it on suckling pigs; do not use it on hogs suffering from any disease (the addition of the virus to an already sick hog may prove fatal); do not use virus if the hog has a high temperature from any cause; do not use virus on hogs infested with parasites (the lowered vitality may cause them to develop an acute and fatal attack of cholera); do not use virus if the surroundings are not sanitary." "Serum alone," he says, "should be used under these conditions until such time as the conditions are right."—That is the ideal conditions would be a perfectly healthy herd on a perfectly clean farm. My contention is that when a farmer has such conditions as these he is very foolish to run the risk of putting hog cholera on his farm for Dr. Schoenleber says in the same article: "While it is possible in many instances to use the serum and virus successfully without loss our experience has shown that at times great losses are incurred." In fact so many conditions are mentioned where virus should not be used, because of danger to the individual herd and so few valid reasons exist for the use of virus, I am convinced that the Kansas authorities will abandon the use of virus in field work as a measure for the eradication of hog cholera.

The maintenance of the resistance of the herds of any considerable territory, as a county, by continued serum-virus immunization—is too expensive and too uncertain—the simpler method of neighborhood sanitation, by the farmers themselves under the direction of a competent sanitarian, and the use of serum alone when vaccination is needed will give more permanent freedom from hog cholera.

In Nebraska both methods have been used by the State Veterinary official, and College Veterinarian. That the use of the serum-virus is not pleasing to all Nebraskans is evident from a letter I received from Mr. Meyer Brandwig, of Spencer, Boyd County, Nebraska, who sent me an article he wrote for the Nebraska Farmer more than a year ago (Dec. 17, 1913), in which he gives his sad experience from use of the simultaneous method. A few quotations from the article and from his letter are pertinent. "I had a herd of 92 hogs comprised of sows, and spring, summer and fall pigs. They had run on ten acres of alfalfa and had been fed about equal parts of a mixture of corn, oats and wheat. By treatment I believe I had eliminated the worms. As a sanitary measure I had been using disinfectant sprays in the beds and troughs and sprinkling lime about the yards. My hogs were in perfect health and had a ravenous appetite; while those of my neighborhood in three directions were dying from cholera." (This farmer was doing most of the things we advocate and which the members of our "anti-cholera club" are practicing. He continues: "I became somwhat nervous and wrote to the State Experiment Station for advice and serum. I was advised to use the 'simultaneous method,' and was assured that the losses by this method averaged only 2 to 3 percent." (It will be observed that the conditions of the herd and the hog lots in this case were the ideal conditions that would give best results according to those who advocate the serum-virus treatment.—J. W. C.) "On October 13 I had all my hogs vaccinated according to the directions. At the end of the succeeding week I lost two pigs, the remainder of the herd was well, apparently and continued to be so for about six more days, or twelve days after vaccination. Within three days from this time they began to die and others were sick. I sold twenty-one head and left the others (70 head) for experimental purposes. I have lost more than thirty head of those including old sows, and am still losing." (His recent letter gives the total loss at 43, leaving him only 27 head out of the 70 head). "This is not by any means an isolated case. A neighbor who was possibly influenced by my example vaccinated ninety-one head a few days after my hogs were vaccinated. His animals were all well at the time. He now reports that more than fifty have died. He reports similar experiences in other herds and says, "there are only three men in this community that have vaccinated well herds and had satisfactory results." He says "I am led to believe that the

(Continued on page 20)

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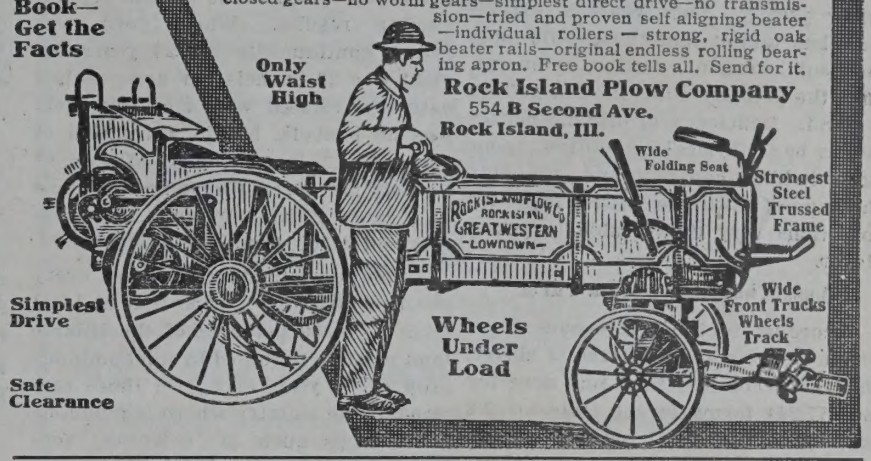

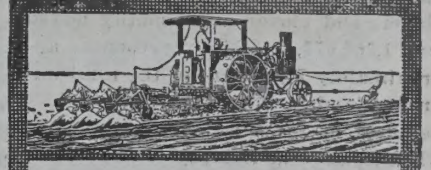

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CLOVER AND SOIL FERTILITY

Clover is the most important legume crop used for building up land, and the ease with which the crop can be grown is taken as an indicator of the fertility of the soil. It is an almost universal practice, and is taught by all Agricultural Experiment Stations, to include clover in every rotation and thus improve or maintain the crop producing power of the soil. It is generally assumed by farmers that land that will not grow clover or that grows it sparingly, is in a bad condition or of inferior quality. Long years of experience has taught that those soils most deficient in organic matter, or humus, offer the greatest difficulties in getting a stand. Deficiency of organic matter means bad physical condition, poor water-holding capacity and probably shortage of available plant food—all conditions very unfavorable to young clover.

Less Than One Acre a Farm

According to the last census there was in Missouri 262,622 acres of clover, an average of less than one acre for the 277,244 farms in the state, or 2.2 per cent of the total area in cereals and timothy. The total acreage of clover, and clover and timothy mixed was 1,766,677, which represents approximately 7 per cent of the total improved land in the state, or about 15.4 per cent as great an area as of corn, wheat, oats and timothy together.

In considering the 1,504,055 acres reported in clover and timothy mixed, it must be remembered that one-half or less than one-half of this area is occupied by clover. If the clover were grown alone it would represent an area of 752,027 acres, which would approximately be 2.7 acres for each farm. This is a liberal allowance. Anyone familiar with mixed timothy and clover meadows, knows that the timothy is invariably the predominating crop, and that the clover usually occurs only as occasional isolated plants, Considering the total clover acreage alone, it would approximate 3.6 acres for every farm in the state.

This surprisingly wide discrepancy between the acreage of clover that ought to be grown to maintain soil fertility and the acreage actually reported may be attributed to a lack of appreciation of the value of and need for legumes, and inability to grow clover successfully with any degree of certainty.

Clover Increases Corn Yield

The Missouri Agricultural Experiment Station found that where corn has been grown on the same land for 17 years continuously without manure, the yield has been reduced to 11.8 bushels per acre. Where the land has been simply rotated to corn, wheat, clover, the yield stands at 50.7 bushels per acre. The Illinois station reports similar results. Where corn was grown continuously for 28 years the yield was 22 bushels per acre. When oats was rotated with corn the yield was 36 bushels, but in a rotation of corn, oats, clover, the yield was 59 bushels per acre. These figures show in a most striking manner the beneficial effect of clover on land.

A rotation including a legume every third to fifth year means that at least from 20 to 30 per cent of the tillable land must be occupied by a leguminous crop every year, except in those sections of the country where leguminous catch crops, such as cowpeas, soybeans, can be grown between the regular crops without the loss of a full season. Even the most casual observer knows that there are few, if any, places where clover occupies anything like 20 per cent of the tillable land, and yet clover is by all odds the most important legume crop grown in the state.

The writer has traveled over Missouri quite extensively during the past four years, and on the basis of the observations made the conclusion is reached that probably less than 25 per cent of the area seeded to clover produces a really good crop. In seasons of abundant rainfall the percentage of successful crops is higher, while in seasons of extreme drouth the percentage of failures is greatly increased.

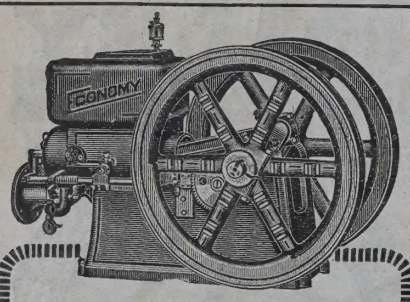
More Clover, Less Corn Acreage

The last three years have been most unfavorable for the growing of clover. Thousands of acres were seeded each year, but the young plants were destroyed by the dry weather of the late summers. Although this has been both discouraging and costly, the Missouri farmer should not fail to sow as large an acreage of clover as his rotations and funds will permit. In the light of the results obtained by the Agricultural Experiment Station and by many farmers, an increase in the acerage of clover accompanied by a corresponding decrease in the acerage of corn, would not result in a decreased production of the latter. In addition, a large amount of hay would be produced and the fertility of the land improved.

During the dry years very little organic matter has been added to the soil and the already low supply has been depleted to a still greater degree. The lower the content of organic matter the greater the difficulty of getting a stand of clover. In reality clover is a crop for maintenance of fertility rather than for soil improvement; that is, it is much better suited to grow on fairly fertile soils to keep them so, than for the improvement of really poor soils. It can be grown on poor soils only with the greatest difficulty, and remedial measures to enrich the soil generally have to be taken before any real success is attained. In ordinary soils only about two-thirds of the nitrogen supply of a clover plant comes from the air, the other third coming from the soil, so that when the tops are removed as hay, one is removing just about the proportion of nitrogen that came from the air, leaving in the root and stubble just about the amount that was taken from the soil. In taking off a clover crop, therefore, one is not building up the soil to any extent in nitrogen but about maintaining it. In order to increase the nitrogen in the soil it is necessary to feed the crop back on the land, pasture it off, or occasionally turn under a crop.

With the present high prices of grain there is a tendency to devote every available acre to the production of corn and wheat at the cost of clover and other legumes. The decrease in the number of live stock results in a decreased production of manure. The resultant of such conditions is that the organic matter in our soils will be reduced to such an extent that grain crops no longer will be profitble, and the growing of clover will become exceedingly difficult. To build up the land will require special care, the use of commercial fertilizers and costly treatment. The thoughtful farmer will therefore not be tempted for temporary gain, to exclude clover as a prominent part in his rotation, but will increase the acreage of this important legume in proportion to the returns he expects to obtain in the years to come.

H. H. Krusekopf.



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Write today for our new gasoline engine proposition which tells all about the test made by the University Experts and explains why we can make lower prices on our New Model 1915 Economy Engines, yet give you more power.

Sizes, 1½ to 12 Horse Power.
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Sears, Roebuck and Co. Chicago

Creating a New Art

At the Centennial Exhibition at Philadelphia, the exhibit of the Bell System consisted of two telephones capable of talking from one part of the room to another.

Faint as the transmission of speech then was, it became at once the marvel of all the world, causing scientists, as well as laymen, to exclaim with wonder.

Starting with only these feeble instruments, the Bell Company, by persistent study, incessant experimentation and the expenditure of immense sums of money, has created a new art, inventing, developing and perfecting; making improvements great and small in telephones, transmitter, lines, cables, switchboards and every other piece of apparatus and plant required for the transmission of speech.

As the culmination of all this, the Bell exhibit at the Panama-Pacific Exposition marks the completion of a Trans-continental Telephone line three thousand four hundred miles long, joining the Atlantic and the Pacific and carrying the human voice instantly and distinctly between New York and San Francisco.

This telephone line is part of the Bell System of twenty-one million miles of wire connecting nine million telephone stations located everywhere throughout the United States.

Composing this System, are the American Telephone and Telegraph Company and Associated Companies, and connecting companies, giving to one hundred million people Universal Service unparalleled among the nations of the earth.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy *One System* ***Universal Service***

FARM FACTS

Cheap money will solve many of the farmer's problems.

There is not enough of the community spirit among our rural districts.

Success in farming depends largely upon proper marketing methods, cheap money and co-operation.

Something is wrong in our marketing system when a small crop brings more money than a bountiful one.

Co-operation between practical farmers and proficient business men will eliminate ignorance and prejudice.

The highest duty of state and Federal Governments is to place agricultural education within the reach of all.

The farmer cannot be helped until he organizes, and the Government can best help the farmer through organization.

By co-operating with his neighbor the farmer can learn new methods of culture and the interchange of ideas will benefit both.

The Nation's menu must be made up from the fields, pastures, orchards and gardens, and to farm intelligently the farmer must know what is needed.—Peter Radford, Lecturer National Farmers' Union.

Except on the flat prairies and possibly some river bottom land there is not a neighborhood in the state of Missouri but what ought to have a surplus of clover seed to sell. Remember this: Clover seed is more profitable to sell at $12 a bushel than to buy fertilizer at $30 a ton. These are hard facts—take your choice.

PROFITABLE USE OF CORN SILAGE FOR FATTENING CATTLE

The feeding of corn silage to fattening cattle is increasing to such a large degree and the popularity of this feed is so great that it is no exaggeration to say that to these facts more than to any other, can be accorded the honor of placing the beef fattening industry of the corn belt on a basis where it will not be replaced entirely by other forms of live stock husbandry as has been the case in some of the regions outside the great corn producing sections. Silos are being erected by the thousands each year. When a silo is erected, the owner usually stays in the cattle business.

Corn silage has been fed to several hundred cattle fed experimentally at the experiment stations of the corn belt with exceptionally satisfactory results. In eight trials at Purdue Experiment Station rations containing corn silage properly fed have without exception been more economical and returned greater profit on the investment than any other rations fed.

The most marked effect has been in the saving on the cost of gains. The rate of gain was not greatly decreased. The addition of corn silage once daily to a ration of shelled corn, clover hay and cottonseed meal decreased the cost of gain $1.09 per hundred pounds; feeding silage twice daily effected a saving of $1.80 on each hundred pounds of gain. This saving in cost has been secured without sacrifice of finish on the cattle. The average of all trials at Purdue show practically the same selling price for the cattle fed silage and those receiving only dry roughage. In the winter of 1911-12 a drove of cattle were fed a ration of shelled corn, cottonseed meal and corn silage for a period of 160 days. The cattle weighed 969 pounds per head when started on feed. They were of choice quality but did not carry enough flesh to make them cost within 50 cents per cwt. of the top of the feeding cattle market. Nevertheless, at the end of 160 days' feeding, they were sufficiently well finished to sell at the top of the Chicago market for fat cattle ($9.00 per cwt.) which was the highest price paid for cattle during the year until that time.

Corn silage has limitations. It is more deficient in protein than corn. In order to secure satisfactory results it is necessary to give the cattle a concentrated feed rich in protein. The feeding of corn silage without supplementing it with a feed rich in protein gives no better results than when silage is not fed. Trials at Purdue Experiment Station and Missouri Experiment Station have clearly shown that a ration of corn, clover hay and corn silage is not any more efficient than one of corn and clover hay. In fact, the rate of gain made by the cattle was less when silage was fed than when the ration consisted of corn and clover hay and were it not for the relatively low price of silage the profits would have actually been reduced by the addition of silage.

The value of adding a feed rich in protein to a ration containing corn silage is shown by trials at Purdue. The addition of cottonseed meal to a ration of corn, clover hay and corn silage showed on an average of two trials an increase of 24 pounds monthly per steer with a reduction in cost of gain of $1.56 per hundred pounds. Since the conclusion of these trials, corn silage has not been fed at Purdue except in connection with a concentrated protein feed. Cottonseed meal is fed at the rate of 2.5 pounds daily per 1000 pounds of cattle because extensive trials have shown this to be the most economical quantity in which this supplement should be fed. The trials have shown that when cottonseed meal is fed in smaller quantities than 2½ pounds per 1000 pounds of cattle, the steers do not gain or finish as well as when the larger quantity of meal is fed. Trials also have shown that larger quantities than 2½ pounds produce approximately the same results as the amount recommend but at greater cost thus reducing the profit from the feeding operation.

When a ration of corn, cottonseed meal, clover hay and corn silage is fed to fattening cattle, the quantity of clover hay consumed is so small that any beneficial results derived from its use can be better explained by saying that the good comes from meeting the demand of the cattle for some form of dry roughage in connection with silage than to the actual nutrients furnished by the hay. This has been proven by three trials in which oat straw replaced clover hay in the above mentioned ration. In every case, as good results were secured by use of oat straw as from clover hay. Moreover the ration containing oat straw was cheaper. Of all the rations tested at Purdue, the most efficient, when rate and economy of gain, finish of cattle and profit per head are considered, has consisted of corn, oat straw and corn silage in such quantities as the cattle would eat twice daily and cottonseed meal at the rate of 2½ pounds daily per 1000 pounds live weight of cattle.

F. G. King,
Indiana Experiment Station.

This lot of cattle were fed corn silage and oat straw for 70 days, then corn in addition for 110 days. Daily gain per head was 2.2 pounds. Final weight per head 1350.5 pounds. Cost of 100-pounds gain was $7.92. Purdue, Indiana, Experiment Station.

GOOD ROADS NOTES

No other citizen realizes the value of good roads as does the farmer.

A community can safely be judged by the kind of highways it maintains.

The greatest chasm between the producer and the consumer is the mud hole.

Production must cease when the transportation costs eat up the profits.

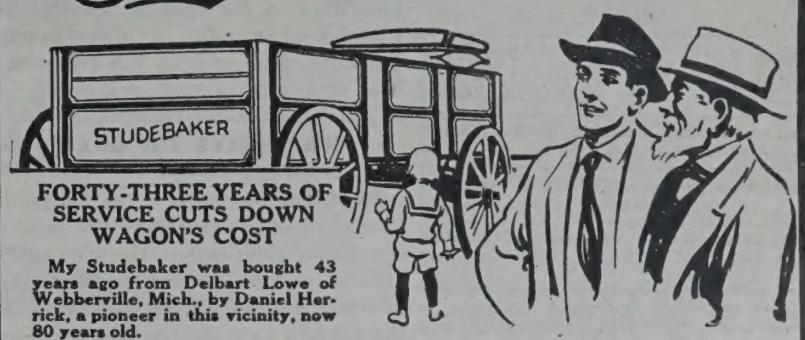
There is something radically wrong with the farmer who is opposed to good roads.

Without good roads, there can be no development that will be permanent and enduring.

Bad roads keep children away from school and impair the efficiency of church work in a community.

The elementary principles involved in improved highways are social and domestic happiness and business economics.—Homer D. Wade, Chairman Good Roads Committee, National Farmers' Union.

Studebaker
WAGONS BUGGIES HARNESS



FORTY-THREE YEARS OF SERVICE CUTS DOWN WAGON'S COST

My Studebaker was bought 43 years ago from Delbart Lowe of Webberville, Mich., by Daniel Herrick, a pioneer in this vicinity, now 80 years old.

In 1887, S. E. Dean bought the wagon from A. B. Herrick, Daniel's son.

Eight years ago L. C. Dean, son of S. E. Dean, bought the wagon from his father and still uses the wagon on his farm.

The wagon has stood out of doors for 26 years; a yard and a quarter of gravel can be drawn in it now.

Levi C. Dean,
R.F.D., Webberville, Mich.

A Studebaker that has served three generations—

FORTY-THREE years ago Daniel Herrick bought a Studebaker wagon. Mr. Herrick's son sold the wagon to S. E. Dean and Mr. Dean's son is using the same wagon on his farm today.

Think of the money that sturdy Studebaker wagon has made for every one of its four owners.

But that's the way with Studebaker wagons—they are a fine investment for they always pay dividends on the original cost.

Not the Cheapest but the Best

It is true a Studebaker wagon may cost you a few dollars more than a cheaply made wagon but when you consider the years of service you get from the Studebaker isn't it much the cheaper wagon in the end?

In fact, it is a safe proposition to judge your wagon by what it *costs you per year*.

Records prove that you can expect at least thirty-five years of service from a Studebaker. Figuring that way it is the cheapest wagon in the world.

Studebaker also makes Buggies and Harness warranted to give satisfaction.

STUDEBAKER, South Bend, Ind.

NEW YORK CHICAGO DALLAS KANSAS CITY DENVER
MINNEAPOLIS SALT LAKE CITY SAN FRANCISCO PORTLAND, ORE.

Adv. 2033

Studebakers last a lifetime

DO you know there is only one plow guaranteed to leave no crop-killing air spaces? Only one plow that, with its peculiar auger-like shape, can go into stubble, tame sod, trashy corn ground, pasture, etc., without changing bottoms? This plow *increases your crop 2 to 10 bushels per acre*. Figure this at the tremendous prices for your grain this season.

There is only one plow for which these strong claims can be made and backed to your entire satisfaction—the

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Learn all about the Famous "CTX." Saves buying extra bottoms. Pulverizes better and saves at least one harrowing. Turns slice *clear over* and *buries all trash*. Work saver and money saver. Write today for handsomely illustrated, Free "CTX" Book; see what this plow saves, what it costs, and *what it is doing for other farmers*. Postal brings book.

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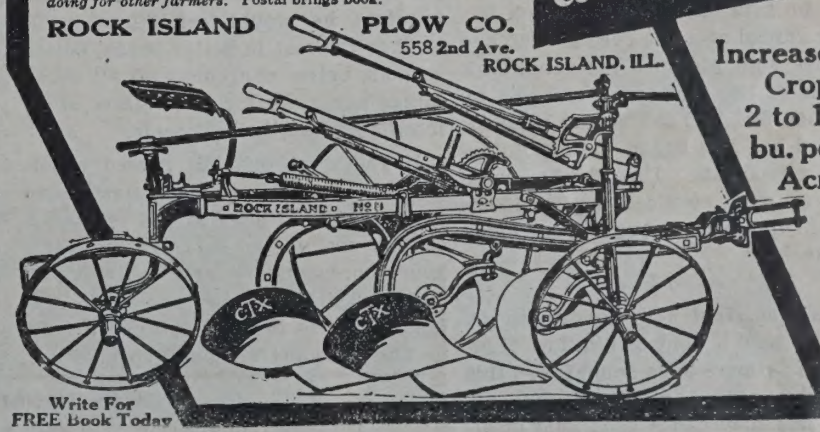

Increases Crops 2 to 10 bu. per Acre

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THE MISSOURI FARMER

Devoted to Better Farming, Better Farm Homes and Better Citizenship.

Vol. VII March 1, 1915 No. 5

William Hirth - - - Publisher
Geo. B. Ellis - - Managing Editor

Published twice a month, on the 1st and 15th, at Columbia, Mo.

Subscription Price 50 Cents a Year in Advance

The date on the address label gives month and year to which subscription is paid.

Agents Wanted. We want some one to represent us in every community and make up clubs for which we will pay liberal commissions. Write us for terms and sample copies.

We solicit communications from farmers and members of the family on timely and practical subjects. Photographs illustrating farm life or plans for buildings, live stock, etc., are appreciated.

To render service is our aim nad we will endeavor to answer all pertinent questions or have them answered by competent authority. When answer is desired direct, always enclose stamp.

Entered at the postoffice at Columbia, Missouri, as second-class mail matter.

With good prices promised for most all our crops this year we should make strenuous effort to raise big crops while the prices are good.

—o—

The greatest single loss among live stock men is that caused by hog cholera. If this can be saved by a little care and common sense, would it not be to our great advantage to do it?

—o—

When you see the water from the spring rains carrying tons of your best soil down toward the Gulf of Mexico during the next few weeks, better pass a resolution to seed down some of your hill-sides in grass and get a few good cattle to turn the grass into money.

—o—

Last fall we saw hundreds of bushels of apples offered at 40 to 50 cents a bushel and they were high at the price —they were full of worms. Sprayed apples at the same time were bringing a dollar a bushel and were worth the money. The man who offers wormy apples for sale these days when we know how to prevent them ought not to make any claim of "knowing how to farm."

—o—

The man who has a good herd of dairy cows and has been buying mill feed and alfalfa hay to get them through the winter, may feel like there is not much money in dairying, but when he gets that fine lot of rich fertilizer spread over the corn ground and watches with pleasure the rank, dark growth of the corn next summer he will then feel like the money he spent for feed has just begun to draw interest at a good rate. The time has come when we must consider the fertilizing value of the feed we buy for our extra live stock.

—o—

It is time right now to begin to get ready to sow a field of alfalfa. Hundreds of farmers have bought feed this year who could have saved that expense had they had a good field of alfalfa last year. In some instances it is safe to sow alfalfa in the spring just as we do clover, on wheat or oats. A great many farmers have reported good results this way. But a safer plan is to get the ground ready in the early summer and sow the seed in August. Sow the field in oats and mow the crop off early for hay and then it is in good shape to prepare for alfalfa. Possibly a better way is to wait until the weather is warm and sow the ground to an early maturing variety of cowpeas or soybeans which will leave the field in the very best condition to follow with alfalfa. We can not afford to pay $20 to $30 a ton for mill feeds when we can grow three or four tons to the acre of alfalfa that will take the place of the expensive feeds. Let us resolve now to sow a field of alfalfa in 1915.

—o—

WHAT HAVE YOU DONE?

In recent issues of The Missouri Farmer we have discussed the need of a better system of rural credits and a plan to put the system into operation in Missouri. We have a chance to take the lead in this matter and we think the plan now before the Legislature, which we outlined in our last issue, will be a splendid encouragement to the agricultural interests of the state if it can be enacted into law. But what have you done, dear reader, to help this thing along? If each one of the fifty thousand farmers who regularly read this paper would write their members in the House and Senate of the State Legislature and urge the passage of this bill it would be done before adjournment and no mistake about it.

It matters not whether you are a land owner free of debt, a mortgaged-land owner, a tenant or a hired farm hand, you ought to be vitally interested in anything that will encourage and help farmers to own the land they occupy. We have no prejudices against the man who now owns land and is holding it as a good safe investment—there will probably always be a reasonable number of such holdings—but we think it is a universally accepted economic principle that the country having a wide and general distribution of land ownership is on a sounder and better basis than the one under a system of landlordism. The man who owns a farm debt-free may not feel a personal need for lower rates of interest on farm mortgages but he surely can see that others of his neighbors or possibly his own boys who will soon branch out for themselves will be benefited when this plan is put into operation.

For the man who is struggling under a debt that takes about all his surplus to pay the present rate of interest it would be a great encouragement and put new life into his work if he could take up his old mortgage with one bearing no greater rate of interest that would gradually liquidate the debt in a few years. Year by year as he saw his debt reduced and a debt-free home in sight he would feel like taking a greater interest in better roads, better schools, better churches and all other things necessary for the welfare of an intelligent and thrifty people.

If you want this bill passed which will give land owners long time loans at a low rate of interest and without a cent of cost to the state, better write your representative and senator at once. The measure now before the Legislature is the one outlined briefly in The Missouri Farmer February 15, and is generally referred to as the Gardner Bill because first suggested by Col. F. D. Gardner of St. Louis. This bill was introduced in the Senate by Senator Craig of Nodaway County, and in the House of Representatives by Hon. Noah W. Simpson of Lewis County and has been endorsed by C. O. Raine, master, Missouri State Grange.

This is decidedly the best plan we have seen suggested so far and we know it will prove a great help to agriculture if it is put into operation.

—o—

FARM ORGANIZATION

The older our country and the better organized all lines of business become established, the greater the need for some strong central organization for farmers. Farmers can not afford to grope along in an independent way when every other industry is so thoroughly organized in their own special interests. Take organized labor, for instance. What labor demands may indirectly concern the farmer. The farmer being classed as a laboring man is naturally in sympathy with anything looking to the betterment of laboring people, but when the demands of labor become unreasonable the farmer in his own defense must take some action and the only way to do it is through some official body. One matter in point is that of the demands of railroad engineers and firemen for an increase in pay which is now before a board of arbitration in Chicago. The fact is that these men are already much better paid for their labor than farmers, and if we allow them to go on and demand unreasonable salaries and make unreasonable rules that will cost the railroads millions of dollars unnecessarily, then as a matter of course passenger and freight rates must be increased to meet expenses and here is where it concerns the farmer.

There are two old established orders that deserve the confidence of the farmers, the Grange and Farmers' Union and we would like to see both these splendid organizations encouraged and supported by the farmers of Missouri.

—o—

CRITICISING THE LEGISLATURE

There has been a great deal of discussion in the newspapers lately about the attitude of the present Legislature toward the University at Columbia and a number of the writers go so far as to charge that the members of the Legislature are hostile to the University and that they want to cripple this great educational institution in its work. We do not take any stock in these charges for we know the average man who goes to the Legislature is as honest and as loyal to his state as the average man who is on the outside. The fact is that there is only about eleven or twelve million dollars available for all purposes for the next two years. Missouri has a large number of institutions, eleemosinary, penal and educational and they must all be taken care of. As the state develops every one of these institutions must try to keep pace, but if the revenues of the state fall a little short of the needs it may be necessary for all the institutions to curtail their sphere a little rather than to cripple any one institution. Those in charge of our state institutions should remember that this is a time when thousands of indiviuuals are economizing to the last cent and it is the duty of the Legislature to economize in public expenditures. In times like these state institutions may consider themselves fortunate if they are able to maintain their work on the basis of the last two years.

Another thing, the members of the Legislature can well afford to consider of first importance those things that give the people direct results and ready returns. Take for instance state aid to rural schools and high schools. Every dollar expended in this line gets to the people who need it most and who need it at once. Then in work like the control of live stock diseases and insects which we discussed in a recent issue the results are apparent every day and this kind of work can not wait without great loss to individuals as well as to the state. There is entirely too much scolding and fault finding with the Legislature and we think this is a time that all should show a spirit of co-operation rather than criticism.

Farmers lost millions of dollars last year from hog cholera, army worm, chinch bugs, Hessian fly and other pests that might have been greatly reduced under a state-wide campaign by the State University or the state board of agriculture. These are things the Legislature could well afford to care for if it were necessary to cut down many other appropriations which are made annually which are of little or no economic importance. Certain state officials are neglecting their duties and taking up their time lobbying with the members of the Legislature for increased salaries, more help and enlarged appropriations for things of doubtful value and then if they fail to get what they want they try to discredit the members with the people. Let these people who are finding fault with the Legislature tell us how to get more revenue and how to care for the hundred and one things that are of vital interest to the general public.

—o—

GET RID OF HOG CHOLERA

There are few hog raisers in the state who have not at some time in their experience with hogs sustained loss from hog cholera. We lose millions of dollars annually from this one cause and yet in the light of what we now know this loss ought to be saved and can be saved if the farmers will follow the methods of sanitation and co-operation recommended by Dr. Connaway of the Experiment Station. Every farmer in his own behalf must keep his own premises clean, but this is not enough—his neighbors must do the same thing. Any farmer may take every precaution and if a careless neighbor allows the carcasses of dead hogs to lie around for dogs, buzzards and crows to carry about, the man with clean premises is in constant danger of an outbreak in his herd.

During the past five years The Missouri Farmer has constantly kept this matter before our readers and warned them against the dangers of the simultaneous treatment and the poor sanitary measures usually practiced in the state. We have given figures to show what has been done in Dade, Johnson and other counties, and if the plan of organization in these counties were put into effect in the entire state there is no question but what we would soon be practically rid of this great loss.

NOTICE TO SUBSCRIBERS

The great number of renewals we have received during the last few weeks has made it impossible for us to give credit on our subscription list with the usual promptness. If, therefore, your subscription hasn't been marked up in the issue after you made your remittance, don't worry. The credit will be give as speedily as we can reach it. Through the employment of some new and inexperienced office help, the second letter on renewal of subscriptions was recently mailed to a number of readers who had already remitted. We regret this unfortunate mistake and promise our subscribers that it will not happen again. In conclusion, we hope that those of our readers who have not yet renewed their subscriptions will do so promptly before they get busy with their spring work.

THE MISSOURI FARMER.

EIGHT YEARS SILO EXPERIENCE

We built our silo in the summer of 1907 and have filled it eight times; it is 16x30, made from two piece cypress staves 24 feet in all, set on six foot concrete basement; top of foundation is six inches above level of barn floor, walls 12 inches thick, concrete floor. The staves show no sign of decay.

In filling we use a cutter which has knives and blower on fly wheel; cut one-fourth inch in length as it packs much better in short lengths. Have had from one to three men in silo and find it pays to use three. In the field have used corn binder, sled cutter and knives. We find the binder much the best. Have always had to use a steam engine for power, paying from $5 per day the first years to $9 later. We have used more or less water on silage every year but have at times put in some without water and have found

Silo on Lewelling Farm

that small mouldy spots often occur when silage was not wet enough.

We have always tried to cut the corn about a week before it would do to shock, when most of the grains are well dented and the shucks and the lower blades are yellow and have always had good sweet silage. We have tried Kafir corn and cowpeas which made good silage, but prefer corn with plenty of ears on it.

On my father's farm of 180 acres we keep 35 to 40 Jerseys, 6 to 8 horses and mules, 20 to 40 sheep, 10 to 20 hogs and a flock of chickens. We feed silage to everything except hogs and poultry.

During the first few years it cost from $65 to $70 to fill the silo but during the last two years, several of the neighbors have erected silos and by exchanging work (a sample of co-operation) the actual cash outlay has been greatly lessened.

The first year we put all of our corn in the silo and then did not have it quite full. That fall we bought a manure spreader and since then have filled it from a smaller number of acres, although we would rather put all the crop in the silo than fail to fill it. With the small cutter which we have, it takes two and a half days for filling. This allows more time for settling and we can put more material in the silo. In 1914 we filled our silo from 18 acres.

W. W. Lewelling,
High Hill, Mo.

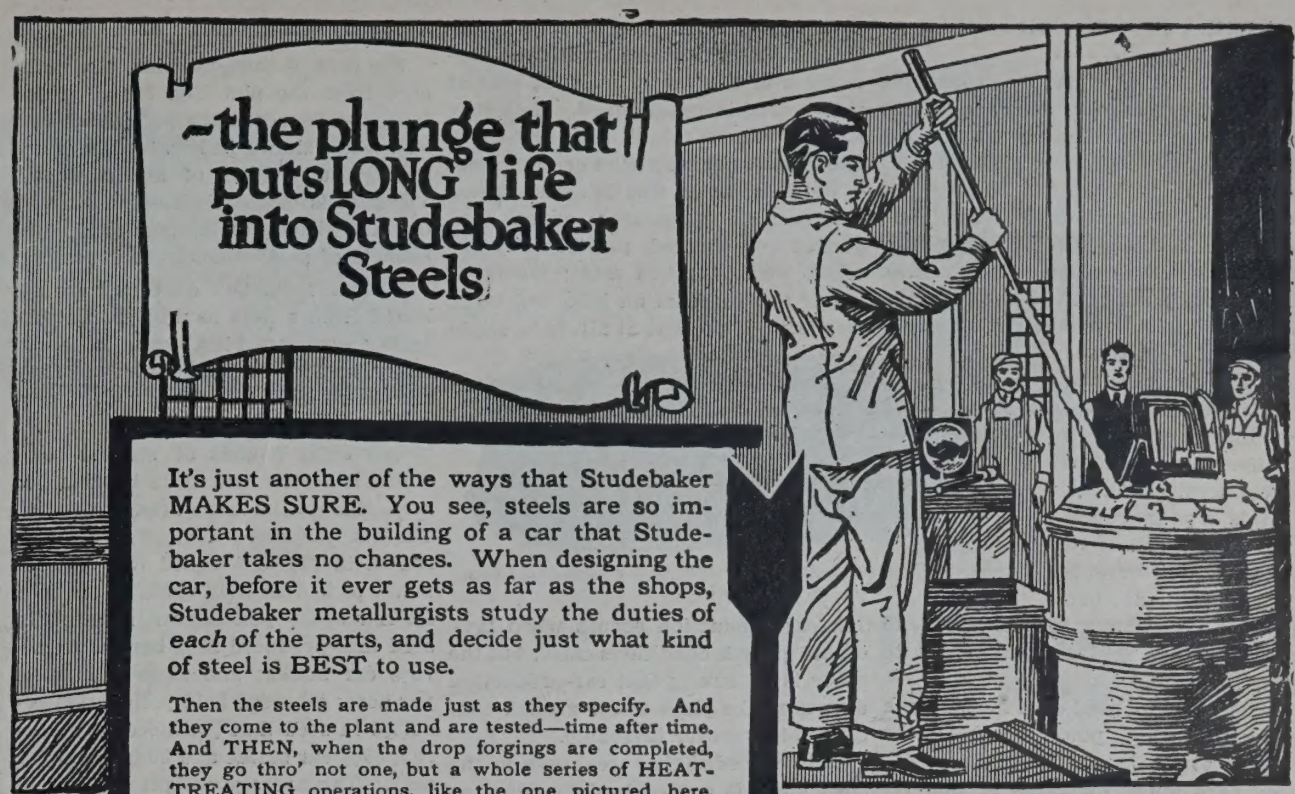
SILOS ARE FEED SAVERS

I have two one-hundred ton silos. One is a two-piece fir, the other is a one-piece fir creosoted. I have used one three seasons and the other one season. I think they are feed savers. I have fed a bunch of heifers every year since I put up my first silo and they have made me money. I also feed silage to my milk cows, brood mares and all other horse stock. I have never had any experience with a concrete silo. I think all farmers should put up a silo.

L. M. Swarner,
Cooper County.

Every up to date farmer needs a good manure spreader—and especially this year when you should utilize every pound of available fertility on the place. In this issue of The Missouri Farmer you will find several reliable spreaders advertised and we suggest that you write the manufacturers and ask them to send you their literature. It will tell you a lot of things on soil fertility you have never thought about.

Send us a check or a dollar bill and let us renew your subscription for three years before you get busy with your spring work. Do it today.



It's just another of the ways that Studebaker MAKES SURE. You see, steels are so important in the building of a car that Studebaker takes no chances. When designing the car, before it ever gets as far as the shops, Studebaker metallurgists study the duties of *each* of the parts, and decide just what kind of steel is BEST to use.

Then the steels are made just as they specify. And they come to the plant and are tested—time after time. And THEN, when the drop forgings are completed, they go thro' not one, but a whole series of HEAT-TREATING operations, like the one pictured here, that give them that tough, tensile, LONG-lasting quality that Studebaker Cars are famous for.

It's expensive, to be sure, but it gets into this FOUR quality that gives the car extra safety and makes replacements rarely necessary. It makes the car BETTER. And you know, as your fathers knew, how eager Studebaker is to go to any expense that will make Studebaker products BETTER.

So when you come to see this FOUR at your local Studebaker dealer's please STUDY its whole construction, and see how Studebaker, with its close knowledge of what the farmer needs, has built this car to give day-by-day SERVICE and convenience on *country* roads.

Study its balance, its alignment that makes the car EASIER riding and so EASY to drive that it answers to the touch of *two fingers* on the wheel. Study that long-stroke, high-speed motor with its over-abundance of POWER.

Get the dealer to tell you of the National Service organization that Studebaker has built up, so that wherever you drive you can always get Studebaker Service. Study every little detail—and be CRITICAL.

Consider how much you get for $985—and then, decide if this isn't the car *you* want

—because it's a

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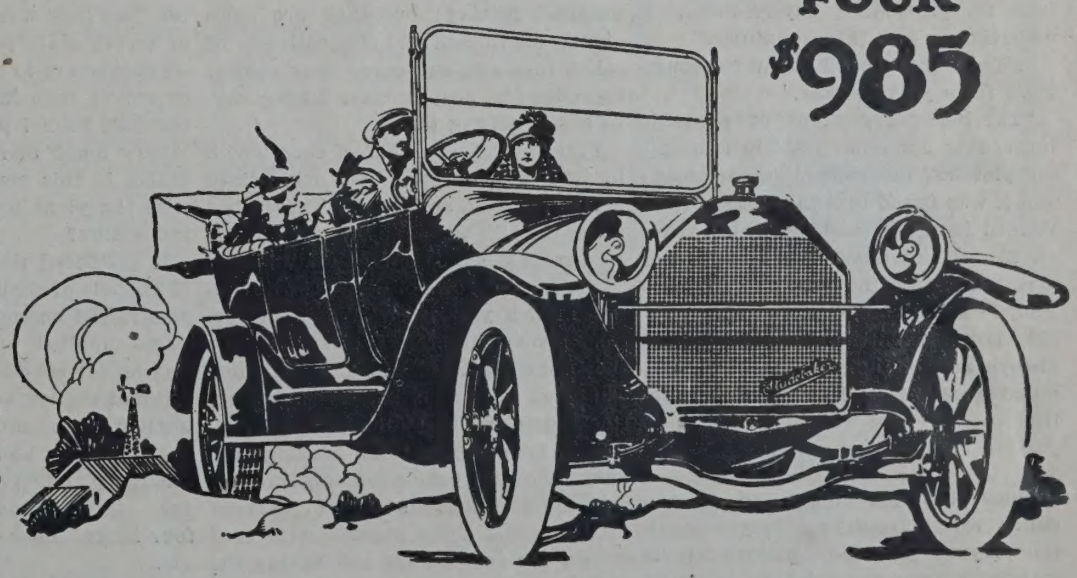

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FOR A BIGGER CORN YIELD

It is well known that seed corn from apparently good ears and ideal stalks often proves of inferior yielding quality; differences in such selected seed running as high as ten bushels per acre. This means that the same labor, the same soil, and the same or nearly the same amount of plant food results in the maximum yield in one case and in the minimum yield in the other. If the cause or causes of the minimum yields were known, it might result in a uniformly maximum yield seed. In other words, a poor crop is not wholly due to weather, soil or cultural conditions; but is often due wholly to poor seed and nearly always at least partly due to poor seed.

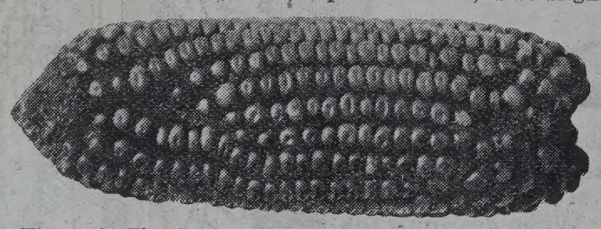


Figure 1—The Seed Ear. It's silk was pollenated from a barren stalk

The testing of seed corn for strength of germinating power enables the farmer to distinguish and throw out seed ears found defective in this regard; but there still remains the puzzling circumstances that an ear may have good germinating or "starting" character and still produce poor ears and an undue proportion of barren stalks.

It Takes More Than Seed Selection

With the view of securing good seed the plan was devised of testing the individual ears by using part of the ear one year in a test row, thus finding out the productive ears, and raising seed from such ears thereafter.

This rather painstaking procedure resulted in markedly better yields. It did not, however, result in corn which in after years maintained the maximum yield. Something happened to it which, in a greater or lesser degree, brought the yields from those obtained from this original, tested ear back to the lower and average yield.

Manifestly the thing that happened was connected with the "breeding" of the corn in the field in the subsequent years. Something weakened its virility.

"Well bred seed corn, by inattention in selection may deteriorate within a few years." (East.)

"The smallest ear sometimes yields the greatest amount of grain in the next generation, because from a strain possessing to a remarkable degree the power of transmiting good yielding qualities. Although small, possibly from its particular environment, it nevertheless had these qualities."

"Effects of inbreeding tend to accumulate from year to year."

"The hereditary effect of probable inbreeding upon the yield in a breeding plot was determined (ascertained) and it was found that the crossed rows yielded in the second and third years an average of about ten bushels per acre more than the tasselled rows."—And, in a footnote, "Barrenness probably not transmittable, but we should always act on the safe side on disputed questions."—Ill. Ex. Sta. Bulletin.

Why Barren Stalks?

Since the percentage of barren stalks varies from year to year with the varying growth-conditions, it is manifestly true that at least some of them are barren because of growth-conditions.

And inasmuch as certain stalks are found to be barren although growth-conditions are particularly favorable, it would also seem to be true that those stalks were barren because of an inherited tendency to barrenness.

It is, moreover, possible that heredity has something to do with the barrenness of the first-mentioned sort as well as the last-mentioned. Both may have a "blood taint" inherited from one or both parent plants or their more remote ancestry. One is a barrenness arising from unafovarble growth-conditions and coupled, possibly in some cases, with inherited taint; the other is one arising from an inherited taint. One taint, if present at all, is so slight that ear production occurs when favorable growth-conditions exist; but the other is so strong that ear-production does not take place under growth-conditions howsoever favorable.

It is conceded that weakness in the corn plant is caused by inbreeding as with the other things; that it is caused by crowding and consequent starving; that it is caused by all unfavorable growth-conditions; but does barrenness in corn tend to perpetuate itself?

Is barrenness an inherited character?

Figure 2—Crop from Seed Ear shown in Figure 1. 25% of stalks were barren

Does the barren stalk itself tend to reproduce its kind?

With a view to obtaining the answer to this question the writer has made some experiments. They are inadequate in number and should be carried on much further; but they are sufficiently significant and suggestive to be taken into account, since they answer the question, despite their inadequacy, in pretty strong terms.

Figure No. 1 is an ear of corn which in 1913 was covered over with cloth before its silk appeared. Thereafter, when the silk was ready it was pollenated from a nearby barren-stalk tassel. Therefore the rows of corn grown from this seed a year later (shown in Fig. No. 2) was fathered (pollenated) by the barren stalk before mentioned. The plat is one-sixtieth of an acre. One-fourth of the stalks were barren.

The growth-conditions during the summer of this year were unfavorable; and the average number of barren stalks in the fields planted with seed grown the year before and having the natural field pollenation was ascertained to be fifteen per cent. Counts were made in neighboring fields having poorer soil, as well as distant fields, and in fields planted with seed gathered from the same field and of the same variety as that in the plot in question, (Fig. 2). The average was fifteen per cent, as stated.

Barrenness Can Be Bred Out

The ears of corn, nubbins, etc., gathered from the plat Fig. 2 and grown from the barren stalk pollenated ear, Fig. 1, are shown in Fig. 3. There are twenty-four pounds of shelled corn. The plat is one-sixtieth of an acre so that the yield is at the rate of 25 40-56 bushels of shelled corn per acre.

A similar number of ears were selected from a field having poorer soil, taking ears, nubbins, etc., consecutively, as they came in the row. They are shown in Fig. 4. They are the product of field pollenated seed; and gave twenty-eight pounds of shelled corn, which is at the rate of 30 bushels per acre, if from the same area of ground. That is, the same number of ears as shown in Fig. 3 weighed four pounds more, picked as they came in the row. Barren stalk pollenation resulted in seed that produced 25% barren stalks, 75% ear stalks; and 25 40-56 bushels per acre; whereas field pollenation resulted in seed that produced 15% barren, 85% ear stalks and 30 bushels per acre. The average weight per ear in shelled corn (not weighing the cob) is 4 31-100 ounces for corn with the barren stalk parentage and 5 4-100 ounces for the other corn.

If there had been no barren stalks, no barren stalk direct parentage so far as known, and two ears per hill, the yield would then be 35 16-56 bushels of shelled corn per acre.

Based upon the foregoing, if seed corn is gathered from this year's fields, with their 5.04 ounce ears and 15% of the stalks barren; then unless next year's growth conditions are better than they were this year, that 15% of barren stalk pollen has transmitted its characters to this year's seed to the extent of reducing next year's yield one-half bushel per acre.

How much more corn could the ear stalks in this year's acre have grown with the plant food taken by the barren stalks?

It produced the stalks required for 30 bushels of shelled corn per acre and also raised enough barren stalks to have supplied nitrogen-free extract and fat for six additional bushels of shelled corn and their cobs, and enough protein for three and four-fifths bushels.

Barren Stalks Are Drones

So that if it was a matter of plant-food, the barren stalks used up enough to have made the yield closely approximate 35 bushels, poor rainfall and all.

Since writing the foregoing I have been given access to and the use of "A Study of the Phenomena of Barrenness in Corn," a manuscript thesis by Professor Frank H. Demaree, now the County Farm Agent of Grundy County, Illinois. His thesis was based upon his experiments while at the Missouri State Agricultural College in hand pollenation from barren stalks; experiments much more elaborate and more to be relied on than those herein noted. He makes the barren stalk an even worse malefactor than I do;—perhaps because he found out more about it. Moreover, much light is thrown on the difficult art of detecting it in the field.

Some Missouri Experiments

Certain conclusions to the treatise are both instructive and useful. They are as follows:

"There are two forms of barronness exhibited by the corn family. Certain stalks may be found which are absolutely barren and yet are growing under very favorable conditions. Barrenness may be induced by crowding, by lack of plant food on a poor soil and by weakening the vitality of the seed as in the case of inbreeding. The first form is hereditary but there is no reason to suppose that the latter can be inherited.

"Fertilization of good ears from pollen of the first type of barren stalks produces seed which under all conditions throws a much higher percent of barrenness than does seed with no known barren tendency.

"Increasing the stand under similar conditions increases the number of barren stalks produced in direct proportion to the increase in stand. This is evidently due to the effect of crowding, bringing out any weakness which may exist in the individual stalks.

"Inbreeding according to work done here seems to decrease the vitality and vigor of corn, causing a greater percent of barren stalks to appear.

"Poor soil in which available plant food is badly lacking is one of the most fertile causes of barrenness.

"A typical barren stalk is round, tapers from the base to the tassel, the leaves and sheathes are thick and fleshy and the stalk is full of sugar upon ripening. There is generally a good deal of red color exhibited in all parts of the plant at maturity. Seemingly on account of the fleshy leaves and sheathes the leaves assume a peculiar upstanding posture which is quite characteristic of the stalk.

"There is a wide range in the percent of barrenness produced in the different varieties of corn which is probably one of the most fertile causes of the inability of those varieties to yield larger amounts of grain.

"Individual ears of any variety show a wide range in the number of barren stalks produced. This is another evidence that some of the kernels on those ears were fertilized by a barren

Figure 3—Ears from crop shown in Figure 2. Twenty-four pounds when shelled. 25 40-56 bushels per acre

stalk and the tendency to barrenness was transmitted to the progeny.

"Chemical anlysis of barren and good stalks shows that barren ones contain more protein, fat and nitrogen free extract than the productive. The difference is not great enough, however, to say that the food which would normally have gone into the ear is lodged in the stalk."

Figure 4—Ears from like number of consecutive stalks grown from field pollenated seed. 15% of stalks were barren. Twenty-eight pounds shelled corn. 30 bu. per acre

The barren stalk takes up the room and soil-fertility needed for ear-stalks.

It pollenates ear-stalks and when such ears are used for seed the progeny tend to reproduce barren stalks in greater proportion than the proportion of barren stalks brought about through environment and other conditions.

Its weakening influence on the ears pollenated by them reduces the size and weight of the progeny of such ears.

Preventing inbreeding of seed corn by detasseling the seed ears is but a half-way procedure so long as these ears may be pollenated by barren stalks.

The doing away of barren stalks and of inbred seed promises a greater increase in the corn crop than any similar amount of effort and expense otherwise expended.

Not only should there be no barren stalks in the field and no inbreeding pollen on the seed rows on a few farms; but there should be none on any adjacent farms, since one such tassel contains enough pollen grains (30,250,000) to supply and damage 30,000 ears of seed corn, and these grains may be borne through the atmosphere to neighboring fields.

Geo. K. Andrews.

PRODUCTION AND CARE OF FARM MANURE

The composition of barnyard manure is subject to such wide degree of variation that it is impossible to assign to it any fixed value that will apply in all cases. This will readily be understood when we consider that different kinds of animals, kind and quality of food, and the quantity and quality of bedding all have a direct influence on the composition of the manure produced. For instance, manure from horses and swine is somewhat richer in nitrogen than is that from cattle; while sheep manure contains a higher percentage of both potash and nitrogen than do either of the others. As a general thing animals, which are being fattened, return in their excrements a larger percentage of fertilizing materials contained in the food than do young stock making a rapid growth, or dairy cows in full flow of milk. A rapidly growing animal requires a large amount of mineral matter and protein compounds for building up the bones, muscles and tendons of the body, and consequently a considerable part of the fertilizing elements in the food are retained for this purpose.

Probably not over 50 per cent. of the phosphorus, potash and nitrogen in the food would be recovered in the manure from a vigorous young animal. Milk cows and fattening animals, however, will probably return in their excrements from 65 to 80 per cent of these materials.

Since such a large proportion of the fertilizing ingredients in the food is recovered in the fresh manure, it naturally follows that foods having a high content of these elements of fertility will produce manure correspondingly rich in these same materials. For example, an animal fed on clover or alfalfa hay, oil meal, cotton seed meal, bran, etc., will produce manure of relatively high fertilizing value; while such materials as straw, root crops, and the like, would give a product of rather inferior quality.

A Concrete Floor Profitable

After the manure has been produced, the next step is to care for it properly. The first essential in taking care of the manure crop is to provide a durable, water tight floor in the stable. For this purpose there is probably nothing better than concrete. Such a floor, properly constructed, will be impervious to water, and, by the liberal use of litter to absorb the manure liquids, the loss—which is bound to occur on an earth floor—would be practically eliminated. About the economy and practicability of such a stable floor and also the concrete floors in feeding lots, there is no question. Experimental evidence proves that a concrete floor is not only a paying investment but that the actual cost of putting it down will, in a few years, be returned many times over by the saving of fertility in the manure.

Although there is this loss of fertilizing ingredients where animals are kept on an earth floor, the most serious losses are likely to occur after the manure has been removed from the stable. This is largely due to the very common practice of storing manure in open yards. When manure is stored loosely in large piles, fermentation begins very quickly and much of the nitrogen that it contains passes off into the air in the form of ammonia gas and is lost. A large part of the soluble protein of the manure will also be carried away by the leaching effect of the winter rains and melting snow, so that by the time spring arrives the manure will probably not contain over 50 per cent. of its value at the time it was removed from the stable.

Haul Manure Directly From Stable

A much more satisfactory practice, and one which will give greater financial return, with a less expenditure of labor, is to draw the manure directly from the stable to the field, whenever it is possible to do so, and apply with a manure spreader. Experiments at the Ohio Station have shown that manure so handled is worth at least 70 cents per ton more than the same quantity of manure similarly applied after lying for three months exposed to the weather in an open yard.

Because of the fact that it is not always possible to get on to the fields with team and spreader at all times during the winter, due to weather or other conditions, a manure shed becomes a very valuable adjunct in caring for this important crop. Such a building may be constructed very cheaply and has many decided advantages over storing in an open yard. At times, when the ground is too soft to admit of hauling out the manure, it may be thrown into the shed, spread out evenly over the floor and allowed to remain there for a few days until it can be drawn to the field and spread. In this way the manure will be protected from rain and snow, and, if the shed is provided with concrete floors—and it should be—and plenty of litter used to absorb the liquids, the amount of loss will be comparatively slight.

Manure Pit and Manure Shed

The shallow concrete manure pit out of doors is a practical means of taking care of manure and is to be recommended.

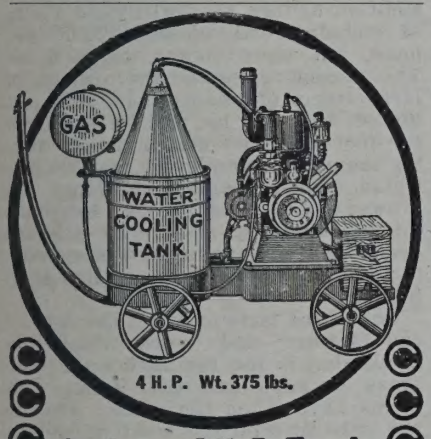
Where a manure shed is used, it should be so arranged that stock may have free access thereto. In this way the manure will be kept well packed down by the animals tramping over it, and the danger of loss due to burning and excessive fermentation very materially decreased.

Barnyard manure, however, is not a balanced fertilizer for ordinary farm crops; it is relatively high in nitrogen and potash and correspondingly low in phosphorus. Experiments conducted by the Indiana Station show that most clay soils of the state are deficient in that same element, phosphorus. By adding some phosphatic material to the manure as it is produced, we are able, not only to supply the lacking element, phosphorus, but also to fix the nitrogen, to some extent, and thus prevent its escape in the form of ammonia gas. The following table, taken from the Ohio Experiment Station, (Circular No. 144), shows that this is a very profitable way to handle the manure.

Each ton of manure treated with	Total gain in value of crops per ton of manure		Net gain per ton of manure due to treatment	
	Yard	Stall	Yard	Stall
Acid phosphate 40 lbs., cost 28c...	$4.22	$4.89	$1.62	$1.58
Rock phosphate 40 lbs., cost 20c...	3.54	4.47	.94	1.16
Untreated	2.60	3.31		

In the experiment quoted above the stall manure was hauled directly to the field; the yard manure was first exposed to the weather for three months.

In applying manure to the soil it is neither necessary nor desirable to put on excessive amounts, as is so frequently done. Very heavy manuring is wasteful. If manure has been cared for properly, excessive applications are not necessary to supply sufficient food for plant growth. Ordinarily, it is much better to apply moderate quantities and cover more ground than to give



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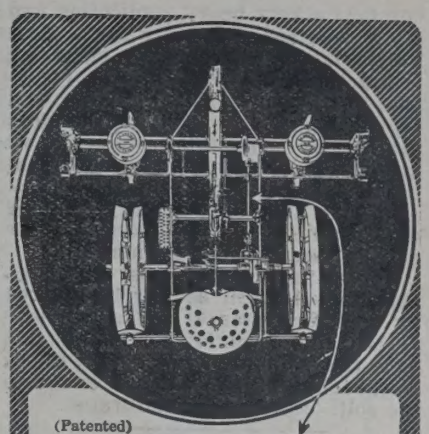

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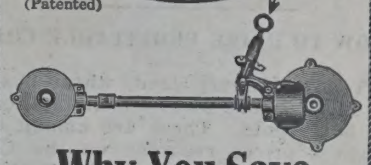

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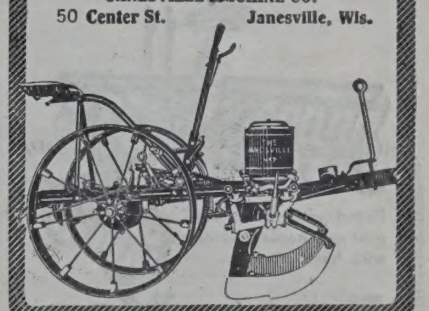

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one field a very heavy application and allow another to go without any. Furthermore, where heavy manuring is practiced, the growing crop is unable to make use of all the plant food provided and part of it is therefore carried, by percolating water, down into the soil below the range of plant roots, or is lost in the drainage waters. As a rule it is not necessary to apply more than 8 to 10 tons and 6 tons per acre is usually more economical.

For spring grown crops especially, better results will usually be secured by applying manure during the previous fall and winter months. In this way the soluble plant food will be washed out of the manure and into the soil.—Purdue Agriculturalist.

HOW TO RAISE PROFITABLE CORN

Today, January 22nd, wheat closed at $1.43½, corn at 79⅛ cents and oats at 56¼ cents. These are among the highest prices recorded on the Chicago Board of Trade. At this writing, Europe is taking millions of bushels of all kinds of grain, and the prospect is for a greater demand and higher prices by the coming fall. Judging from present conditions, the American farmer has never had a greater opportunity to realize more from his corn crop.

There are five cardinal principles that lead to big yields of quality corn. They are, good seed, well fitted soil, proper planting, sufficient and the right kind of cultivation and an abundant suply of well balanced plantfood.

There is an old law in plant and animal breeding that like produces like. When you plant poor seed corn, you get a poor crop. Select a variety that always matures before frost in your locality. Test out your seed corn, and do it early enough to obtain strong seed corn from another source should the vitality of your stock be weak. To plant a single ear that will not grow, means a loss to you of from $4 to $6.

Most land of the Middle West will grow a good corn crop, provided it is well drained, has sufficient organic matter, is warm and contains an abundance of suitable plantfood.

Drainage is vitally important. Undrained land is cold, soggy, slow and often sour. The use of lime will make it sweet but will not take the place of good drainage.

Soil is not dead. There are millions of tiny forms of life in it. Some are beneficial and some harmful. These tiny forms of life, bacteria, liberate ammonia which supplies nitrogen for your corn crop. To turn under leaf mold, sod, stubble, straw and manure, provides the organic matter which is the home and food of desirable soil bacteria. The organic matter binds together loose sandy soil and loosens heavy soils. In decaying, it gives off carbonic acid gas which,when dissolved with the water in the soil, forms a weak acid which dissolves out unavailable plantfood and makes it available. Organic matter is most important.

If you do not plow your corn ground in the fall, plow it as early in the spring as possible and prepare a fine seedbed before planting. This helps to conserve soil moisture and as a single bushel of ear corn requires over 500 gallons of water, the importance of moisture conservation can readily be seen.

It is just as important that two to three kernels are placed in every hill or a kernel placed every 12, 14 or 16 inches in the row, as it is for the kernels to be tested. Test out your corn planter to see whether it works properly before planting. Test the fertilizer drop at the same time. Do not plant corn too deep.

Cultivate often but shallow. Corn roots come close to the surface and deep cultivation cuts off these roots. Do not hill up your corn, as this practice exposes a much larger percent of soil surface to drying winds and sunshine than does level cultivation.

To mature any crop of corn, requires a definite amount of ammonia, available phosphoric acid and potash. There is a definite quantity of these compounds in our soils, as are revealed by chemical analysis, but the form of this plantfood is constantly changing from available to unavailable forms. It is impossible to say from any type of test, except the growing crops just what shortage or an essential plantfood there is at any given time.

Ammonia, available phosphoric acid and potash in turn cause rapid stock growth, ripening and filling of ears, and growth of strong stalks. The nonperformance of any of these duties, indicates a lack of a particular compound. Good soil preparation must go hand in hand with proper supply and balance of plantfood if best results are to be obtained.

Conserve your manure supply and use all the manure that you can secure. Manure not only supplies plantfood ingredients, but it also improves soil conditions. Plowing under green crops or adding organic matter in any other form performs the same functions but when you add up all the materials supplied in the above forms, you will find that it does not supply plantfood in amounts sufficient to provide for the needs of maximum crops and to maintain soil fertility. The above cannot be accomplished without some supplement to manure in the form of a fertilizer containing available plantfood in proper proportions to make up for the deficiencies of the soil and to meet the needs of growing plants.

The tiny corn plant must have easily digested food. Throughout its growth it must have the important plantfood elements in an available form, for it cannot use them until they are dissolved by soil, water and plantroot juices. Fertilizers supply these elements in soluble form.

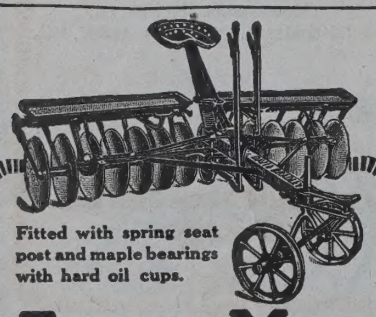
Very early in spring, soil nitrogen is largely in an organic form which is not available to the plant until nitrogen-forming bacteria have acted upon it and these bacteria do little work until the soil has reached a temperature of 50 degrees and they do not do their best work until the soil has reached a temperature of 80 to 90 degrees. By adding suitable fertilizer you supply available nitrogen to the tiny corn plant and give it a much quicker start than if it had to depend upon organic nitrogen.

The season of ear filling is short and from 60 to 75% of the phosphoric acid contained in the corn is in the ear, hence a large amount of available phosphoric acid should be used on the corn crop. Available phosphoric acid also helps to hasten the maturity and increases the weight of the ears, thus increasing yield. Potash strengthens the stalk, helps to make well filled kernels and increases the yield. It is just as important that your corn be supplied with a well-balanced ration of digested plantfood, as it is for the cattle in your feed lot to have a well-balanced ration of digestible food.

It is not difficult to find machinery that will distribute fertilizer properly. When you make medium to heavy applications it is a general rule to apply two-thirds of the fertilizer with a fertilizer attachment of the grain drill just before planting and the other one-third of the fertilizer in the row through the fertilizer attachment of the planter. If you decide to use only 125 pounds or less per acre, put all of it in the row through the planter. If you have to apply the fertilizer broadcast, be sure to work it thoroughly into the soil before planting and use 50 to 100% more than if you were applying it through the drill.

On corn, 200 to 500 pounds of a high-grade fertilizer should be used. Generally speaking, on sandy soil it should analyze from three to four per cent ammonia, eight to ten per cent phosphoric acid and four to five per cent potash; on loam soils, one to two per cent ammonia, ten to twelve per cent phosphoric acid and three to four per cent potash; on clay soils, two to three per cent ammonia, eight to twelve per cent phosphoric acid and two to three per cent potash. In this connection, however, it is difficult to prescribe fertilizer applications at long range. Previous cropping, previous applications of manure, the amount of organic matter in the soil, the rotation and the appearance of the previous crops together with their final yelds and quality must all be taken into consideration.

Clyde A. Waugh.



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IMPORTANCE OF THE ANGORA AND MOHAIR INDUSTRY TO THE UNITED STATES.

The importance of this industry is not realized by the average citizen, and the direct bearing it has on the development of the country is overlooked by farmers in general and live stock raisers in particular. It is not necessary to go into detail in showing when the first Angora goats came here or why they are here. Suffice to say, they are here, and we can safely say they have come to stay.

Briefly, however, the first Angoras were imported into this country in 1849. The then Sultan of Turkey desiring to pay a compliment to the work done by Mr. Davis, an American who had been sent to Turkey to educate the Turks in the raising of cotton, presented Dr. Davis with nine of the choicest Angoras in his domain. This action marks the beginning of the Angora industry in the United States. Their value as brush cleaners and weed destroyers was at once recognized, and for some time they were used only for this purpose. Later it developed that their fleece had a market value owing to the fact the peculiar texture of their fleece was essential for certain fabrics, and then it was that Angora stockmen began to grow them for their mohair.

The word "Mohair" is the technical name for the fleece of the Angora goat. According to George Fayette Thompson, M. S. author of the work entitled "Angora Goat Raising and Milch Goats," the word comes to us through the old French word 'Mohere' from the Arabic 'Mukhayyar' meaning Mohair cloth. It differs from the wool of the sheep in that it does not have the felting properties of the latter. The felting properties of the wool is due to the presence of scales or epithelium which cover the fibre in much the same manner that scales cover fish. It is the felting property of wool which distinguishes it principally from other animal fibres. Mohair is a hair proper, being devoid of scales, and so it is not successfully used alone in felt goods.

"The fleece upon the goat is pure white, it is exceedingly lustrous, and grows to an average length of 10 inches annually. It hangs in beautiful wavy curls or ringlets, from all parts of the body if the animal is of the best breeding. The average animal production per head of mohair is about three pounds." It will be noted that Mr. Thompson states "The average annual production per head of mohair is about 3 pounds." However, it is gratifying to learn that American intelligence has succeeded in increasing this average amount and it is safe to say now the average clip is three and one-half pounds, while there are hundreds of breeders of Angoras in the United States who have bands which will average five and six pounds or even seven pounds per head.

As a conservative estimate the average price of mohair is around 30 cents per pound, the average yearly clip per head should be from $1.00 to $1.50. There are hundreds of bands of Angoras in the United States which will double and triple this. However, I am speaking of the average.

Mohair is used for linings, ladies' dress goods, braids of all kinds, worsted goods, alpacas, silicians, imitation furs, portiers, rugs, carpets and novelties. Every traveler in the United States has enjoyed the comforts of a luxurious seat from mohair. The red and green plush in every railroad coach, so familiar to Americans, is made from mohair. Again the beautiful wigs, puffs and switches, displayed in the shop windows of our leading coiffeurs are products of the Angora. A later use for mohair has been found in the manufacture of automobile tops and cushions. There is one mill in the East which annually turns out mohair goods to the value of from 10 to 12 million dollars. This is only one, and there are some ten or twelve engaged almost exclusively in the manufacture of mohair goods. There is absolutely no possibility of a falling off in the demand for mohair products. On the other hand, the demand has increased, and is still increasing out of all proportion of the production of the raw material.

The question naturally arises why this condition exists? The answer is that the average American farmer and stock grower has not realized the advantage and profits to be gained by the raising of Angoras. Angora raising can be carried on by two classes of farmers and stock growers. The first is, the small farmer who has some brushy waste land on his farm which is an utter loss to him—places where grass does not grow—consequently, such lands are of no value for his cows and sheep, brush and weeds having taken possession. It is here that the Angora will prove his worth. His natural bent is to browse, while peculiar as it may seem, he prefers weeds to grass. Therefore, a small farmer can well afford to keep a few Angoras if for no other purpose than to clear up these waste places. Their value in this would be worth their keep, but in addition to this, they will yield a clip of mohair worth at least $1.00 per head, but more likely worth $1.50. The second class is the owner of large tracts of waste lands, who can utilize Angoras, by putting them on the foot hills and mountainous country found in nearly every state in the Union. Their natural tendency to browse and their adaptability to mountainous or steep and rocky country opens an avenue for using these tracts for which heretofore no use has been found.

One of the facts to which the American farmer and stock raiser is awakening is the realization that the grass is gone and that brush and weeds have taken the place. This is not only true on the small farm but it is true all over the country. Where formerly thousands of sheep ranged the hills and mountains, few are found now. It is on such tracts the Angora is perfectly at home. The brush and weeds which cattle overlook are the Angora's principal article of food, consequently a remarkable change is apparent. The grass follows the Angora. This is because the Angora destroys the brush and weeds, giving an opportunity for grass to grow. Hence it follows that when the stock growers have realized handsome profits from the sale of their mohair, they have also improved their range. .

Alva L. McDonald.

Good Dairy Rations.

The best rations for the dairy cow according to the most recent investigations of the Nebraska College of Agriculture are as follows for a 1,200-pound dairy cow of the proper sort and producing 30 pounds of milk daily:

Ration No. 1. Twelve pounds of alfalfa, 35 pounds of corn silage, 4 pounds of ground corn, and 3 pounds of bran.

Ration No. 2, where silage is not available. Fifteen pounds of alfalfa, 6 pounds of ground corn, 8 pounds of corn stover, and 2 pounds of gluten meal.

Ration No. 3, where neither silage nor alfalfa is available. Twelve pounds of millet, 12 pounds of sorghum hay, 2 pounds of ground corn, and 3 pounds of oil meal.

The Missouri Farmer can be no greater than the support of its friends makes it. If you believe it is fulfilling an important and useful mission in this state, won't you help out by sending us the renewal of your subscription at once?

FROM HIRED MAN TO LAND OWNER

When I was a young man in the state of Ohio I wanted to be a machinist above everything else, but my parents being poor in this world's goods, and being the fourth of seven sons, and blessed with a strong body and willing mind, I started out to make my way in the world. Having been born on a farm I naturally turned to the farm business. My first season of three months at $12 per month and the next season of nine months at $11 per month. That was back east. I came to northern Illinois the spring of 1887, hired out for the season at $20 per month. When I came west I thought I knew how to farm, but had to try to forget what I knew and learn all over again. But it was my lot to always hire out to a man that had more money than knowledge of his business. So I did not learn the best methods of farming as I might have done had I worked for more intelligent farmers. After working for three seasons I became dissatisfied and thought I could do better by working for myself, as I thought I had money enough saved up to equip myself with team and tools. So I rented a farm of one of the men I had worked for. In the meantime I had been paying my respects to a little "school ma'am" of the good old down-east Yankee stock that came to Illinois in the pioneer days. We were married in the spring of 1890. We did not take a wedding trip but went right to housekeeping. And strange to say after all the figuring I did to be sure I had money enough to set out in business I found I was in the "red" to the tune of $300. So we went to work as two ambitious young people can, we put out 60 acres of corn, 35 of oats and my wife was very successful in raising poultry and a good butter-maker. We raised a fairly good crop and were able to pay off all indebtedness, and buy more tools that we needed.

We rented two years and had the chance to buy a farm of 130 acres at $65 per acre. The farm was pretty badly rundown, the buildings were old but quite serviceable so we concluded to buy, and it was made possible by the aunt that took the part of a mother to my wife, lending us enough to put with the money my wife had saved teaching school so that we could borrow the rest from a farmer that owned land adjoining us. So when we were settled in our new home we were nicely located two miles from town with a debt of $7500 and paying 6% interest for most of the money. Those were trying times. From 25 to 30 cents a bushel of 75 to 80 pounds was considered a good price for corn. And two years I sold corn as low as 15 and 16 cents a bushel of 75 to 80 pounds. We thought we would be satisfied if we could pay for our farm in twenty years, but after eleven years we had paid less than a thousand dollars. In the eleven years we had all kinds of experiences, good and bad seasons, lost our first two children, doctor's bills to pay and all that goes to make life both interesting and burdensome. In August, 1902 I came to Clarence, Shelby county, Missouri, and liked the country so well I bought 320 acres for $37 per acre. Went back home and sold my Illinois farm to one of my German neighbors for $100 per acre. Made a sale and sold off all the live stock and tools I didn't want to bring with me to Missouri and moved with my family to Clarence the spring of 1903. The question has been asked in The Missouri Farmer the past month or two why farmers don't make more money? I don't think that question can be answered satisfactorily by any one individual. A young man started out in life by his parents on an 80 or 160 acres of land can't appreciate the advantage he has over the one that has had to make his way alone. It can be seen by my figures that if it were not for the advance in the price of land, making money on the farm would be a very slow process. One of the main reasons I have not made money was the lack of working capital caused by unfavorable seasons. In Illinois it was the wet seasons, until I tiled out the land. And here in Missouri the dry seasons. Yet I feel that I have been a success. Some of the old wise farmers shook their heads and said I would never make it as I paid too much for my land, both here and in Illinois. Land has more than doubled in price here in the past twelve years. And if it had not been for the three dry seasons the past three years I would have made a good showing besides the advance in land. When we came to Clarence there wasn't a street lamp in town, and such a thing as mowing the weeds from the road-side along your farm was unheard of. The hedge fences had not been trimmed for several years. Now Clarence is lighted by electricity, the roads are all well graded and the farmers keep the hedges well trimmed and weeds mowed in the road along their farms. They have taken on new life in their methods of farming and stock raising. Several from this community have attended Farmers' Week at Columbia the last few years.

I believe a young man has as good a chance to make his way in the world as ever if he is willing to try to walk instead of trying to fly or is willing to begin at the lower round of the ladder and keep climbing one round at a time instead of trying to start from where his father has reached after a life of hard toil. The poet must have thought the same when he penned these lines:

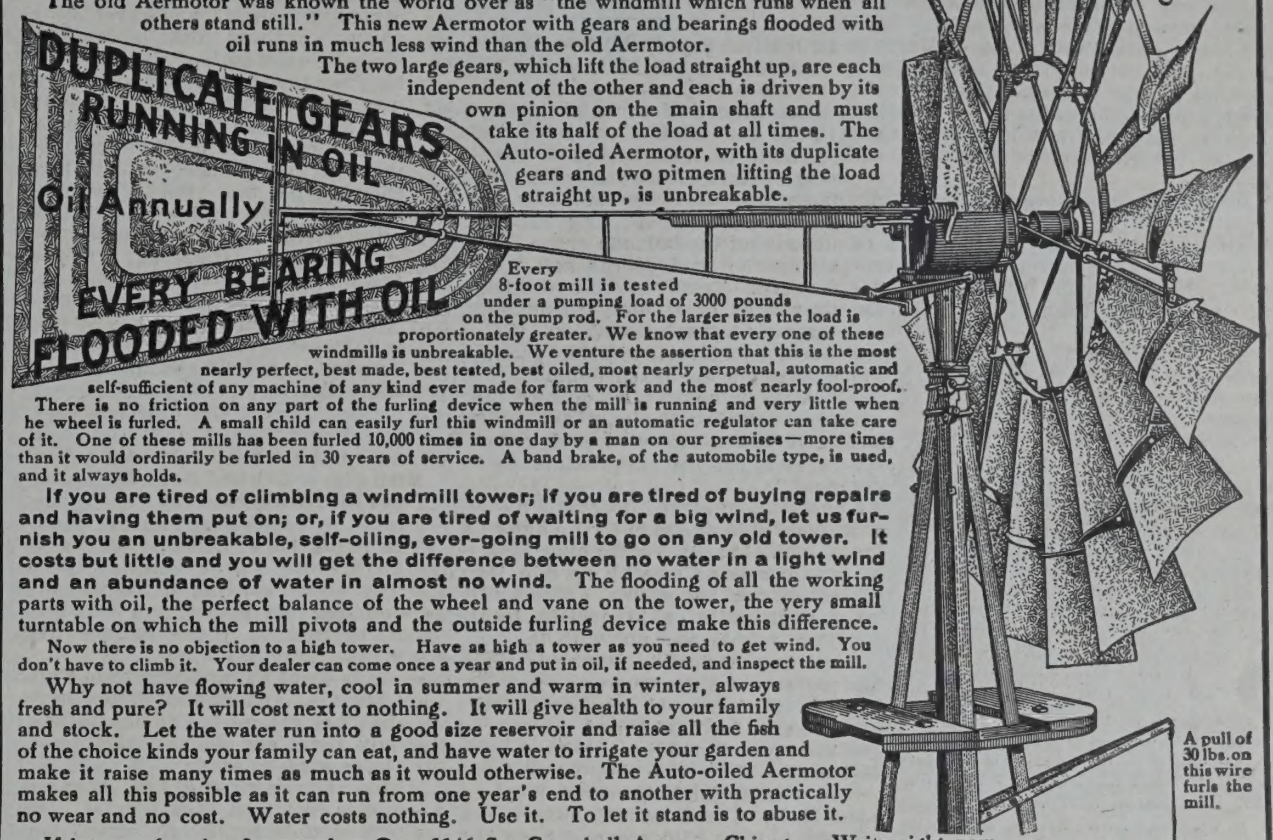
'Tis grit that makes the man,
The want of it, a chump.
The men who win,
Lay hold, hang on, and hump.

T. L. Muhlman,
Clarence, Mo.

THE AUTO-OILED AERMOTOR WITH DUPLICATE GEARS RUNNING IN OIL

Every bearing is constantly flooded with oil. The gear case, in which the duplicate gears run, holds two or three times as much oil as is required by the mill for a year of constant running, days, nights and Sundays. From the gear case the oil flows through every bearing in a continual stream. It goes out through the thrust washers in the hub of the wheel and is automatically returned to be used over and over again. No oil is wasted. This mill needs oiling but once a year. **Two quarts of oil in the gear case of the 8-foot Auto-oiled Aermotor will keep the gears and every bearing flooded with oil for a year or more.**

The galvanized helmet covers the gears, keeps out rain, keeps out dust, keeps in oil. The old Aermotor was known the world over as "the windmill which runs when all others stand still." This new Aermotor with gears and bearings flooded with oil runs in much less wind than the old Aermotor.



The two large gears, which lift the load straight up, are each independent of the other and each is driven by its own pinion on the main shaft and must take its half of the load at all times. The Auto-oiled Aermotor, with its duplicate gears and two pitmen lifting the load straight up, is unbreakable.

Every 8-foot mill is tested under a pumping load of 3000 pounds on the pump rod. For the larger sizes the load is proportionately greater. We know that every one of these windmills is unbreakable. We venture the assertion that this is the most nearly perfect, best made, best tested, best oiled, most nearly perpetual, automatic and self-sufficient of any machine of any kind ever made for farm work and the most nearly fool-proof. There is no friction on any part of the furling device when the mill is running and very little when he wheel is furled. A small child can easily furl this windmill or an automatic regulator can take care of it. One of these mills has been furled 10,000 times in one day by a man on our premises—more times than it would ordinarily be furled in 30 years of service. A band brake, of the automobile type, is used, and it always holds.

If you are tired of climbing a windmill tower; if you are tired of buying repairs and having them put on; or, if you are tired of waiting for a big wind, let us furnish you an unbreakable, self-oiling, ever-going mill to go on any old tower. It costs but little and you will get the difference between no water in a light wind and an abundance of water in almost no wind. The flooding of all the working parts with oil, the perfect balance of the wheel and vane on the tower, the very small turntable on which the mill pivots and the outside furling device make this difference.

Now there is no objection to a high tower. Have as high a tower as you need to get wind. You don't have to climb it. Your dealer can come once a year and put in oil, if needed, and inspect the mill.

Why not have flowing water, cool in summer and warm in winter, always fresh and pure? It will cost next to nothing. It will give health to your family and stock. Let the water run into a good size reservoir and raise all the fish of the choice kinds your family can eat, and have water to irrigate your garden and make it raise many times as much as it would otherwise. The Auto-oiled Aermotor makes all this possible as it can run from one year's end to another with practically no wear and no cost. Water costs nothing. Use it. To let it stand is to abuse it.

If interested, write **Aermotor Co.,** 1146 So. Campbell Avenue, Chicago. Write right now.

ADVICE ON CATTLE FEEDING

I have a bunch of cattle weighing 1350 pounds. We have no market now I can sell and make anything. They are getting coarser all the time. I am feeding shock corn in the evening, shucked corn in the morning, with 5 lbs. of cotton rolled cake, some hay and straw. What will be the best way to feed from now on. They are in good flesh now. C. M. Sellers.

Answer by Professor H. O. Allison, cattle department Missouri Experiment Station.

It is difficult to change the tendency of a bunch of cattle which are growing coarse to that of merely laying on fat and at the same time continue to make economical gains. Such a change may be brought about by inducing an increased consumption of grain and a corresponding reduction in the roughage. To do this might involve shelling or grinding the corn. In case you can and decide to make such a change in the form of the corn fed, the change should be made gradually. If these cattle are taking their corn readily I doubt the advisability of increasing the expense by grinding. The feeds you are using should give good results and I would not advise your changing the quantity of cottonseed cake unless the price is such that it is cheaper pound for pound than corn. In such case it might be gradually increased to seven pounds per head daily. Where cottonseed cake is used in this quantity, however, there is some risk of the cattle not feeding well for longer than 90 days.

Sweet Clover Failed

To The Missouri Farmer:

In reply to your request in your issue of December 15, for experiences with sweet clover, will say that I tried it last summer and found it very unsatisfactory, having sown it under various conditions. What I sowed with wheat was a complete failure and what I sowed without any nurse crop on ground that was heavily manured was a complete failure also. This same ground that was heavily manured was sown to alfalfa in the fall and was a fine success. Also sowed an old fence row that was cleared up last winter without breaking and it make a fine growth on the hard ground.

I believe that as a pasture plant on hard soil it is a fine crop and I intend to sow some for pasture on hard soil, but as a hay crop on cultivated soil, it in no way compares with alfalfa.

Conclusions that I have arrived at in regard to boosting sweet clover, are simply that it is done by farmers that raise the seed to sell at a big price; and that it is not a safe crop for a farmer to spend too much money or time with until he thoroughly understands it by actual experiments. All the articles that I have read on the great value of sweet clover have been by farmers that have the seed to sell at a big price.

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PRACTICAL FARM PAPERS—NO. 6

A Missouri friend writes to ask me if I do not find that it injures horses feet to stand on manure in box stalls that are only cleaned three or four times a year.

I can only answer from experience with two horses, which owing to breachy habits were kept in such stalls all the time.

The first of these horses, Barney, a gray horse of 1250 pounds, from 1873 to 1896; the second, Nig, a Morgan, black, 1125 pounds, from 1892 to 1913, and all smiths who shod these horses said that they had almost perfect feet. I think that Nig could carry a shoe longer than any other horse I ever saw..

The keeping of horses in box stalls involves the use of a great deal of bedding, and contrary to the ideas of those who have never seen it practiced, there is much less stable smell in such stables, than in those cleaned daily.

The droppings are packed solid so they cannot ferment, and the urine is at once absorbed by the litter in the stalls.

Governor Colman once told me, that the best arranged stable he had ever seen, was near Chicago, all box stalls cleaned at the owner's convenience, a small grain feed box in one corner, the rough forage fed right on the litter.

As to such stalls forming breeding places for flies during summer, P. E. Crabtree, once well known to Missouri farmers as an institute lecturer, claimed that they did not breed as many flies as ordinary tie stalls, and suggested that if the fowls of the farm were allowed access to the stalls for an hour each day, there would be very few flies found there.

I wonder how many farmers who read this will have as many potatoes as they will use this spring.

I have found by years of experience, that there are two ways to raise lots of potatoes for home use, one of these being to plant very early, the other to plant very late.

It is all very well to say that we will not be in too much hurry, and that we will wait until the ground works nice and loose, but we are liable to have as wet ground in early April as in middle March, so our early planting is put off until too late.

If there is a better early variety than early Ohio, I have not been able to find it, and if there is a better time for planting than March 15-25, I have not found it either.

In planting, early or late, we furrow rather deep, often going twice in the same place, and in early planting we cover deep, three or four inches, as protection against cold.

When we see the first plants breaking through, we take the harrow and go over the patch which makes later cultivation quite easy, with any regular horse implement.

We have been very successful in growing late potatoes, Sir Walter, Snowflake and White Star, planting about June 20, but this year broke the record by planting July 17.

It had been burning dry, and on July 16 a good shower came, the first since the first days of June.

Our seed potatoes had all rotted but about enough to plant ten rows, each sixty feet long, and in late October I dug from these ten rows nineteen bushels of large potatoes, or at the rate of more than 450 bushels per acre.

Of course I am not going to recommend planting that late every year, but as the potatoes are the best quality of any Sir Walter I ever grew, I think the late planting had something to do with this, and will plant this variety ten days later than I used to, or about July 1.

Where potatoes have a tendency to scab, it is well to soak the seed in a mixture made by adding formalin to water at the rate of a pint of formalin to fifty gallons of water. In a small way, an ounce of formalin to three gallons of water will give you about the proper strength, and the seed, after being prepared for planting soaked about four hours.

We have no rule as to how many eyes must be left on each piece of seed, but we have noticed that when seed was scarce and high, consequently cut pretty close we usually grow the largest yields, so I favor cutting to two or three eyes to the piece of seed.

Level cultivation is practiced, the patch being gone over with a hoe two or three times during the growing season, not to hoe potatoes but to cut out weeds missed by the cultivator. I have been keeping house thirty-five years and in all that time have failed but twice, in having plenty of potatoes for home use.

C. D. Lyon.

INOCULATE LEGUMES WITH NITROGEN-GATHERING BACTERIA.

Importance of Inoculating the Seed. In the Year book of the Department of Agriculture 1912, page 139, the Secretary of Agriculture states that: "Satisfactory methods for isolating and distributing nitrogen-fixing bacteria for improving leguminous crops by inoculating the seed or the soil were discovered. Tests in co-operation with thousands of farmers throughout the United States have shown that such crops as clover, alfalfa, vetch, peas and beans are often doubled and trebled in value by pure culture inoculation. During the past five years the efficiency of the cultures distributed to farmers has been approximately 75 per cent."

This is a most interesting as well as acceptable message to the agricultural world. It answers the questions asked years ago as to why certain legumes could not be grown successfully on certain soils or in certain localities. The trouble was not with the soil nor the legume itself. It was because the plants to be grown were dependent on certain forms of microscopic life or bacteria for health and growth, which were not found in the new environment. Therefore they could not succeed until the help came from some source. These bacteria draw from the air the free nitrogen and have it fixed in the soil of any field in which the legumes grow. Unless the bacteria are present the legumes will not develop very well, and sometimes fail utterly, but when they are present the host plants or legumes will grow vigorously and make large and sometimes phenomenal yields.

It was the year 1888 when the German investigator Hellriegel found by careful investigation that these bacteria locate themselves upon the roots of clovers, beans, peas, lupines and other legumes, forming a small tubercle there in which the nitrogen of the air is stored. The bacteria draw nourishment from the host plants, but in turn give to the plants nitrogen which is stored in these little tubercles. It seems that we have a fine illustration here of co-operation,—the plants helping the bacteria and the bacteria helping the higher plants to make a living. The plants need the nitrogen in order to maintain a perfect state of health, while the little bacteria need a home and carbon dioxide given to them by the plants on which they live.

But we have been calling one class of these beings bacteria and the other plants. They both are plants—the bacteria are one-celled plants and the host plants the higher form of plants —flowering plants. Just why all forms of plants are not able to use these little bacteria in the manufacture of nitrogen from the air no one can tell, but so far as we know at the present time, only leguminous plants are able to do this.

Bacteria in Soil. The soil is filled with all kinds of bacteria, some growing in one locality while others are growing in other soils. It is very easy to transfer these little useful organisms from one place to another, provided we plant host plants on which they can grow.. If we moved nitrogen-gathering bacteria from one locality to another, and did not plant legumes for them to develop on, they would soon starve. On the other hand, if we should happen to plant legumes in a soil that had no nitrogen-gathering bacteria, they would soon show very poor growth or develop suitable bacteria to aid in their life processes. In other words, the soil is filled with millions of bacteria suitable to the work in the locality where they are found naturally and if we change the face of nature we must provide some way to meet the new set of conditions.

Some Legumes Have Special Forms of Bacteria. Different species of legumes have special forms of bacteria. It has been found that certain clovers will not grow unless the seed are treated with water leached from the soil, in which the same kind of clovers have successfully grown before. Modern science has found that the seed can be inoculated successfully with the bacteria that have been especially prepared for that purpose, instead of leaching the soil as Hellriegel did. In order to supply these special bacteria for special legumes, we have only to find a legume on which they are successfully growing and carefully make cultures of these in the laboratory, and inoculate the seed of the same kind of legumes that are to be planted. In this way the bacteria can be transferred and transmitted from generation to generation. But it is rather strange that the same species of bacteria choose only one kind of legume on which to grow. There are a few exceptions to this, but very few.

Commercial Bacteria.. There are firms now manufacturing and selling bacteria for inoculating the soil. This is the natural consequence of Hellriegel's discovery. If the bacteria will help to increase the productivity of the soil, man should find some means of making use of the bacteria. He has found such means, and learned to put up cultures that will keep several months and then inoculate the soil and the seed with good effects. These cultures are sold under the various patented names of Nitragin, etc., etc., but all are made practically in the same way. They all come from the soil, and the host plants, and will succeed if restored to their native environment.

Effects of Using Bacteria in Planting Legumes. Hellriegel himself found that the vines of lupine untreated grew only about six inches in height, while the treated vines grew 24 to 30 inches. The first paragraph of this paper quotes from the Secretary of Agriculture that legumes are often doubled and trebled in yields by being treated. Wherever experiments have been made with fresh material, the results have been most satisfactory. Most of the Experiment Stations have tried inoculations with one or more legumes, and with the very best results.

Do All Soils Need Inoculation? This may be or may not be true. The inoculation is of such great importance that one cannot afford to run any risk. The soil is helped and the plants do better if inoculated even in soils that do not specially need the bacteria. Sometimes the introduction of bacteria by means of transferring soil from one area to another removes the necessity for inoculation, but such cases are very seldom, and cannot be relied on. It would be best to always inoculate legumes with the proper bacteria wherever they are being grown for the first time, or have been grown in a place without success. Usually they are not costly, and more than pay for themselves a hundred times, in course of a few years.

Methods of Inoculation. It is not necessary to give details of applying the bacteria to the seeds here. It will be well, however, to suggest that these useful organisms may be bought in convenient form well packed for keeping an indefinite length of time. In such cases directions for using same always accompany the package. Where a farmer has been growing a certain legume with great success, he will be able to transfer some of the soil from this field to some other place on the farm where he wishes to grow the same legume. This is a rather dangerous practice for the reason that weed and grass seed are often distributed in this way much to the sorrow of the farmer. The pure cultures are always best, if they are virile.

Time of Inoculation.. The seed should always be inoculated just as they are to be planted. This is an invariable rule, because the bacteria will enter the roots of the young plants just as they are getting a hold on the earth better than any other time. Some have asked if it would be possible to apply the bacteria after the young plants are already up. This may prove effective, but should not be done, unless in case of emergency, where the bacteria reached the planter too late to be used during planting. Methods for using the bacteria always accompany the packages in which they are shpiped.

Legumes the Hope of the Farmer. It is well known that the very best green manure that can be grown is leguminous crops, and unless these are a success, the crop amounts to but little as green manure. The crop should be heavy in order to do a great deal of good as a manure, and every possible means should be used to secure the heavy crop. The safest way is to inoculate the soil with the proper bacterium, and at the same time fertilize the crop with a high-grade 10-4 Acid and Potash fertilizer. The bacteria will take care of the nitrogen problem. The legumes are also the best food for animals as well as man. What we need is more legumes. A community is prosperous almost in proportion to the number of farms successfully growing leguminous crops.

R. J. H. DeLoach,
Director Georgia Experiment Station.

ENSILAGE THE CHEAPEST FEED

I notice in your issue of January 15 that you want testimonial letters regarding experience in feeding ensilage. We have been feeding it in Missouri for several years and consider it the very cheapest feed we have ever had for both roughing and fattening cattle, when it is mixed with cottonseed meal. When we want to fatten cattle we usually feed them the ensilage mixed with four or five pounds of cottonseed meal per head per day for 1000 pounds live weight cattle until the last thirty days of the feed when we add a liberal amount of corn to the ration and of course let up on the ensilage in proportion.

This year we have tried a new stunt, that is, using blackstrap molasses by simply pouring it over the ensilage and cottonseed meal. We dilute the molasses with about one and one-half parts water. This makes a very cheap molasses feed and so far we have been very well pleased with it this winter. We buy this molasses in Kansas City by the barrel. Of course the molasses is so thick we are obliged to heat it a little and then sprinkle it over the ensilage either in the trough or the wagon, but we know it makes the cheapest molasses feed we have ever fed and also one of the best.

We have used wooden silos in Missouri but have steel ones in Oklahoma. Both of them are quite satisfactory and it is our opinion that almost any kind of a silo properly erected will do the work and we do not see how we could possibly get along without our silos.

J. P. Maurer.
Nodaway County.

SUCCESS WITH THE HOT BED

I have had many years experience in growing sweet potato plants in this section which is about 100 miles south of Kansas City. About first week in April, owning to season, say about time apple trees begin to bloom is the best time to bed sweet potatoes.

On the north side of place where the bed is wanted put up a board two feet high and as long as the bed is wanted. Then on the south side about five and a half feet from the first board put up another one foot wide and then put up the ends. Dig out the soil from this box to a depth of 18 inches and bank this loose soil up around the boards. Horse manure with about one-half bedding is the best to fill in with. Put in about 20 inches deep of the manure wet enough to make it heat and then cover with about 10 inches of good soil. It is better if the soil is mixed with rotted manure or sand and better still is leaf mold from the woods. I do not tramp the manure because it heats too quick and does not last long enough. Place the potatoes about one inch apart and cover well with the soil. Sash with glass is better for cover than muslin and a 3x6 feet sash can be bought for $2.10 to $2.50 each. Take off sash on sunny days but put back on at night or when there is danger of frost.

The best time to water the bed is at evening and the bed should be watered before plants are pulled. Last year from a bed of five bushels I pulled from 1000 to 3000 plants a day for about six weeks. I sold the first plants at 35 cents a hundred and the last ones for only 10 cents. The best varieties for me are Yellow Jersey, Southern Queen and Red Bermuda.

Will answer questions if stamp is enclosed.

Jacob Faith,
Eldorado Springs, Mo.

THE PROBLEM OF RAISING CHICKS

[This article by H. L. Kempster, poultry department, State University, will save Missouri poultry raisers a million dollars this year if the suggestions are followed]

No problem is of greater importance to the poultryman than that of renewing his flock. The same problem presents itself to the farmer in the same degree. Each spring he is confronted with the task of raising a new flock to replace those that are to find their way to the table or are sent to the market. How to more successfully raise the chicks is the problem and the following is written with the hopes that the reader will gain a few suggestions that will make this season's work more efficient.

The breeding stock should be under observation at the present time. Livability in chicks is an inherited characteristic and it depends more upon the mother than the male. The farmer should not breed from the entire flock but should select out a few of the best birds for breeders and mate to them the most vigorous male that it is possible for him to obtain. The criticism to be made of the farmers' method of breeding is the use of inferior males, breeding from the whole flock, the selection of eggs for hatching from the general egg basket and the use of males that are generally own brothers to a greater portion of the flock. One cannot expect vigorous chicks by such methods. Brother and sister mating will result in poor progeny and there is no question but that this practice has caused the death of large numbers of chicks. The breeding stock should also be mature—fully developed. For this reason hens are generally considered better for breeding than pullets. They also lay larger eggs and there is no question but that the larger eggs produce the larger chick. Other points that should be taken into consideration in the selection of eggs are that they be fresh, well shaped, free from uneven surfaces, should have firm shells and should not be misshaped. The time of hatching is also important. The natural breeding season is the easiest time to raise chicks. About March 1 the fertility and hatchability is the greatest and the farmer should aim to hatch his chicks as early as possible. There are two reasons for this. The first is that it gives the chicks a fair start before the hot weather comes. The second, it gives the chicks time to fully develop before winter sets in . The reason pullets don't lay in the winter is quite often due to the fact that they haven't had time to fully mature. If the farmer expects to get eggs next winter from birds hatched this spring he should plan to have them hatched **not later than May 15.**

Need Better Equipment

Another problem that is quite often serious, especially is this true during bad weather is that the farmer is generally equipped to raise about one-quarter the chicks he (or she) attempts to raise. The fact that many people have insufficient equipment always results in enormous losses. It is poor economy to over-load the facilities. Not only is this true of houses, etc., but it is also true of the land used for brooding. One should always bear this in mind—purity must be maintained. If not by space it must be by care. The smaller the area set aside for the chicks the greater the amount of care necessary to keep them healthy. More chicks die from this cause than any other. The city-lot poultry keeper is the one most liable to violate this principle but the farmer is generally guilty of the same crime. Every year punishment in the way of heavy losses is meted out and yet the following year the same offense is committed. Great losses occur because the **back yard is unhealthy and is not the best place to raise chicks.** There exists the accumulation of decades of fifth and yet this year you are planning to use the same yard again.

For hen hatching a combination hatching and brood coop has been used at the college with success. This coop is three feet wide and six feet long. It is three feet high in front and two feet high in the rear. The back side has a door eight inches wide, the entire length so as to afford easy access to the hens. The front consists of four small doors through which the chicks may run. Above this running the entire length is a door a foot wide that can be raised for ventilation and light. This coop can be divided into four compartments for hatching purposes. The partitions may be made of burlap frames. The idea is to set four hens at the same time, one in each compartment and when hatching takes place to give the chicks from two hens to one for brooding. Later the middle partition can be taken out and roosts installed. If the cockerels are separated from the pullets the house will house the pullets until time for them to be transferred to the winter quarters. This has an advantage over the usual brood coop in that it can be used for hatching, for brooding and for housing. The ordinary brood coop is of little use except for brooding. Usually the farmer uses it the rest of the season with the result that the chicks take to the trees, etc., because of the crowded conditions. Ordinarily the coop can be placed on a knoll where it will not be effected by surface water. If, however, the place is annoyed by rats it can be made rat proof by using a board floor. The board floor will also make it much better for brooding purposes because it can be kept dry.

Keep Down the Lice

In setting a hen one should take provisions for the prevention of lice—the greatest objection to hen hatched chicks. The hen should be dusted with insect powder at the time she is put on the nest and the again ten days later. She should be examined again just before hatching and treated again for lice if necessary.

The nest should be at least fifteen inches square and should be made on the ground or with dirt or an overturned sod to supply moisture. The dirt should be covered with three or four inches of fine, clean hay or straw well hollowed to better contain the eggs, only as many as the hen can cover comfortably. During the hatching period feed should be kept where she can get it easily and a place should be provided to satisfy her desire to wallow.

Little chicks require fresh air, and should be kept dry and clean. A vital consideration is to keep their backs warm. An artificial brooder should be economical, convenient, should have a cool floor (i. e., the heat should come from above), a good system of ventilation and should be suitable for all kinds of weather. Their quarters and feed should be absolutely clean and provisions must be made for the chicks to run on dirt. Leg weakness is quite often due to failure to supply this last requirement. Chicks with hen should be confined to the coop until the grass becomes dry as wet chicks become chilled and chilling causes diarrhea.

During the first two days of a chick's life it should rest and be kept warm. It is better without food until it is forty-eight hours old. The absorbed yolk furnishes part of the chick's food for the first ten days. The first food should be some fine white grit. This stimulates the digestive apparatus and prepares it for food to come later. When the chicks are fifty hours old, give them a small amount of commercial chick food or the following mixture: Three parts finely cracked wheat, three parts finely cracked corn, one part steel cut oats. Keep this in a fine clean dry litter all the time so that the chicks will be encouraged to exercise. In addition to this sprinkle a handful of rolled oats in the litter. This is attractive, the chicks eat it readily and it is almost a perfect food. It is poor economy not to feed rolled oats to baby chicks.

Give Clean, Fresh Water

Chicks should have access to clean, fresh water in a fountain which should be so constructed that they cannot get themselves wet, and which can also be easily cleaned. It is also desirable to give them access to sour skim milk or buttermilk. In feeding milk best results are obtained if fed sour. The lactic acid acts as a germicide. Then, too, there is no danger but that the milk will always be sour.

Under farm conditions the following mixture may also be fed after a few days as a substitute for the rolled oats. Three parts bread crumbs, three parts corn bread, one part boiled egg. This mixture may be fed dry or moistened with sour milk. A very small amount of fine charcoal may also be fed. Feed the chick food and the rolled oats for the first ten days. Then substitute for the rolled oats this mixture: bran three parts, corn meal three parts, middlings three parts and one part of finely sifted beef scrap. If milk is fed this beef scrap may be ommitted, since the protein requirement is supplied by the milk. A handful of bonemeal should be added to every twelve quarts of this mixture. This is insurance against leg weakness which is caused by failure to supply bone-making material in the food. The cracked grain part of the ration can be gradually changed to the coarser feed. Keep fine grit before them. About the second week from hatching start feeding green foods such as onions, lettuce, beets, sprouted oats, clover or alfalfa. The green food should be made fine enough for the chicks to eat: cut it in a meat chopper or with a knife. When feeding sprouted oats do not include the roots as these and any other kind of dry material are likely to compact the crop of the chick. The ground food part of the ration may be fed in a trough covered with a half-inch wire screen to prevent wasting. This may be kept before the chicks all the time. One should be very careful in regard to the corn meal which is fed. It should be absolutely free from moulds.

Give Plenty of Range

It may be advisable to feed a wet mash once a day. This may comprise the same ingredients as the dry feed mash mentioned above. In feeding a wet mash it is not advisable to feed it until the chicks are five weeks old. It should be fed about four in the afternoon and only the amount that the chicks will clean up before going to roost. Wet mash sours very quickly and a sour mash will cause diarrhea. As soon as possible feed the ground feed in a hopper where the chicks may have access to it all the time. When they are eight weeks old arrangements should be made to remove them to some place such as the edge of a corn field, orchard, etc., where the ground is pure, the bugs and worms plentiful; where there is an abundance of shade and the birds may be grown economically and better than in the back door yard, and where the problem of raising them is so simplified as to reduce itself to keeping a supply of feed and water before them and to cleaning their house once a week. Also the droppings will be utilized and will add fertility to the soil. A crop of chickens and a crop of corn can be grown on the same ground and the farmer will be accomplishing the feat of making two crops grow where one grew before.

Cleanliness, Regularity, Good Judgment

Successful brooding requires close attention to detail. One should know at all times just where the chicks are and in what condition. Failure to shut them up at night may result in losses from rats or cats. Approaches to the coop should have no corners into which the chicks may crowd. Houses should be move from place to place gradually or the chicks will go to the place where they were housed the night before. However if the house is moved with the chicks in it far enough so that they forget their old surrounding they can be let out and then will return to their house at night. Above all the poultry man must remember that perfect cleanliness, regularity and good judgment are essential in all the varied operations of the business.

"It seems to me that every farmer in Missouri should be willing to pay 33⅓ cents a year for a paper like The Missouri Farmer." This is the sentiment which is expressed in hundreds of letters which reach us from all over the state. Don't you think so too?

148 Chicks From 150 Eggs

Osceola, Mo.

I surely praise the Sure Hatch incubators. I have a 150 egg size. The first setting I put in 152 eggs and broke two the first week which left only 150 at hatching time. I got 148 chicks and never tested the eggs. We surely have had fine luck with our machine the past two years. Would not sell it and be without it for any money. My neighbors have other incubators and I beat them all. NELLIE GARDNER

Frank Hammond
President

Women and children find it easy to succeed with the Sure Hatch Incubator

We can give you the names of tens of thousands who make a handsome, steady income with very little effort, and would not bother with hens or with any other incubator. The

Sure Hatch

Is Automatic in Operation

Our **Uncle Sam Poultry Book** will help you to succeed. It tells all about how to handle the business the best way. It is a compilation of official reports by U. S. Government experts. Tells what to do and what not to do. Many illustrations. Free with every **Sure Hatch.**

Any one can succeed with it, even if they have never seen an incubator before. It is a plain, simple, strong machine, so built that it can't go wrong. Will hatch in cold weather when others fail. We send with each machine complete instructions for operating that are very easily followed.

We guarantee it 10 years and send it to you freight paid, on 60 days trial. Satisfy yourself by actual test that it is a quality machine in every respect. Your money back promptly if it is not all we claim for it.

Poultry turns kitchen waste and other farm waste into ready money; and you can depend upon the Sure Hatch to bring you the chicks at the time of year you want to hatch them to get the best price for them.

Write for our Free Illustrated Catalog, giving full information on Sure Hatch Incubators and Brooders, with much valuable information about poultry.

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Get the whole story of the Belle City's World's Championship Hatches in my great Free Book "Hatching Facts." The winners of the 21 World's Championship Hatches tell the story of their money-making, prize-winning success in their own words, with their

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These offers open the way for you to greatly increase your poultry profits this season. Book gives full particulars of my 1-2-3 months' HomeTest Plan, my 10 year money back guaranty, and my low prices—*Freight prepaid*—will surprise you. Write today to Jim Rohan, Pres.

BELLE CITY INCUBATOR CO., Box 166, Racine, Wis.

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THIS famous Old Trusty book has started 580,000 people making poultry profits. The Johnsons offer no untried experiment in chicken raising. If the Old Trusty isn't all that's promised we trade back. An

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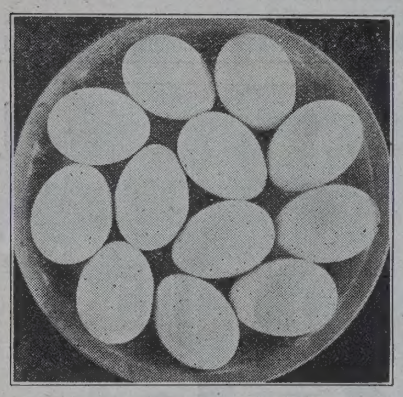
De King Mfg. Co., Dept. 199, Chicago, Ill.

FOR WINTER EGGS

The surest test of a hen's efficiency is her ability to lay winter eggs. The winter egg period embraces the months of December, January and February. Sometimes a hen that may have the winter laying characteristic does not lay enough eggs during these months to indicate that she can be classed as a winter producer even in her pullet year. One factor that controls winter egg production is the season that a bird is hatched. The early hatched stock will often be brought to maturity in the early part of the fall and moult during the months of December and January, so it is easily seen that the time of hatching has a big influence on egg production. Many of our birds this year have loafed on the job during the last month on account of moult. This has prevented them from giving as good account of themselves as they might have done. Many more were immature and lost time for this reason.

There is no question that is asked more times by the prospective keeper of poultry than "What breed shall I carry?" The answer we generally give him is that it depends whether he wants fowls for back yard or the farm,



A pleasure to market them

or wishes to go into the specialty business to produce eggs for the market. The next thing our inquirer wants to know is, "Which breed has the best layers?" We tell him that depends upon what the fowl has inherited, as good laying is not confined to any one breed. It is a scientific fact that you cannot develop that which an animal or fowl does not inherit. You cannot give enough feed to a hen that has not inherited the egg-laying characteristic to make her produce eggs. For example, there is one hen that has been in the National Contest for two years that has never produced an egg.

Some hens lay during the winter months, some do not. Some will put fat on their bodies, other put their feed into eggs. There is one pen at the Missouri Station selected on account of poor laying points, thick pelvic bones and narrow behind. These hens are given the same feed that a check pen is fed which is selected for layers, thin pelvic bones and lots of capacity. The hens of poor laying make-up are putting their feed into fat, the latter are using the feed to produce eggs. The ones selected for egg production from external appearances alone are far in advance of those selected in the same way as non-layers.

The dairy man gives an essential point of a good producing dairy cow that she must have a large capacity to consume a great amount of feed. It is natural to give this as an essential point of a good hen. She must have capacity to use her feed by converting it into eggs.

The records for the past year indicate that some hens have tendency to consume a great amount of feed but little capacity to convert it into eggs. Those hens which do not have this capacity in these days of high prices are a big drain upon the revenues of the keeper and it must inevitably turn the attention of every breeder of the country to the importance of breeding hens that have a feed-converting power.

The Wyandottes are giving further evidence this month that they have the winter laying capacity, and have led the contest on pen record. In fact, the dual purpose breeds have the lead over the Mediterranean breeds for the month of January.

In the southern country there are no better months in the year to hatch incubator chicks than the months of February and March. They can be matured in time to catch the early egg market and the males can be culled for the broiler market. It is more difficult to start the work in the northern portion of the United States at such an early date, but even if hatched later, the advantages in climate help to counterbalance the earliness of the early southern hatched chickens.

The big price of grain need not deter you from making big preparations to rear a good flock of layers for the next winter's work.

T. E. Quisenberry,
Mountain Grove, Mo.

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E. L. ANDREWS, Agent
Maryville, Mo.

KEEPING EGGS FOR HATCHING

There are several foolish beliefs and superstitions about keeping eggs for hatching. Some of them are pointed out and explained away by F. C. Hare, poultry husbandman of Clemson College, who further advises the correct methods of keeping eggs over a period of several days before putting them under the hen or in the incubator.

The yolk of an egg, said Mr. Hare in giving some of the basic laws of poultry reproduction, grows from a small point to full size in a sack attached to the ovary of the hen. When the yolk is ripe or at normal size, the sack is ruptured and the yolk enters the oviduct, a tube about 18 or 20 inches long that secretes the albumen and two membranes (skin) inside the shell. Just after the yolk enters the oviduct, the germ (a small round spot with lighter center that can be seen on the yolk) is fertilized if the hen has been with a male.

When an egg is laid and has become cool, the growth of the germ or embryo almost ceases. The little chick remains in a dormant state until the egg is heated to a temperature of 80 degrees or more. Then the process of hatching continues and if the heat is maintained according to nature's laws, the chick will emerge from its house of shell at the end of about 20 days.

It is necessary to keep eggs that are being held for hatching in a cool room, at from 50 to 60 degrees, if best results are desired. Heating and cooling eggs alternately, or turning them daily, or placing them in the sunlight mitigates against a successful hatch.

The common belief that turning eggs improves their hatching is not borne out by results. Turning does no good and it frequently does harm by displacing the contents of the egg. A warm temperature reduces the density of the albumen and many chicks will die from becoming attached to the shell membrane. Keep the eggs in a basket covered by a cotton cloth, in a cool, dry room, advises Prof. Hare. In this way they will keep about 10 days, and hatch well, but it is evident that eggs will hatch better if incubation begins within two or three days after laying.

An experiment conducted by Mr. Hare at the United States Experimental Farm near Washington in the spring of 1913 showed that 70 per cent. of the weight of the egg when incubation began was the weight of the dry chick hatched from the egg. This illustrates the importance of always setting large eggs. Do not hatch a chick from a smalll egg, because only a small chick can result. The big chicks grow faster and usually make better layers and breeders. Besides, one will increase the average size of eggs laid by one's flock by always hatching chicks from big eggs.

The Danes, said Mr. Hare, have practiced this system for years and their standard weight for eggs is the heaviest in the world, being thirty ounces per dozen—two and a half ounces per egg. The American standard weight is twenty-four ounces per dozen.

Golden and Silver Campines (Kennedy Strain), Eggs $5 for 15. Barred Plymouth Rock Eggs $2 for 15. Geo. Boettler, St. Peters, Mo. 2154

Single Comb White Leghorns. Great winter egg layers. A red stamp brings photographs. 30 eggs carefully packed $2; 15, $1.25. W. C. Carver, Vandalia, Mo. 2156

Big Barred Rock Cockerels.—25 tops, May hatched, splendid quality, weight 8 to 10 lbs. $3 to $5 each. Obadiah Prettyman, Fairfax, Mo. 1154

Barred Plymouth Rocks, Thompson Ringlet Strain, fine cockerels, priced to sell. Pen eggs $2 for 15, utility flock eggs $5 per 100. A. F. Skiefer, Defiance, Mo. 1156

For Sale—Single Comb White Orpington Cockerels, English strain. Prices very reasonable. Write E. L. Andrews, Maryville, Mo. 115tf

White Wyandotte Cockerels, extra good, $5. If not as represented, return bird and get your money. Eggs for hatching $3 for 15. Isham Boulware, Centralia, Mo. 216

Buff Orpington Eggs from extra good laying strain, 75c for 15; $2 for 45. Mrs. E. C. Parker, Columbia, Mo. 311

S. C. White Leghorn Eggs, $4.50 per 100. Yesterlaid Strain. Mrs. J. W. Ezell, Houstonia, Mo. 312

Barred Rock Eggs from extra choice, large, well barred stock, $1 for 15, $2.50 for 45, $5 for 100. Write for description and sample feathers. M. D. Porter, Vandalia, Mo. 314

Barred Plymouth Rocks, Black Langshan. Better than ever. Cockerels, $1.50 to $3 each. Eggs from pens, $2.50 for 15. Range flocks, $1 for 15. Harry L. Brown, Stephens, Mo. Mutual Phone. 316

S. C. Rhode Island Reds. Eggs, 15, $1.50; 50, $2.75; 100, $5. Mrs. C. B. McClanahan, R 4, Kirksville, Mo. 316

Barred Rocks, Utility and Exhibition Matings. Indian Runners, Fawn and White—Persistent layers. Mrs. F. A. Daniels, Vandalia, Mo. 314

Superior, heavy laying, Single Comb White Leghorns. Eggs, Chickens. Armstrong Bros., Arthur, Mo. 314

Buff Rocks. First Prize Winners, Columbia, Mo. American Poultry Association diploma for best Buff Rock cockerels in show. Eggs from prize winning stock $1.50 per 15. H. D. Wilkinson, Route 7, Columbia, Mo. 316

HOME-MAKERS

This Department Edited by Miss Alice Kinney

We are pleased to note that our Poultry Contest is meeting with responses from interested women; it is yet time to enter for this is the season of the greatest activity among poultry raisers.

The following entry to the Contest is a source of great gratification, and we trust that this little leader in the Junior Poultry Department will stimulate many others to follow her efforts and enter the contest; you will be interested to learn that this little maid has to buy all her feed and keep her chickens in a run, because her home is in a town and her nearby neighbors would object to having her biddies visit their flower beds and garden. You who live where your chickens have a whole farm to run over and find their feed cannot understand how she is going to make any money, it will be of interest to watch her progress and perhaps she will tell us from time to time how she is getting along, so that we shall not have to wait a whole year to hear of her success.

"I am eleven years of age and very fond of chickens, so last year I decided I would try my hand at raising poultry.

"I purchased three sittings of Single Comb Rhode Island Red eggs; from this number I hatched thirty little baby chicks and raised twenty-four of the number.

"When they were ready for the table I sold eleven for $4.55 leaving thirten pullets for my start this year.

"These were hatched March 17, 1914, and began laying Dec. 5th. I have sold eleven dozen eggs at thirty cents per dozen.

"From now on I want to save my eggs to sit, so began my bank account this week with $7.85.

"This past year my father paid for my feed in order to give me a start, but now I am to bank all my money and pay my own poultry expenses by checks.

"In this way my parents hope that I will get a business education at the same time I am learning to raise poultry."

Mary Dey Faires,
New Franklin, Mo.

At our request the Editor is sending out a few complimentary issues of The Missouri Farmer, and we shall greatly appreciate a responsive card from each one who receives same, telling of their interest and approval of these pages, also what special feature you would like included; it will be most helpful to the department in their efforts to make it of value to every home-maker in the state.

The following are a few of the resolutions passed at the last Home Makers' Conference for which our women nobly stand:

Resolve that we, the members of the Missouri Home Makers' Conference, do all in our power to promote the cause of temperance, to secure the final prohibition of the legalized liquor traffic.

Resolve that we use our influence to promote sane and sensible dressing for women.

Resolve that we appeal to the State Board of Agriculture to make some effort to prevent the waste of canned fruits and vegetables exhibited at the State Fair, especially that which is desired for other exhibits.

Today, as we watered and admired our indoor small boxes of little tomato plants, our thoughts went out to the many hundred of women who were probably doing the same interesting work of caring for their future garden, first by keeping the boxes warm enough in some corner, until the seeds have sprouted, then hunting the brightest window where they can find the most sunshine; a little later, when they have four strong leaves, they will be transplanted to four-inch pots or old berry boxes and placed in a cold frame where they will continue to grow and make sturdy plants for the open garden when the weather is warm enough; frequently they will have blooms and fruit on them which they will retain if transplanted with care; to the aveage Home Maker; the cold frames seems the easier method if the plants have been started indoors; it makes the transplanting to larger spaces and much lighter task in any weather, unless the amount of seed planted is considerable then it would not be practicable; these early started plants well repay you for all the extra care and time by giving a much quicker return for either your own garden of for the early market at a time when it means a good profit; if you have not already started your seed come and join us at once.

In the next issue there will be given some directions regarding the making of cold frames.

TO THE MISSOURI FARM WIFE

It's rain or snow—
An' I don't know—
Just which to say it is,
It sticks to trees
In glassy freeze,
An' hurts my rheumatiz'.

The clouds are gray
An' not a ray
Of sunshine filters through;
So cold and wet
I like to set
Close by the fire with you.

For here inside
Where you preside,
It's not so dull and gray;
You've shorly stored
A good sized horde
Of sushine for today.

For it shines through
Our home from you,
And brigthens round about,
'Til we forget
The cold and wet—
But how's the "down and out?"

—Carrie Polk Johnston.

BUCKSHOT BY THE PROFESSOR

There are a pile of fellows who think they know how to run the government who ought to be running a manure spreader.

Every time I demonstrate that I can climb into and out of an upper Pullman car berth, the more faith I have in Darwin's monkey proposition.

Were you ever a boy and did you ever come mighty near losing your religion trying to pull on an old frozen pair of boots along about five o'clock on a cold winter morning?

The local barber had a fuss with old Josh Simpson the other day. Old Josh gets his hair cut once every year—and the barber tried to make him put up the price of a new pair of scizzors in advance.

From what I can learn in the newspapers it strikes me that we must have one of the best Legislatues we have had in years. They say it has fooled around so long that it won't have a chance to pass hardly any new bills at all.

There are a lot of politicians who are just naturally ignorant and then there are a lot of others who wouldn't tell the truth if they knew it. The demagogue is one of the things that's the matter with American business.

DEATH RATE IS TOO HIGH

"There is no law of mortality. The health and death rate of every community depends entirely upon sanitary conditions in that community. When a community has an excess of typhoid fever, or any other contagious disease, it is because the people are too niggardly to take measures of prevention."

This statement was made by Dr. M. P. Ravenel, professor of preventive medicine at the University of Missouri, at the opening convocation of the second semester at Columbia.

Doctor Ravenel said that there were 1,000,000 deaths in the United States every year, 400,000 of them being due to health negligence.

"Every day," he declared, "there are

(Continued on page 18)

KODAK on the Farm.

AT every turn, country life offers opportunity for the camera. In a business way there are records of stock and crops and buildings and trees and ditching to be kept. From the standpoint of the family album there are pictures of the children and the pets and the home—pictures that grow in interest with every passing year.

And the Kodak adds fun to every wholesome frolic. At the picnic, at every evening gathering, on the trip to the city, on the shooting and fishing trips it adds to the pleasure at the time and the resulting pictures are a pleasure for all time.

And the cost is less than you think.

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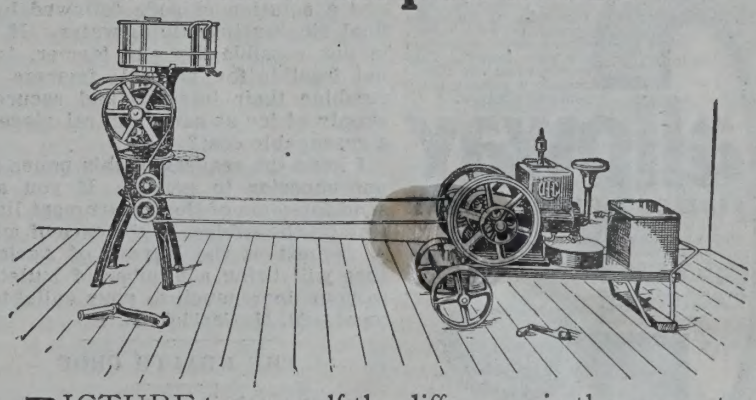
EASTMAN KODAK CO., 390 State Street, ROCHESTER, N. Y.

International Harvester Cream Separators



PICTURE to yourself the difference in the amount of actual work done, between setting milk in any of the old-time ways and skimming it with an I H C cream separator. What a job it is to wash the pans or crocks. How many handlings they need. What a lot of time it takes to fill them and set them away, to protect them from dirt, to do the actual skimming, to dispose of the cold skim milk, to purify the crocks or pans.

Now note the difference. With an I H C separator the milk is skimmed while still warm from the cows, the separator is washed in a few minutes and everything is ready for the next milking.

You want the separator that will help you most. There are other things than the saving of work to be considered. There is saving of cream, value of the machine, service in case of accident, and many other things to be thought of before you buy a separator.

Take time enough to buy a cream separator. The more carefully you go about it, the more comparisons you make, the more clearly you will see that one of the International Harvester separators—a Dairymaid, Primrose, or Lily, will serve you best. See the I H C dealer. Get catalogues from him or write to us for them.

International Harvester Company of America
(Incorporated)
CHICAGO USA
Champion Deering McCormick Milwaukee Osborne Plano

Barred Rock Cockerels, excellent quality, $1, $1.50. Eggs for setting, Bradley strain, $1.50 per 15. Farm flock, bred-to-lay strain, $1 for 15. Mrs. Marshall Gordon, Rt 1, Columbia, Mo. 311

The Missouri Farmers' Exchange

We now have listed a fine lot of cowpeas, soybeans, seed oats, seed corn, clover, timothy and alfalfa. One of our members writes, "In a recent purchase of three bushels of alfalfa seed through our exchange I saved $9.25 and was pleased with the seed." Write us about your wants. Address, Missouri Farmers' Exchange, Columbia, Mo.

Single Comb White Orpington Eggs for hatching, from my famous English strain. Best pens $2 for 15 eggs; utility stock, $1.50 for 15 eggs. Fertility guaranteed. Order from this add. E. L. Andrews, Maryville, Mo. tf.

White Wyandottes—Winter layers. Eggs $1.50 per 15; $2.50 for 30. Richard Bloom, Fulton, Mo. 314

S. C. Rhode Island Reds. Bred for eggs. Prompt service at reasonable prices is our motto. If you want eggs from the best utility stock. Write Mrs. Geo. Gerhart, Glensted, Mo.

1100 people sacrificed in this country through carelessness."

The speaker said that the state boards of health were inadequately supported and that they were overloaded with work that belonged to other officers. He pointed to the results achieved during the construction of the Panama Canal as an example of what could be done in the United States. Doctor Ravenel stated that the death rate at the Panama Canal at present was lower than the death rate of any city in this country.

"Much of the insanity and crime in this country," he said, "is due to diseased bodies or minds. We spend millions of dollars for the care of these people, yet do nothing to get at the root of the thing."

Doctor Ravenel said that the death rate in the German army, due to typhoid fever was but one man in every 300,000. He said that this was due to the fact that vaccination there was compulsory. Because of the adoption of compulsory vaccination laws in the United States Army, there were but four cases among the 90,000 men in 1913-14.

This Big Catalog Saves Customers $1,000,000 Every Year-It's Free.

Send a Postal Today

It's a wonderful buying guide. Contains many things and pictures of high quality, low priced merchandise, clothing, furniture, rugs, etc., also colored pictures of cream separators, gasoline engines and manure spreaders.

Everything You Need For Farm and Home

And listen, the prices we make will surprise you. They make your dollar buy more because you pay only one small profit on goods we manufacture and sell factory to farm. Listen again. We have a special price-reducing, sliding scale proposition for your benefit. That means when our output reaches a certain point you get a refund.

Galloway

MAKES SPECIAL DEAL

Orders are coming by leaps and bounds. To facilitate handling, to insure prompt delivery, to save my customers freight, I have distributing plants in north, east and west. Just recently we absorbed the David Rankin Co., at Tarkio, Mo., and have located a distributing branch at Kansas City to supply the south and southwest.

$2.00 puts the latest model Galloway separator on your farm. Balance in small monthly payments. The same high-grade, close-skimming separator that I sell for $42.50 cash, and it's as good as they are made at any price

Wonderful Cream Separator

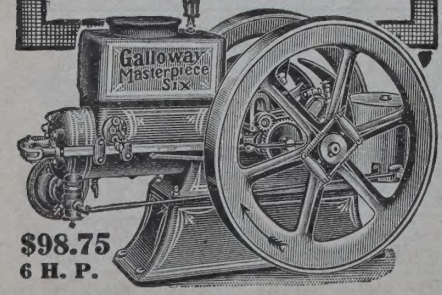
That's exactly what it is. Absolutely guaranteed by $25,000 bond. Enclosed gears, sanitary base, new type disc bowl. Made in our own factories by automatic machinery. It's the separator that leads them all in quality, low price and perfect construction. Investigate.

$98.75 for Real 6 H.P. Engine

The Galloway Masterpiece

It's positively the most engine for the money ever offered by anybody, any place, anywhere, at any time. It's positively A-1 in high quality of material, finish, design and workmanship. Absolutely supreme in power, simplicity and design, not overrated, nor high-speeded, but large bore and long stroke, plenty of weight, low speed, built for long, hard, continuous service. Our engines are made in our own great modern factories by the thousands, from the very finest materials, on automatic machinery, all parts standardized and alike and sold to you direct from the factory. Write for big catalog today.

Wm. Galloway, Pres. Wm. Galloway Co.
597 Galloway Sta. Waterloo, Iowa



$98.75
6 H. P.

FIGHTING FOR PURE MILK

So many dramatic disclosures have been made in regard to the relation between dirty milk and the excessive death rate among infants that farmers are beginning to realize as never before the necessity of co-operation with the municipal authorities in their fight for pure milk.

Milk is certainly the most important article of food in the human dietary, and it is also the most contaminable. It is, therefore, up to the farmer to see that the milk from his dairy gets to city babies in as reasonable a state of cleanliness as possible. Not that this is an enclusively baby problem, for all sorts of diseases are carried through milk. Tuberculosis is an example of this class, and a number of epidemics of diphtheria and scarlet fever have been traced to the milk supply, but when we pause to consider that one-fifth of all the babies born in the United States die in their infancy from preventable diseases, and that sixty per cent of these are due to gastro-intestinal diseases, due to improper feeding or impure milk, we naturally begin to look into the cause.

I realize, of course, that not every farmer can have his milking done scientifically; but it is possible for him to produce safe milk for his own use and that of the public by very simple and inexpensive means.

He may not have an elaborate dairy outfit, but his cattle can be kept clean and in perfect health with the assistance of a veterinary. It will be to his financial interest in the long run. Tar paper, whitewash and homemade cement will insure a sanitary stable at small cost.

Then, there should be a covered milking pail in place of the old-fashioned wide-mouthed pail. This will keep nine-tenths of the dirt out during milking time. All milk utensils may be kept clean by the use of a brush and a solution of soda followed by a final rinsing in scalding water. If ice is not possible for one farmer, is it not feasible for several farmers to combine their interest, and secure a supply of ice at some central place at a reasonable cost?

I hope the readers of this paper are not superior to germs. If you are, send for some of the Government literture on the subject of the care of milk. A request of the Bureau of Agriculture will bring a number of bulletins to your door, much to your enlightenment.—M. M. Carrick, M. D.

THE HEALTH CROP

In my work in connection with the Department of Agriculture, I often go out among the farmers and look at their farms. I recently visited twenty-five farmers' springs, where they get their water for their families. Every single one of them had chickens running around it, or pigs, or sheep, or cattle grazing right around the spring. And I have not examined a single one of the springs but what I found it containing bad germs from animals' bodies.

You go into the farmers' cellars—they are seldom fumigated and cleansed, and often full of rats and vermin. If we had a Department of Health, every school would have an instructor, every village would have a lecturer, and every town would have a commission to look after these things.

I am paticularly concerned with a farmer who has two sweet little children. Their moral training is excellent; they are kind and unselfish, and eager to be of service. They have never taken any care of their teeth at all. So, as I was interested in the children, I bought each of them a toothbrush and said, "Now, every time you eat you must clean your teeth afterward; and when you get up in the morning, clean your teeth; and when you go to bed, clean your teeth." I was playing with one of them the other day and I thought her teeth did not look very clean, and I said, "Do you use the toothbrush I gave you?" And she said, "No, I haven't used it yet; I'm saving it."

What interest could these children be expected to take in good teeth, so essential to good health, when they do not know anything about the subject? And yet their father is intensely interested in getting good crops and in good fetilizers, and in fine cattle and in registered pigs. He constantly asks questions about how to increase the yield of corn, or how to select the seed. But he has never asked as to what his children should eat, in order—when they are mature—that they may have the greatest crop of health, mentally and physically. This farmer has not the least notion of what the first principle of good health is—in the way of ventilating his house, or having the children sleep in the fresh air, or selecting the most healthful food or the least injurious occupation for his children. Harvey W. Wiley, M. D.

SCREEN THE SMOKEHOUSE

The skippers commonly found in cheese and meats are the young of small flies. They sometimes become an intolerable nuisance in smokehouses, attacking ham, bacon and the like during the process of smoking or before they can be cased. Where a house is once thoroughly infested, the flies are found in swarms everywhere ready to attack the meats as soon as there is the least opportunity. Windows should be closely screened, the walls should be white-washed frequently so as to keep all crevices filled up; the floors should be kept clean and should be as solid and smooth as possible to prevent the development of maggots in crevices filled with greasy substances. The flies can be killed by fumigating with tobacco or pyrethrum. For this purpose the room should be closed tightly in the evening after the work is done or on a Sunday or other day when work ceases, and a sufficient quantity of either tobacco or pyrethrum should be burnt on live coals to fill all parts of the room. It should be left ightly closed for from eight to twenty-four hours. At the end of this time the flies will have been destroyed, but the maggots will not. It will be necessary to repeat this operation two or three times at intervals of a week, to destroy the flies as fast as they hatch, and before they have an opportunity to lay their eggs. In some cases bisulphide of carbon may be used to fumigate. This must be done when there is no fire on the premises and the house, which should be left closed twelve hours at least, should then be aired until no trace of the odor remains before fires are again introduced. Carbon bisulphide is as inflammable as gasoline and should be handled with equal care.

When the meat is already infested, the infested portions should be trimmed away and clean salt rubbed into the surface exposed by the trimming. To avoid making the meat too safety the extra salt should be rinsed off. The object of this treatment is to harden the surface which has been exposed by the trimming.—Bulletin Kansas Agriucltural College.

LIGHT, COOK, IRON, WITH GAS

Mrs. Housewife:

Sit down now and just drop us a little note asking that we send you FREE our profusely illustrated booklet telling all about "Gas" and how easily it can be installed in your home.

This booklet starts off by mentioning some of the inconveniences experienced in homes without gas. Then it tells the conveniences of having gas. How every room can be instantly and brightly lighted. How there is no trouble attached to it at all. How a gas range is used in the kitchen instead of a coal or wood range. How gas irons are used for ironing. And how gas contrivances of all kinds lessen labor and save time. After it has covered these subjects very interestingly and fully it says:

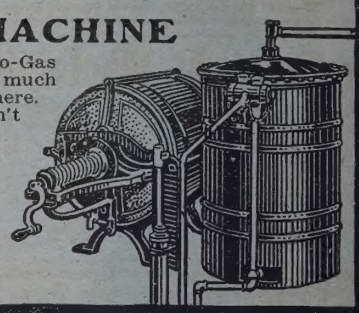
"And Why Don't You Mrs. Housewife Have Gas In Your Home"

You can now. There has been a machine invented and patented that enables you to make your own gas even cheaper than "City Folks" buy it. And the gas you make will do everything city gas will do. That machine is the

AERO-GAS MACHINE

Our booklet tells all about the Aero-Gas Machine. But this booklet says so much that we can't begin to outline it here. Why not send for it now. It won't cost you a penny and doesn't obligate you to anything.

Send for that FREE BOOKLET NOW. PLEASE. Address,



St. Louis Aero-Gas Machine Co.

517-519 North 2nd St., St. Louis, Mo.

10 Weeks Trial

Economy King

28.95 and Up

OVER 400,000 Economy Cream Separators in daily use—hundreds in nearly every county where dairying is done. Will increase your profits and cut the dairy work in half. Special liberal terms. Write us today.

Sears, Roebuck and Co.
Chicago

Galloway's 1915 Strawberry Sensation

The famous Everbearing variety. Has long fruiting season and large, highly flavored berry. Had my friends try a few last season. Wonderful results. Want you to try some. Special price, also free offer whereby I give my new customers some of these plants free. Write for proposition and handsome colored catalog filled with new and standard varieties of garden and flower seeds, etc. Address,

Galloway Bros. & Co., 591 Galloway Sta., Waterloo, Iowa

Galloway's Porterhouse Tomato FREE

I am always on the look out for new things, those out of the ordinary. I found a corker in the way of a tomato. Exceptionally big firm and meaty. Just like a beefsteak. That's why I named it. To introduce them I will give my 1916 customers some of this seed Free. Write today for special proposition and beautiful colored catalog of new and standard varieties of seeds. Galloway Bros. & Co.,

591 Galloway Station, Waterloo, Iowa

Do You Have to be Shown?

I'm told that I have the best quality of seed, give the largest packages and have the most common-sense Seed Book in the bunch. And I'm willing to admit it.

Do you have to be shown?

All right. I live close to the Missouri line and I'll "show" you. I'll send you the *Seed Book* and a *package of garden seed*, and you can judge for yourself. NO CHARGE FOR EITHER, and you need not even send the postage unless you wish.

I also have guaranteed Clover and Alfalfa, and all kinds of farm seed at Farmer's Prices. Shall I send you free samples of these also?

HENRY FIELD, Pres.

HENRY FIELD SEED CO., Box 158 Shenandoah, Iowa.

Buy Trees At Wholesale

and Save Agents' and Dealers' Profits.

Apple trees $6 per 100 and up; Peach trees $7 per 100; Cherry trees $12 per 100. All of the best varieties for the middle-west. Concord Grapes $2 per 100; Rockhill's Progressive Fall Bearing Strawberries $3 per 100; Cumberland Raspberries $8 per 1,000; Early Harvest Blackberries $8 per 1,000; St Regis, Everbearing Red Raspberries $3.50 per 100. We pay the freight on all orders amounting to $10.00 or over. Get our **FREE CATALOGUE.**

WOLSINGER BROTHERS NURSERY, Box 107 Rosedale, Kansas

FINE SEED CORN

Armstrong's Iowa Grown

Most reliable, true type, high yielding varieties. hand picked, selected, tipped, butted, shelled and graded, ready for edge drop planter. Good honest seed corn, as perfect as can be made, direct from the growers, at farmers prices. Catalog and samples free.

J. B. ARMSTRONG & SON, Shenandoah, Iowa

Field Garden Flower SEEDS Pure and Sure

Novelty Collection of Reliable Garden Seeds.

This 40c Collection by mail for 23c. (Dwarf Beans, Stringless Bountiful, 10c pkg; Beet, Crimson Globe, 5c pkg; Lettuce, Cabbage or Butter, 5c pkg; Tomatoes, White Excelsior, 5c pkg; Radish, Fireball, 5c pkg; Carrot, Frankfort, 10c pkg.

Flower seeds of equal value if desired. Catalog FREE.

St Louis Seed Co. 461 Washington Ave., St. Louis

Catalog on Incubators, Brooders and Poultry Supplies.

Galloway's ALFALFA

Grows Everywhere, Makes Big Crops

The secret is PURE SEED and knowing how. Galloway's seed and the Galloway system of planting, growing and harvesting, insures success, big profits.

Galloway's Pure Seed Book and Samples Free—just send postal today, or send ten cents and get our new 62-page 25-cent book entitled "How to Grow Alfalfa, the Wonder Crop"—a mine of information—tells how to get a sure "catch," prepare ground, inoculate, protect, harvest and many other new facts and important discoveries.

GALLOWAY BROS. & CO.

50c Galloway Sta., Waterloo, Iowa

A Bargain Collection of FLOWER SEEDS FOR 12 CENTS

10 choice varieties, all new, fresh seeds, sure to grow and bloom this season. Pansy, 60 Colors; Phlox, 10 Colors; Verbena, 18 Colors; Pinks, 12 Colors; Petunia, 10 Colors; Asters, 12 Colors; Poppy, 8 Colors; Stocks 10 Weeks, 8 Colors; Mignonette, mixed and Sweet Allyssium. The 10 Packages only 12c.

With each order we also include a copy of **GOOD POULTRY** a quarterly magazine, devoted to special crops and intensive farming, with special attention to the care and handling of poultry. Tells how to make $200 per acre per year on any farm from 5 to 100 acres. Good Poultry alone, 10c a copy; 25c a year, including a copy of new book, Intensive Farming. Write tonight.

SHOREWOOD FARMS CO., Saugatuck, Mich.

Strawberry PLANTS **FREE** To introduce our *Pedigreed Everbearing* strawberries we will send 25 fine plants free. PEDIGREED NURSERY CO., St. Louis, Mo.

SEEDS This big offer of Tested Seeds and our new catalog for only 25 cents. 1 pkg. Crosby Beet, 1 pkg. Sure Header Cabbage, 1 pg. Butter Lettuce, 1 pkg. Double Curled or Single Parsley, 1 pkg. White Summer Radish, 1 pkg. Livingston Beauty Tomato, 1 pkg. Mixed Asters, 1 pkg. Sweet Mignonette, 1 pkg. Giant Mixed Pansies.

All Seeds Tested before shipped. All kinds of field, flower and garden seeds. Write today.

Jul. Petersen Seed Co.

709 Carroll St., SAINT LOUIS, MO.

MISINFORMATION

We very often hear some farmers say, "I am done with farm papers, for in the past few months I have read four or five articles, every one misleading and contrary to real farm practice.

A certain class of so called "farm papers," is responsible for this criticism, as such papers are published and edited by men who are absolutely ignorant in regard to what a real farm paper should contain, whose only object is a circulation that will draw advertising patronage, and whose contributors are frequently secured by the occasional offer of a few dollars for prize articles upon some phase of agriculture.

Before me is a paper of this class, containing a series of these prize articles on Poultry raising, and I call attention to some statements contained therein.

One writer, in calling attention to the merits of incubators as compared with natural methods of hatching chickens, says that it will take one pint of corn per day, each, or sixteen pints, for the sixteen hens necessary to cover the 200 eggs that could be placed in an incubator of that capacity.

In another article, the writer is calling attention to the profits to be made by caponizing all the young cockerels.

Now as most of the caponizing must be done by middle of July if good heavy capons are to be produced, and as the demand for capons begins in earnest about December 15, the grower will have approximately 150 days to feed his birds.

If it takes a pint of corn per day to feed a setting hen, it will certainly take as much to feed a rapidly growing capon, so each bird will have in 150 days, consumed 150 pints, or nearly 2⅓ bushels of corn worth at 75 cents per bushel very nearly $1.75.

Provided that the market is not too far distant, demand good and shipping cost not too great, a ten pound capon will bring 17½ cents per pound, just paying for the corn it ate.

As every poultry raiser knows, it does not take a pint of corn per day for a setting hen or for a capon either, yet a writer in a so called farm paper has made the statement, and the critical reader blames all real farm papers for it.

In another paper I find the astonishing statement, that one horse or cow, produces enough manure to keep up the fertility in six acres of land used for general farming. I wish it did, for with our fifteen head of stock I could manure ninety acres, instead of the eight or ten acres that we are able to cover per year and we think sometimes that we spread pretty thin.

Not long since, I read an article, advising the sowing of alfalfa seed on ground honey-combed with frost in March and at the rate of five or six pounds per acre, the writer vigorously attacking college and station men who advise thicker seeding.

I could go on and fill this paper with other instances of the kind. They by no means argue against the value of the real farm paper, such as The Missouri Farmer, but they do point out the fact that farmers should be careful to take and read only those papers edited by men who know brass from gold in a farm press article.

C. D. Lyon.

BRAINS ON THE FARM

The farmer who is a money maker studies his profession, is up-to-date and like the man from "Missouri," you have to "show" him.

For the successful farmer learned long ago that "two heads are better than one," and that a careful combination of his own "brain force" with that of others in his own line will do more for him than he can hope to achieve alone. In other words, he judges success by results attained.

If you have a theory on rotation of crops, fertilization, breeding of live stock or a method of soil peparation, you will be plied with questions and demand made that you prove your assertion by weight and measure.

If you claim a better variety of grain the farmer will not hazard a crop by planting his field until he has first put it to the test, and if the test is satisfactory, he will not be slow to adopt it.

The farmer may be from the country, but he no longer has "hay seed in his hair;" unless by test it has proven to be of a specially high grade and fertile variety.

If you claim a certain breed of hog will grow to a larger size, produce more bacon, grow larger hams and yield a larger profit to the breeder, you must first "show" him.

If you have a distinct type of horse with the necessary qualities that make it worth while to raise and which is certain to command a good price on the market, you can win the farmer by proving results and in no other way.

If you say a certain kind of cow will give more and richer milk, yield a larger percentage of butter fat and produce more profit on the same ratio of feed, it's up to you to produce results.

Why?

Because the farmer of today conducts his business with good hard-headed business judgment and not by guess work.

This is not selfishness, it's common sense applied to a theory which has "made good."—***.

DON'T DREAM

Don't dream of when your "Ship comes in." Wake up—row out and meet it. It's a peculiar thing, the resolutions that a man will make at night sitting in front of the fire. He'll look into the fire and plan a campaign of attack to make himself advance at least one step on the ladder of "Dame Fortune," but in the morning when he reaches the ladder he does not take the step. He always thinks that the step will be lower when his "Ship comes in," but thousands of ships have been becalmed only a few miles from shore. It would have taken only a little work to pull out to the ship, get it heading in the right direction to bring it home; and again many more row as far as the ship and then wait in the calm for a breeze to spring up with which to sail to shore, but the live, active man turns his row-boat around, gets a good organization of helpers and tows the boat ashore.—***

Plant Good Seeds.

About the most unprofitable thing a man can do on the farm is to plant seeds that will not grow. Next to that is to plant seeds that have not been intelligently selected and cured out so that they have heredity behind them to give them strong producing power. In our past experience on the farm we have found it very profitable to write each year to a number of seed houses, get their catalogues and study them during rainy hours or evenings. In this issue of The Missouri Farmer our readers will find a fine lot of seeds advertised and a dollar will go a long ways toward filling up the blank spaces in the garden and supplying the table with nice vegetables all next summer and winter.

Don't forget to put in an order for a few packets of flower seeds for the women folks while you are at it.

ALFALFA SEED Choice recleaned alfalfa seed of my own raising, grown without irrigation, $9 per bushel f. o. b. Piedmont. S. E. Morey, Piedmont, Okla. 2153

SWEET CLOVER SEED White and large biennial yellow. Prices and circular on request. Bokhara Seed Co., Box F., Falmouth, Ky.

SEED CORN

Boone County White, Iowa Silvermine, Reid's Yellow Dent (the large kind, pure and a blue ribbon winner, for yield and beauty), 90-Day White Cap.

Clover, timothy, alfalfa free from bad weed seed—all tests above 99 % purity. Don't take a chance on getting foul weed seeds with your grass seeds. Buy from some one who knows what he is selling, we make it our business to know. You can't buy seeds infested with noxious weed seed from us, we haven't got them, we don't buy them. We test every lot of seeds we buy before we buy them.

Write for prices and free interesting seed book to.

The house that cares. We are located in Nodaway County, one of the best farming districts in the state of Missouri.

KELLOGG SEED COMPANY

14 Walnut Street Skidmore, Mo.

SALINE COUNTY SEED CORN

Improved Reid's Yellow Dent, Gold Coin, Mortgage Lifter, Silver Mine, St. Charles and Boone County White. All hand picked, butted, tipped, shelled and graded. Germination 96% and better. Any variety, $2 per bushel F. O. B. Marshall, Mo. Bags free. Samples on request. Also seed oats, potatoes, clover, timothy, alsike, millet, cane, alfalfa, cowpeas, etc. Inquiries answered promptly.

LEONARD SEED CO., Marshall, Mo

SEEDS AND PEAS

Buy them now. Will be 20 per cent higher when the sowing season opens. Write at once to

St. Louis Commission Co.

Dept. S. St. Louis, Mo.

Fine Seed Corn

Yellow Corn: Reid's Yellow Dent, Shenandoah and Gold Mine mixed, Funk's 90-Day, White Cap 90-Day. White Corn: Boone County, Johnson County, St. Charles, Iowa Silver Mine, and Davenport and Boone County mixed or crossed. Prices per bushel, F. O. B. Skidmore: Butted and tipped by hand, graded and tested, $2.40; over 10 bu., $2.30. Same corn, shelled, butted and tipped by hand, tested, but not graded, $2, over 10 bu., $1.90. Sacks free. Order early. My supply will not last long.

A. F. HOWDEN, Skidmore, Missouri

Cow Peas-Soy Beans

Car lot receivers and shippers of

CLAYS, BLACKS and NEW ERA

Cowpeas, and most varieties of Soy Beans, consisting of

BLACK and MAMMOTH YELLOW

in the late varieties, and

EARLY YELLOW, MEDIUM YELLOW, MONGOL,

etc., in the early varieties. Samples and prices on request.

W. B. Nowell, Jr.,

COLUMBIA, MO.

Johnson County White SEED CORN

The greatest drouth resistant and heaviest yielding variety of corn grown. My seed was from the originator's prize winning stock; cost me $10 a bushel, and what I offer was all in the crib before freezing weather.

Price extra select crated ears, $5 per bu. No. 1 Shelled Seed. $3 per bu. $5.50 per two bushel bag.

Only my own growing and selection. Better order early.

C. D. LYON, Georgetown, Ohio

SEED CORN AND SOY BEANS

Boone County White Corn, Ebony and Mammoth Yellow Soybeans; also Cowpeas. Only strictly new, first-class seeds handled.

G. H. Morthland, Molino, Mo.

SEEDS GARDEN AND FIELD

Clover, Timothy, Stock Peas, Seed Corn, Etc

Our 1915 Catalog FREE by Mail.

SCHISLER-CORNELI SEED CO., 811 N. 4th St., St. Louis, Mo.

HOG CHOLERA ERADICATION

(Continued from page 5)

reported losses from vaccination of approximately 2 per cent is grossly inaccurate and must be based on incomplete or imperfect returns."

Mr. Brandwig in his recent letter says in regard to my work and teachings: "You have been entirely right on this serum and vaccination problem. In addition to the 43 head lost from vaccination I have since lost 60 head, from having the disease brought on my place. This little experience of mine cost me over $1000—which I charge to this system and the Experiment Station."

How much better it would have been to have sent a sanitarian to that neighborhood and organized the farmers into an "anti- hog-cholera club" and he had remained there long enough to kill out the virus on the infected farms instead of sending virus for use in a perfectly healthy herd on a clean farm. But these field experiments will teach the farmers and state officials what not to do, and will hasten the day when better methods will be adopted.

Some interest in what is being done in Missouri has also been manifested by the members of the Legislature of Nebraska, as shown by the following telegram from the Legislative Reference Bureau: "(1) Do you recommend the use of "virus" with serum? (2) In your opinon should the Missouri Legislature repeal the law prohibiting the use of virus? (3) We would like your opinion on the above at length." The essential part of my reply was as follows: "Missouri has never had any law prohibiting the use of virus in vaccinating against hog cholera, but sentiment against its use is growing rapidly among the swine raisers of Missouri. And when they are more fully instructed in regard to the simple and effective methods which our College Extension Department has now in operation in several counties of the State, where we have organized the farmers into "Anti-hog-cholera clubs," for instruction in better hog-cholera clubs," for instruction in better hog-farm-management, and for mutual help in Simultaneous Neighborhood Sanitation instead of "Simultaneous Vaccination," they will all abandon the use of "virus." The commercial and official exploitation of "virus" has been a great hindrance to the control of hog cholera in this State, and the swine raisers are rapidly finding it out. We teach, "sanitation" and "serum-alone" as the safest, surest, speediest and most economical way of getting rid of hog cholera, but proper organization and co-operation are also essential. Moreover, one good serum laboratory can supply all the serum that is needed for every legitimate purpose in the control of hog cholera in any state, if conjoined with a proper system of hog-farm-management and veterinary police regulation such as is advocated by the College of Agriculture."

In Iowa, the State Veterinary is strongly opposed to the use of virus; on the other hand, the College Extension Department is using it. The State Veterinary says that "virus" brought into the state in bottles was the cause of a great deal of the cholera in this state. The Iowa College, through its Extension Department, has been "immunizing hogs," but in my opinion have been "extending cholera" in all the neighbohoods where they have vaccinated any considerable number of herds by the "serum-virus" method. I cannot believe they have diminished the area of infected territory by the use of virus, however large the number of hogs they have saved. And next year they will have just as big a job on hand in the same territory as they have this year.

In Missouri conditions exist, the reverse of those in Iowa, so far as the teachings of the College Veterinary Department and the State Veterinary Department of the Board of Agriculture are concerned—the ex-state veterinarian, and the present officer and a considerable number of the state deputies are advocating the serum-virus "immunization" method; while the Agricultural College and Experiment Station Veterinary Depatment are teaching and demonstrating the use of "serum alone," and the value of active co-operation of the farmers of infected neighborhoods in the application of simple and effective measures of sanitation for the purpose of **eradicating** the **disease** on the infected farms. When the necessity arises for the application of police measures, the State Veterinarian or a deputy of that department is called on to exercise official powers of quarantine. Fortunately, drastic measures are rarely needed. And we are making progress in **getting rid of the disease,** wherever the methods I am advocating are being put into operation.

In Illinois, Indiana and Ohio the conditions, political and otherwise, seem to be such that they cannot take up systematic work in hog cholera "eradication" along the lines we advocate, and must be content to save as many hogs as they can by "immunization," yet keep the disease with them, and do it over again when the next pig crop is ready to vaccinate. Foot and Mouth disease is prevalent in these states and has hindered the work in hog cholera control. But the lessons that the farmers will learn in matters of sanitation, in the handling of foot and mouth disease it is hoped will be valuable later in the eradication of hog cholera. In New York the serum is made at the State College (Veterinary Department). No virus is sent out either to the farmers or to the veterinarians.

Canada uses neither serum nor virus, relies solely on sanitary measures—quarantine and disinfection—to control hog cholera.

I recently met Dr. F. Torrance, the Veterinary Director-General of Canada, at the sessions of the U. S. Live Stock Sanitary Association held at Chicago (February 16th to 18th), and he expressed his approval of the stand I have taken against the use of the "simultaneous" method of vaccination, as a means of controlling and eradicating hog cholera. He believes in killing out the infection by sanitary measures, instead of planting the disease on farms by "Serum-virus vaccination." By making proper efforts to keep cholera out of their country and by taking prompt and vigorous steps to eradicate such outbreak, Canada has not suffered any serious losses from hog cholera. It will be of interest to the farmers of Missouri to learn of the care that is exercised by the Canadian authorities in the importation of breeding swine, to prevent the introduction of hog cholera. I quote from the Contagious Disease Act of Canada:

Sec. 42.—**Importation of Swine from the United States into Canada.** "All swine must be accompanied by a certificate by a veterinarian of the U. S. Bureau of Animal Industry stating that neither swine plague nor hog cholera has existed within a radius of five miles of the premises in which they ahve been kept, for a period of six months immediately preceding the date of shipment, but such swine shall nevertheless be inspected and shall be subject to a quarantine of thirty days before being allowed to come in contact with Canadian animals."

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This is our offer. The finest silo that human ingenuity can produce---sold at the lowest possible spot-cash price, with six months time to pay the bill and no interest. You want your silo ready for use when silo time comes. We're here to put it in your hands now, and you pay for it September 1st, 1915.

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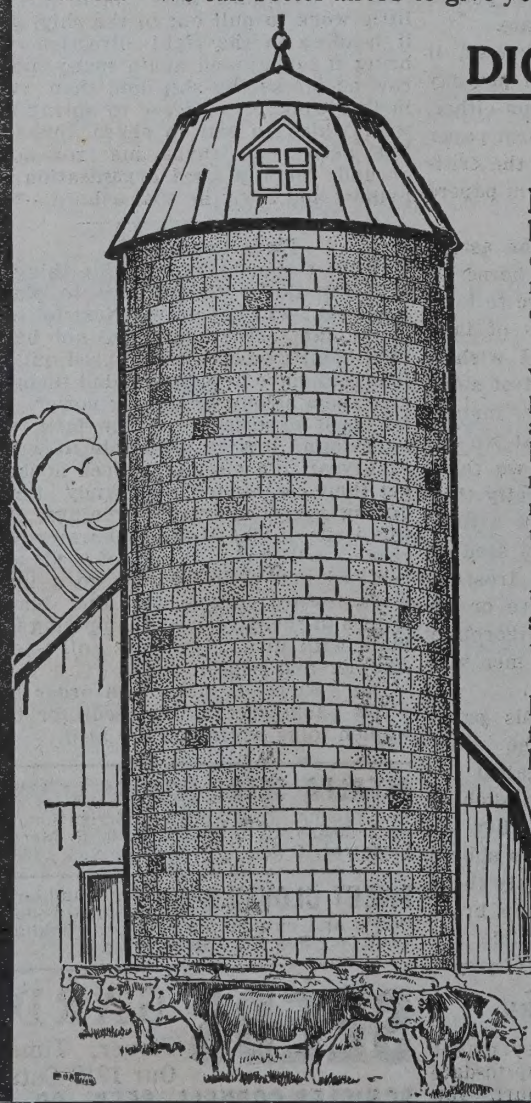
Stockmen, Farmers and Dairymen Who Know Silos, who have a wide acquaintance in their neighborhoods and the respect of their neighbors are urged to write us for full information about the Dickey Silo, and for details of our plan by which they can act as representatives of the Dickey Glazed-Tile "Tight as a Jug" Silo in their localities. Only first class men can be our representatives.



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"TIGHT AS A JUG"

The Dickey Silo is made of glazed, vitrified hollow clay tile, reinforced by bands of steel laid in the mortar. The hollow glazed walls successfully protect against air and freezing and absorb no moisture, preserving the succulent greens in best condition through coldest winters and driest summers.

You build it once only. This silo cannot blow down, warp, twist, crack, crumble or decay. Never needs painting. Will never need repairs—except for doors and parts of roof, years hence. Guaranteed not to break from ensilage pressure—of the thousands in use not one has ever had to be replaced. Think over this matter of permanency—you'll quickly find it means true economy. It pays to build a Dickey silo.

Buy now, pay next fall: The Dickey Silo proposition to every farmer who wants to be rid forever of all silo troubles and annoyances and upkeep expense, is this—

Order a Dickey Silo now, and erect it now while you have the spare time, so that it will be ready for this fall's ensilage crop. Then next September, when you have harvested your small grain pay for your Dickey Silo. The time price today is the cash price of September, dollar for dollar.

Send coupon or postal today

W. S. DICKEY CLAY MFG. CO.
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W. S. Dickey Clay Mfg. Company
Kansas City, Mo.

Please send catalogue and particulars regarding your Proposition to sell a Dickey Silo on 6 months time I am thinking of erecting a silo.....size

Name .....

Town .....

State..... *R. F. D.*.....

"The importer will also be required to produce an affidavit to the effect that the swine he proposes to import have not been immunized to hog cholera by the simultaneous injection of hog cholera "virus" and "serum."

Sec. 88½.—"The use of hog cholera serum and virus being considered a source of danger the importation, manufactuer, sale or use of such serum or virus is prohibited."

It will thus be seen that our neighbors to the north know something about the losses that hog cholera imposes on the farmer of the United States; and they are taking precautions to prevent the disease from gaining a hold in their country. They are wide-awake as to the dangers of spreading the disease by the use of "hog cholera virus."

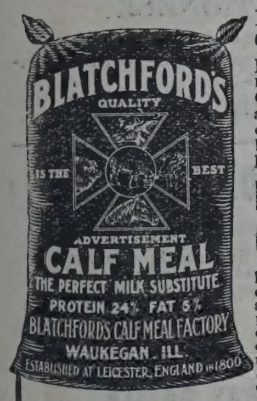
The farmers of Missouri and of other states can read a good lesson out of the above. Why should not they have as much protection for their herds when they buy breeding animals? Is it any more important for our Missouri swine breedes to have a clean farm, and a clean area of five miles radius around his farm in order that he may ship a registered sow or boar to Canada than it is to ship one to Illinois, Arkansas or even to the next county? I am sure that breeders who have made such shipments deem it fully as important, in one case as in the other, and they would be glad to have like protection when they buy an animal from another state or another county. Since no breeder can ship one of his sows or boars to Canada, if the animal has been injected with serum and "virus," why should he keep the disease on his farm and pander to a false trade-demand for serum-virus treated animals? These are questions which I as sure the swine breeders of Missouri are going to answer in the right way, by joining the "Anti-cholera "Club" movement that has been inaugurated by the College of Agriculture, and which has for its slogan "Simultaneous Sanitation and Serum alone for Cholera Eradication;" versus "Simultaneous Vaccination with its Cholera Perpetuation." The twelve hundred or more breeders of pure bred swine in this state can give an impulse to this movement which will carry it to an early success throughout the state if each will make his own farm a center of a clean-up area of five miles radius, so that his herd can meet the requirements equal to those imposed by Canada. It will be worth all it costs even if Missouri should never ship an animal to that country. And there are hundreds of farmers, who want to raise hogs and buy good boars of the breeders in their county, who will help the breeders clean up an area, not only of five miles radius, but the entire county. Just as now there are farmers banded together in the several counties mentioned to get rid of cholera. There are plenty of reasons why the breeders should not use the "serum virus" method and advertise immune breeding stock; and thus incidentally advertise the fact that they are keeping hog cholera infection on their farms. Such breeders cannot export their animals to Canada, no matter how good the breeding, and the time is surely coming when they cannot ship serum Virus treated animals to other states.

The work which the Agricultural College is doing through its Extension Department in co-operation with the farmers in this Anti-hog-cholera work, will not only put the breeders of the counties mentioned on the approved list of Canada, but on the approved list of many states; and certainly on the approved list of every hog raiser whose farm is free from cholera and wants to keep it free. Such farmers do not want to run the risk of introducing the disease on their farms. Moreover, they do not want to buy high priced breeding animals that are in any degree stunted by cholera or by the serum Virus treatment. And this is liable to happen to the best bred animals in the herd. Breeders who are practicing the simultaneous method know this, and their patrons are finding it out. The adoption by every county of the state of the plans of hog cholera eradication which I have advocated and which the Agricultural Extension Department of the University will aid in organizing will make it possible for farmers of the state to raise more hogs and better hogs at less cost, and to restore the swine raising business to its normal condition. There need be no fear on the part of the farmers that there will not be a profitable market.

Elsewhere in this issue will be found the advetisement of the Chicago Flexible Shaft Co., who put out a little machine for clipping horses and mules. Look it up and read it. It will put your work animals in much better shape for the spring work.

About time to be testing that seed corn—for upon the seed depends the stand and upon the stand depends the crop.

Raise Your Calves Without Milk



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It separates 90 per cent of the grain right at the cylinder.

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YOUR MONEY BACK IF IT FAILS

You wouldn't keep a horse or any other animal very long if he wasn't worth a dollar, would you? If an animal is worth keeping at all he is worth keeping in good health. It costs only a dollar to keep a bottle of the old reliable

CRAFTS' DISTEMPER REMEDY

in your barn and protect your animals from disease. For 22 years CRAFTS' has been sold on an absolutely guarantee to cure Distemper, Coughs, Colds, Influenza, Epizootic, Catarrhal Fever, Pink Eye and all similar diseases of the head and throat in horses, sheep and dogs, or your money refunded. CRAFTS' cures quickly, destroys the germs, tones the blood, and restores the victim to perfect health. Buy a bottle today, you take no risk, satisfaction guaranteed. If your druggist does not have CRAFTS', we will send it prepaid on receipt of price. Be sure to get the genuine. Imitations are never so good. 50c for trial size. $1.00 size three times as large. **MONEY BACK IF IT FAILS.**

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IF the war should stop at once Europe could not recover in time to grow more than a small part of her food crops in 1915-16. With grain at record prices, it will be more profitable than ever to use commercial plant foods liberally ***to hasten maturity, improve quality and increase the yield.***

The middle west is still the garden of the world, and her soil only needs *available* fertility in the shape of soluble commercial plantfoods to make it hum. Germany produces 88% of her food crops in the shape of potatoes, rye, oats, etc., with the help of commercial fertilizers. It pays her to make a fertile soil still more fertile. ***It will pay the Middle West. Fertilize your Spring crops and top dress your wheat This Spring.***

Our Special Crop Bulletins

tell you how to select a suitable fertilizer for soil and crop, as well as how to apply it to get best results. Write

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Three facts explain my low prices: I have a natural gas well giving free power, heat and light. I share this saving with my customers. I have most modern engine-making machinery, further reducing manufacturing costs to lowest point possible. My entire output sold direct from factory to users saves buyers all dealers' profits—an average of $6 to $20 per horse-power.

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My Latest Prices

Stationary	
2 H-P	$ 34.95
4 "	69.75
6 "	97.75
8 "	139.65
12 "	219.90
16 "	298.80
22 "	399.65
Portable	
2 H-P	$ 40.95
4 "	82.80
6 "	139.90
8 "	190.40
12 "	279.80
16 "	378.70
22 "	483.15
Saw-Rig	
6 H-P	$165.40
8 "	227.10
12 "	324.50

Kerosene, Distillate, Gasoline, Gas
A WITTE engine for every power purpose—cheaper and easier to own one than to be without it. On any kind of work you can let a WITTE earn its cost while you pay for it.

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5-Year Guarantee

When it comes to durability and ease of operation, no engine, regardless of price, can show a better record than the WITTE.

Engine Book FREE

Tells how to pick out the engine that is best suited for your work and all about my Direct-from-Factory Selling Plan.

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Witte Iron Works Co.
1844 Oakland Ave.,
Kansas City, Mo.

LIVE STOCK NOTES

By R. P. Royce, Fieldman

Smith's Jersey Offering

J. B. Smith, Platte City, Mo., announces that he will make special prices on about twenty young cows and heifers that have just calved or are due to freshen soon. Readers of this paper who may be interested are urged to write Mr. Smith at once. This is one of the best known herds in the Central West and has been a consistent winner at the various state fairs for a number of years past. Mr. Smith is offering a chance to secure some very high class cows at reasonable prices and it would seem that now is an opportune time to buy. Grass will soon be ready to turn on and the winter feed bill is paid. Mention this paper.

High Grade Holstein Cows

M. E. Moore & Co., Cameron, Mo., who advertise Holstein cattle in this paper write that they have about twenty high-grade young Holstein cows and heifers due to calve soon, that they are anxious to sell. They are pricing this stuff worth the money and will sell all or part. Any of our readers who are contemplating starting in the dairy business will do well to write this firm for their prices.

Thomson's Durocs

W. H. & Geo. E. Thomson, Columbia, Mo., are strenghtening their herd by purchasing a number of very high class sows. Their most recent purchase was the good sow Miss Crimson Co. I Am. This great sow was secured at Chas. L. Taylor's recent sale at the long price of $270. We regard Miss Crimson Col. I Am as one of the greatest sows sold this year. She is by B. & C's Col. II by B. & C's Col and out of Belle of Crimsons by Crimson Wonder Again. She is a litter mate to Crimson Col. I Am, junior champion at the American Royal in 1912. She is bred to Col. Wonder for a rather late litter and unless we miss our guess Thomson Bros. are going to be in a position to offer their trade some very high class spring pigs.

White Buys Select Col. 2nd

A. White, Jr., Palmyra, Mo., has added another great boar to his herd of Durocs. Last week Mr. White bought Select Col. 2nd at the Boyd dispersion sale. Select Col. 2nd is easily one of the best boars in the state and Mr. White is to be congratulated upon securing him. This boar was the second prize aged boar at the Missouri State Fair in 1913, being defeated at the time by Col. Wonder, Chas. L. Taylor's boar that was made grand champion at the same show.

Select Col. 2nd was sired by B. & C's Col. grand champion at Nebraska, Iowa and Illinois in 1911. In 1912 a litter mate to Select Col. 2nd, Col. I Am, was grand champion at Illinois.

Mr. White paid $315 for Select Col. 2nd.

Gildow's Dispersion Sale

The dispersion sale of Poland Chinas held by Dr. John Gildow & Sons, Jamesport, Mo., on Thursday, February, 11, was well attended by breeders and farmers and resulted in an average of $42.60 on forty-eight sows. No doubt under normal conditions the average would have been considerable more but with the quarantine on in the leading hog states Messrs. Gildow expressed themselves as fairly well pleased. A June gilt of Spotted Poland breeding topped the sale at $126. Lady Big Knox, No. 3 in the catalog, sold for $96. Several others sold above the $75 mark.

Col. P. M. Gross did the selling and was assisted in the ring by Cols. J. Zack Wells, Chas. Nelson, and L. R. Hamilton.

No. 1, I. C. Shawhan, Bondurant, Iowa	$74.00
No. 2, J. R. Shaw, Tina, Mo	57.50
No. 3, R. J. Shawhan, Kearney, Col.	96.00
No. 4, A. G. Knight	61.00
No. 5, C. L. Conaway, Nelson, Mo.	54.00
No. 6, Paul McCune, Jamesport	54.00
No. 7, P. M. Anderson, Lathrop	48.00
No. 8, F. R. Mahar, Helena, Mo	81.00
No. 9, Orrie Miller	49.00
No. 10, J. R. Shaw	48.00
No. 11, W. C. Slatten	48.00
No. 12, C. A. Eberhart, Gilman City	46.00
No. 13, W. C. Slatten	40.00
No. 14, Sam Wickheimer	38.00
No. 15, W. P. Slatten	41.00
No. 16, F. G. Sudhalt, Union, Mo.	55.00
No. 17, Sam Wickheimer	45.00
No. 18, F. R. Mahar	31.00
No. 19, Same	29.00
No. 20, A. L. Bahr, Easton, Mo	45.00
No. 21, Elmer Ratliff, Brimson, Mo.	43.00
No. 22, J. R. Shaw	35.00
No. 23, H. F. Hoskins	31.00
No. 24, P. M. Anderson	30.00
No. 25, J. L. Buren	23.00
No. 26, R. R. Garr, Chula, Mo	26.00
No. 27, J. W. Mann	30.00
No. 28, A. P. Snyder, Polo, Mo	46.00
No. 29, P. M. Anderson	32.00
No. 30, Same	32.00
No. 31, J. S. Anderson, Frazier, Mo.	38.00
No. 32, Same	40.00
No. 33, J. M. Moss	17.00
No. 34, Same	25.00
No. 35, Same	33.00
No. 36, W. H. Goddard	25.00
No. 37, M. E. Elmore, Spring Hill, Kan.	45.00
No. 38, Geo. Moore	25.00
No. 39, J. M. Moss	29.00
No. 40, W. S. Goddard	23.00
No. 42, H. L. Micheals, Kinsley, Kan.	28.00
No. 43, L. Pearson	21.00
No. 44, R. R. Garr	25.00
No. 45, J. M. Moss	16.00
No. 46, Geo. Moore	31.00
No. 49, Otto Arnold	30.00
No. 48, H. L. Micheals, Kinsley, Kan.	23.00
No. 53, Curfman & Buck, Ravenwood, Mo.	126.00
No. 54, J. O. Riley & Son, Cainesville, Mo.	55.00
No. 55, A. P. Snyder	85.00

Bland's Big Type Polands

Halleck Bland, Centralia, Mo., is offering a number of tried sows and gilts bred for early farrow. These sows and gilts are of Mr. Bland's own raising and for the most part are sired by either King David, an excellent son of old Long King, or by Leader, a son of Grand Leader, one of the best boars that was ever owned in Central Missouri.

Shorthorn Bulls

W. C. Prewitt & Sons, Clarksville, Mo., are advertising fifteen young Shorthorn bulls for sale. Most of the offering are straight Scotch breeding and will range in age from eight to eighteen months old. Mr. Prewitt writes that they are all sired by the State Farm winner, Sultan's Heir 368468 and further states that they are the best lot of bulls they have ever raised. They have been grown out well, and are priced so that the man with only a few cows can afford to buy. Messrs. Prewitt are among the best known live stock men of Northeast Missouri and we take pleasure in referring our readers to their ad. An invitation is extended to any one interested to come and visit the herd. Kindly mention The Missouri Farmer when you write.

W. E. Williams' Sale

The sale of big type Poland Chinas held by W. E. Williams at Silex, Mo., Wednesday, February 17th, did not measure up to expectations. The offering Mr. Williams had prepared for sale represented one of the very best lots that will sell in the state this winter and merited the patronage of the best buyers. Forty-three head sold for an average of $45.19—about $20 under what they should have brought. Mr. Williams has devoted time and money to building up a herd that is a credit to himself and the breed, and we trust that in the future he will receive more substantial appreciation.

Col. W. H. Cooper, Hedrick, Ia., conducted the sale. A detailed report of the sale follows:

No. 1, J. P. Green, Bellflower, Mo.	$55.00
No. 2, W. M. Royster, Silex, Mo.	38.00
No. 3, O. G. Lease & Son, Centralia, Mo.	50.00
No. 4, Geo. E. Seiffert, Jackson, Mo.	50.00
No. 5, A. Fisher, Little Blue, Mo.	40.00
No. 6, Dick Waddell, Frankfort, Mo.	38.00
No .7, A. Fisher	39.00
No. 8, W. M. Royster	40.00
No. 9, J. C. Coffey, Silex	37.00
No. 10, W. M. Royster	31.00
No. 11, E. H. Carter, Mexico	51.00
No. 12, W. S. Britt, Rushhill, Mo	65.00
No. 13, H. H. Ordlheim, Wright City, Mo.	46.00
No. 14, L. G. Adams, Hoberg, Mo	36.00
No. 15, F. C. Mackey, Louisiana, Mo.	32.00
No. 16, W. R. Webb, Bedenda, Kan.	92.50
No. 17, Bridges Bros., Slater, Mo.	70.00
No. 18, P. F. Hill, Moscow Mills	40.00
No. 19, L. G. Adams	38.00
No. 20, A. Franke, hatchtown, Ill	38.00
No. 21, W. M. Royster	33.00
No. 22, Same	31.00
No. 23, E. L. Hill, Moscow Mills	40.00
No. 24, H. C. Graner, Lancaster, Kan.	62.50
No. 25, P. F. Page	30.00
No. 26, Fred Shivley, Onley, Mo	32.50
No. 27, K. C. Palton, Clarksville, Mo.	45.00
No. 28, W. I. Britt	40.00
No. 29, A. E. Humphrey, Davis, Mo.	30.00
No. 30, A. Fisher	46.00
No. 31, E. H. Carter	36.00
No. 33, Earl Dennis, Hedrick, Ia	38.00
No. 35, A. R. Bridge, Monticello, Ill.	125.00
No. 36, A. L. Brunk, Sweetwater, Tenn.	47.50
No. 37, John B. Oliver, Neeley's Landing, Mo.	42.50
No. 38, M. D. Porter, Vandalia, Mo.	39.00
No. 39, Earl Dennis	34.00
No. 41, A. Feisey, Gilmore, Mo	29.00
No. 42, Henry Holloway, Bellflower.	29.00
No. 43, Same	34.00
No. 45, K. C. Patton	70.00
No. 46, P. F. Page, Troy, Mo	34.00
No. 49, Bridges Bros.	62.50
No. 50, A. Franke	38.00

Bakers' Best Sale

On Friday, February 19, W. A. Baker & Son, Butler, Mo., held their most successful sale of big type Polands. In spite of bad weather, bad roads, and bad markets, Col. Bob Harriman sold fifty head of bred sows and gilts for an average of $50. Quite a representative crowd of breeders were present and gave liberal support to the offering, and there have been few sales held this year where the local buyers bid up as they did in this sale. Apparently every bidder wanted hogs, and the man who bought had to pay the price.

The top of the sale was $130, at which price Jas. Godman, Devon, Kan., secured No. 1 in the catalog.

Col. Harriman did the selling and was assisted in the ring by Cols. Clyde Robbins, and F. A. Taylor.

No. 1, Jas. Godman, Devon, Kan.	$130.00
No. 2, L. C. Radford, Spruce, Mo	44.00
No. 3, B. J. Ridgeway, Rockville, Mo.	45.00
No. 4, A. C. Ireland, Montrose	38.00
No. 6, E. A. Frazier, Drexel	80.00
No. 7, W. R. Crowther, Golden City, Mo.	57.50
No. 9, J. W. Carver, Butter	61.00
No. 10, Canterburry & Canterberry, Butler	43.00
No. 15, J. M. Myers, Jefferson, Kan.	100.00
No. 16, Geo. Argenbright, Audrain, Mo.	43.00
No. 17, W. Z. Baker, Rich Hill, Mo.	62.00
No. 10, M. I. Hurley, Grant City, Mo.	44.00
No. 19, J. W. Carver	51.00
No. 20, C. Z. Baker, Butler	62.00
No. 21, B. J. Ridgeway	50.00
No. 22, Same	40.00
No. 23, John Spear, Adrian	29.00
No. 24, Hubert Requa	35.00
No. 25, C. Z. Baker	51.00
No. 27, W. P. Largent, Butler	50.00
No. 28, E. E. Hogan, Norborne, Mo.	51.00
No. 29, J. W. Carver	100.00
No. 30, W. P. Largent	55.00
No. 31, W. P. Miller, Butler	50.00
No. 32, Joe Young, Nevada, Mo	33.00
No. 33, J. H. Baker & Son, Butler.	43.00
No. 34, Elmer Requa, Butler	40.00
No. 35, M. G. Ross, Blue Mound, Kan.	40.00
No. 37, John Spean	30.00
No. 38, C. Z. Baker	55.00
No. 40, B. J. Ridgeway	50.00
No. 42, A. C. Ireland	34.00
No. 43, M. G. Ross	39.00
No. 44, M. G. Ross	37.00
No. 45, Hubert Requa	33.00
No. 46, Elmer Requa	39.00
No. 47, U. S. Ison, Butler	32.00
No. 48, Joe Ghear, Butler	37.00
No. 50, H. A. Wayland, Butler	41.00
No. 51, J. H. Baker & Sons	41.00

Rauscher's Chester Whites

H. Rauscher & Son, Kahoka, Mo., can supply any of our customers with choice Chester White bred gilts or sows. They also have a number of fall boars and gilts for sale.

Superior Polands

Freeman & Russ, Kearney, Mo., are offering a nice lot of tried sows and gilts bred to farrow soon. This is strictly big type blood, and if you are looking for size and bone and easy feeding qualities we would suggest that you write at once for prices.

V. E. Lawrence, Salisbury, Mo., is offering several good young Angus bulls for sale very reasonable.

Prettyman's Polands

Obadiah Prettyman, Fairfax, Mo., still has a number of choice Poland China bred gilts for sale. These gilts represent the very best of big type breeding. They have plenty of size and are worth the money. Write Mr. Prettyman at once for prices.

THOMAS. E. DEEM
AUCTIONEER
Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased.
Dependable service at a reasonable charge. Address, Cameron. Mo.

ALBERT J. HOUSTON
AUCTIONEER
Pure bred live stock and heavy farm sales my specialties. Terms reasonable. Satisfaction assured.
SALISBURY Phone 1516 MO.

Harry W. Graham
AUCTIONEER
PURE BRED LIVE STOCK
Seventeen years experience with America's best breeders.
Chillicothe, Missouri

W. D. ROSS
Auctioneer
Pure bred live stock. Sales made anywhere on reason able terms. Write for dates.
Otterville Missouri

GALLOWAY CATTLE
Young stock for sale at all times. Herd established 25 years
J. & W. R. CLELLAND, New Hampton, Mo.

ChoiceAberdeen-Angus
Established 30 years. 100 head in herd. I am offering good useful Bulls and Heifers of excellent individual merit and breeding. Prices reasonable. Our customers make them popular.
D. L. Sutherland & Sons Windsor, Mo.

Aberdeen-Angus I am offering a number of young bulls, cows and heifers —good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.
J. D. Blackwell Fayette, Mo.

ANGUS CATTLE
HERD FOUNDED 1904
Seven early calves—3 BULLS and 4 HEIFERS, sired by Dean's Eric 139686 Every one the right kind, and priced to sell.
V. E. LAWRENCE, SALISBURY, MO.

Herefords on Approval
Twenty registered Hereford bulls, 10 to 20 months old. Ten registered Hereford heifers, 10 to 14 months old. Excellent breeding, splendid individuals. Will sell one or more delivered F. O. B. cars your railroad station, subject to your approval. I have been breeding Hereford cattle for 20 years and know that I can please you.
J. A. STEWART, Columbia, Mo.

IDLEWILD SHORTHORN CATTLE
Milk and Beef Type. Dual purpose in name and in fact. Herd 50 years old. In one family, on one farm. The type is fixed. I have a strain that I believe rivals the famous Duchesses. Fine beef cattle that are heavy milkers. And deep milkers of fine beef type. Call, or this blood is safe by order
W. P. Harned, Vermont, Mo.

PEABODY FARM SHORTHORN CATTLE & BERKSHIRE HOGS
We are offering 10 good young bulls, well bred 3 roans, 5 reds, 6 to 13 months old. Also a few extra good young boars, two of them fit to herd first-class herds. Choice young Bronze Toms and Barred Rock Cockerels.
JUNE K. KING & SONS
MARSHALL, MO.

BAKER'S REAL BIG-TYPE POLANDS
Our winnings at the State Fair prove that we "have the goods." Spring boars and gilts of excellent breeding and individuality at very reasonable prices. Also a number of fall boars, big, stretchy fellows.
W. A. Baker & Sons, Butler, Mo.

Report of Faulkner's Sale

The seventeenth annual Spotted Poland China bred sow sale held by H. L. Faulkner, of Jamesport, Mo., on February 10, proved very successful in spite of the foot and mouth quarantine, cheap pork and high priced feed. While the general average was only about $64, somewhat lower than former sales, Mr. Faulkner expressed himself as quite well pleased in view of the abnormal conditions obtaining at the present time.

A large crowd of representative buyers from several states were at the ring side when Col. J. Zack Wells opened the sale by introducing Col. P. M. Gross, who did the selling. Col. Gross has been connected with the horse auction at the St. Louis stock yards for the past twelve years and this was the first pure bred hog sale he has conducted for a long time—but inasmuch as the Col. is a natural-born auctioneer, he experienced no difficulty in conducting the sale. He was assisted in the ring by Cols. Wells, Nelson, Buckingham, Deem, Shepard and Bell.

Barber & Sons, Skidmore, Mo., secured six head of the choicest lots. J. W. Everyman, Gallatin, Mo., bought the top sow, No. 3 in the catalog, for $160. Six head sold above the hundred dollar mark, and only one sold under $40. A complete list of buyers follows:

No. 1, Barber & Sons, Skidmore, Mo.	$108.00
No. 2, King & Stokes, Auxvasse, Mo.	87.00
No. 3, J. W. Everyman, Gallatin, Mo.	160.00
No. 4, Geo. H. Moore, Kansas City, Mo.	115.00
No. 5, Geo. Rowley, Jamesport, Mo.	65.00
No. 6, Frank Boyd, Jamesport, Mo.	50.00
No. 7, Frank Boyd	54.00
No. 8, A. L. Phillips, Shelby Mo.	60.00
No. 9, Geo. H. Moore	92.50
No. 10, Roy Bangs, Madison, Kan.	72.00
No. 11, Geo. Mondell, Jamesport, Mo.	59.00
No. 12, N. T. Day, Buffalo, Okla.	106.00
No. 13, Barber & Son	54.00
No. 14, H. T. Dickerson, Jameson, Mo.	86.00
No. 14½, J. R. Lawson, Ravenwood, Mo.	70.00
No. 15, Ira Grismore, Jamesport	92.00
No. 17, R. L. Gilmore, Highland, Kan.	45.00
No. 18, H. B. Hubbard, Jameson	42.00
No. 19, A. P. Snyder, Polo, Mo.	43.00
No. 20, Geo. H. Moore	67.00
No. 22, Barber & Sons	75.00
No. 23, Geo. H. Moore	67.50
No. 24, Geo. Mondell	47.50
No. 25, C. A. Goach, Orrick, Mo.	47.50
No. 26, W. H. Hodgins, Maitland	47.50
No. 27, J. A. Holzelle, Grayville, Ill.	55.00
No. 28, A. C. Julian, Preston, Ia.	57.00
No. 29, Barber & Sons	70.00
No. 30, Curfman & Buck, Ravenwood, Mo.	60.00
No. 31, Rowley & Arnold, Jamesport, Mo.	51.00
No. 32, Joe Bias, Cainsville, Mo.	67.00
No. 33, Joe Bias	80.00
No. 35, H. T. Dickerson	77.50
No. 36, Kink & Stokes	60.00
No. 37, W. H. Huntsman, Maitland	55.00
No. 38, Fred Julian, Preston, Ia.	54.00
No. 39, Geo. Mondell	71.00
No. 41, King & Stokes	48.00
No. 42, Chas. Peacock, Ewing, Mo.	55.00
No. 44, J. O. Riley & Son, Cainsville, Mo.	50.00
No. 45, John Lyons, Higginsville, Mo.	48.00
No. 47, Lewis Lisman, Raymond, Ill.	51.00
No. 48, Barber & Sons	54.00
No. 49, W. L. Myers, Clinton, Okla.	100.00
No. 50, A. C. Julian	48.00
No. 51, J. R. Music, Eudora, Kan.	40.00
No. 52, Wm. Sullinger, Orrick, Mo.	39.00
No. 53, R. L. Gilmore	45.00
No. 54, E. C. Bottorff, Union Star, Mo.	51.00
No. 55, J. W. Everyman	80.00
No. 56, John Lyons	47.00
No. 57, H. E. Price, Jamesport	52.00
No. 58, E. A. Merriman, Hamilton, Mo.	67.00
No. 59, W. L. Meyer, Clinton, Okla.	112.00
No. 60, Barber & Son	51.00

Jerseys and Spotted Polands

The Ennis Farm, Horine Station, Mo., is making a special offering for March from their well known herds of Jerseys and Spotted Poland Chinas. Mr. Ennis advises us that he is offering young bulls and heifers at lower prices than he has ever sold them before. His is a high class herd and under existing conditions he will no doubt make some very attractive prices. Mr. Ennis also maintains a herd of Spotted Poland Chinas, and for a short time only, he will make special prices on about thirty-five October boars. Kindly mention this paper.

Andrews Spotted Polands

The Andrews Stock Farm, Lawson, is offering a nice lot of Spotted Poland Chinas summer boars and gilts for sale at very reasonable prices. This herd is recognized as one of the good herds of the state and any of our readers who may be in the market for Spotted Polands will do well to write this firm for prices.

JERSEY CATTLE

Bulls ready for service. They are sired by the Owls Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

Jerseys-Spotted Polands

March Special—Jerseys: I will offer for March only, six young bulls, ready for service, at lower prices than I have quoted for six years. Also bred heifers.
March Special—Spotted Polands: For March only I am offering 35 fall boars, mostly October farrow, at $20 each. Order now. Also sow pigs and bred gilts for sale. Free circular.

THE ENNIS FARM, HORINE STATION, Mo. (Just south of Saint Louis)

Jersey Cows

I want to sell 20 head of registered cows and heifers that are either fresh or soon will be. Also four young bulls.

J. B. SMITH Platte City, Mo.

HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndyke Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

M. E. Moore & Co., Cameron, Mo.

POLAND CHINA HERD HEADER

A big, handsome yearling, smooth as silk, good enough for any herd—$30 for quick sale. A few selected gilts, 200 pounds and up, bred for April farrow, $25 each. Pigs, 3 months and over, both sexes, $10 each, 3 for $25. All these are of choicest breeding and individuality and priced the lowest.

K. H. BROWN, - - Bolivar, Mo.

25 BIG POLAND CHINA GILTS

The big-type, big-bone, quality kind, BIG ORANGE, A. WONDER and PAWNEE LAD breeding. Bred to MISSOURI KING by IOWA'S KING, for March and April farrow. They are big and priced to sell. Write at once.

Obadiah Prettyman, Fairfax, Mo

ELM LAWN HERD IMPROVED CHESTER WHITE SWINE

Choice boars and gilts of September and October farrow for sale at reasonable prices. Everything recorded free.

W.B.Taylor and Sons,Weatherby, Mo.

RAUSCHER'S CHESTER WHITES!

One of the Oldest Herds in the West

A few choice spring gilts bred for early farrow. Several richly bred big spring boars. A fine lot of fall pigs. Size, quality, and bone. Prices reasonable and every pig guaranteed.

H. Rauscher & Son, Kahoka, Mo.

Dooley's Spotted Polands

Big bone spotted pigs now ready to ship—$25 single pig, $45 pair, $65 trio. Pairs and trios no relation. Also registry furnished. Send check with first letter.

Edgar Dooley Etterville, Mo

For Sale, Two Guernsey Bulls. Registered, good individuals, excellent breeding. Two-year-old and six months calf. Come and see or write D. P. Daniels & Son, Vandalia, Mo. 314

Thoroughbred Single Comb Rhode Island Red eggs from well selected range flock, $5 per 100. From pen headed by prize winning stock, $10 per 100. Mrs. Emmett P. Dyer, Rt 1, Malta Bend, Mo. 311

White Wyandotte Eggs for Hatching, $2 for 15. From range eggs, $1.50 for 15 or $5 per 100, postpaid. Mrs. L. L. Spencer, Centralia, Mo.

15 REGISTERED SHORTHORN BULLS FOR SALE

From 8 to 18 months of age. They are red, white and roans, Scotch and Scotch topped. Sired by the State Farm winner, Sultan's Heir 368468. The best lot we have ever raised, nicely grown out, under average farm conditions, and priced so farmers with small herds can afford to buy.

Write us, or, better come to see us. We will be glad to show you our herd whether you buy or not.

W. C. PREWITT & SONS, Clarksville, Mo.

CLYDESDALE HORSES FOR SALE

MISSOURI FARMERS, DO YOU RECOGNIZE THE OPPORTUNITY?

The war in Europe means that the United States will furnish the Draft Horses and Draft Breeding Stock for the world for years to come. There was never a better time for you to get into the game and Missouri farmers should take advantage of the opportunity. I have Prize Winning Stallions and Mares of all ages for sale at lowest prices.

F. L. CROSBY, Highview Farm - - - - - - - Mexico, Mo

THOMPSONS SPOTTED POLAND CHINAS

Old fashioned Spotted summer boars and gilts. Sired by one of the best yearling boars in the Corn Belt, SPOTTED BOY. All immune. Priced reasonable.

JAS. A. THOMPSON, - - - Holt, Missouri

THOMSONS' DUROC BARGAINS

Four bred Sows, 6 spring boars, 7 fall boar pigs. Best of breeding and individuality. Everything guaranteed, and priced to sell.

W. H. and GEO. E. THOMSON, Columbia, Mo.

15 DUROC SPRING BOARS & GILTS

We still have 15 boars and a number of open gilts which we will price to sell quick, and are booking orders now for 25 pigs, farrowed Nov 10th.

J. C. Garrard & Son McBaine, Mo.

White's Champion Duroc Jerseys

75 spring boars and gilts by three champions—Crimson Wonder Again, Golden Model 34th, and Crimson Col. I Am. A few tried sows. Prices reasonable.

A. WHITE, JR. Box 422 PALMYRA, MO.

GREATEST DUROC BARGAIN EVER OFFERED

For the next 30 days I will sell extra choice Duroc spring boars, sired by the champion COL WONDER at $25 and $35 each. The best lot I ever raised. First come first served. Send check with order. These boars are right, and represent the best bargains ever offered the breeders and farmers of Missouri.

CHAS. L. TAYLOR - - OLEAN, MO.

ANDREWS' SPOTTED POLAND CHINAS

We now offer 75 summer boars and gilts sired by our great herd boars, SPOTTED KING and SPOTTED JUMBO. We are long on hogs and short on corn. Priced for quick sale.

ANDREWS STOCK FARM — — — — LAWSON, MO.

Sold Out of Spotted Hogs Now

Have some extra Big Type (black) boars and gilts by A Wonder, Big Orange and Mo. Orange. I am closing out all of my black hogs. Prices to move quickly. Write me.

B. B. MEGOWN, New London, Mo.

WELLER'S IMMUNE DUROCS

I am offering a choice lot of boars, bred sows and gilts. Priced reasonable. Customers in 48 Missouri counties.

J. E. WELLER,. FAUCETT, MO.

BIG POLAND CHINA BRED GILTS

Headed by King David 179495 by Long King, and Leader 201105 by Grand Leader, a pair of great boars that are siring the right kind. A fine lot of spring gilts bred for early farrow. Get my prices.

HALLECK BLAND, Rfd. No. 5 CENTRALIA, MO.

"OAKWOOD HERDS" of Shorthorns and Poland Chinas

Young stock of all ages for sale. Special prices on my big-type Poland Chinas. Quality and breeding the best. Satisfaction guaranteed or your money back.

H. S. Williamson Rfd. 6, Centralia, Mo.

Dean's Mastodon Poland China Hogs

Extra good spring gilts, tried sows and fall yearlings, bred for early farrow. Best of breeding and prices right. Telegraph and railroad station, Dearborn, Mo.

CLARENCE DEAN WESTON, MISSOURI

SUPERIOR HERD BIG-TYPE POLANDS

We have at all times anything you want in strictly big-type Polands. Special prices on spring boars and gilts in pairs or more—not related. Write us your wants.

Freeman & Russ Kearney, Mo.

ADENHILL DUROCS--BRED GILTS and SOWS

Sired by Champions Tatarrax Again, Crimson Col. I Am and Col. Wonder II. Priced reasonably. Also a few serviceable spring boars of same breeding. Priced to sell. A fine lot of fall pigs sired by Col. Wonder II.

R. L. HILL - - - - - - - Adenhill Farm, Columbia, Missouri

"Last spring my sows were very wormy and out of 110 pigs, we saved only 53, and even these were in bad condition and would not put on weight until I fed them Sal Vet. After that they started to gain.

"This fall I fed Sal Vet to the sows and the pigs came stout and hearty. Out of 153 we saved 123 and they are all doing finely. I would not think of being without Sal Vet. H. F. Hodgins, R. F. D. 4, Lawrence, Kan.

"I have been feeding Sal Vet to my hogs, and want to say that it is O. K. Last week I sold forty-six nice, fat hogs, but my neighbor across the road has lost all kinds of hogs; he buried thirty-five in one day. I have not lost a single one yet. Have thirty-five still on hand, and they are all nice and healthy."

S. A. Wilkerson, Stanberry, Mo.

"I am glad I found Sal Vet. Our pigs to which we have been feeding it, weigh 100 pounds apiece at four months old, and an old mare to which we are feeding it, is looking much better, and is much better, after discharging an enoromus quantity of pin worms."

James W. Raw, Rt 2, Marceline, Mo.

"Enclosed is check for my Sal Vet. My hogs are now healthy, and are doing fine. There has been some hog sickness around here, but my hogs have escaped so far."

Alvin Day, Cornland, Ills.

"Your Sal Vet is certainly all to the good, and you may always count on me to be a booster. When the Sal Vet arrived, our hogs were either all sold, or dead with the cholera. There were five little runts alive, which were considered as good as dead, but, thanks to Sal Vet, they are the best looking hogs of their age in the neighborhood. My one regret is that we did not get Sal Vet sooner, as I feel that we could have saved the whole bunch." LeRoy A. Barrett. Oswego, Ills.

I Want You to Know The Value of SAL-VET

—I want you to feed it at my risk—I want to prove to you on your own farm that SAL-VET will rid your stock of worms, put them in healthy condition, easier to keep on no more feed—more profitable in every way—and less liable to disease. I don't want you to send me a penny in advance—just mail the coupon. I'll ship the SAL-VET just as agreed, let you feed it 60 days—and if it does not do what I claim, then I'll cancel the charge. Is not that a fair, open offer?

TRADE MARK

SAL-VET

REG. U.S. PAT. OFF.

The Great Worm Destroyer — **The Great Live Stock Conditioner**

—is the medicated salt which contains no antimony, fed just as you would feed common salt. There is no dosing—no drenching—no trouble—all animals need it—take to it readily—and so doctor themselves. You will find animals that you do not suspect of having worms just full of them. Stock that have been run-down will take on new vigor, grow thrifty and profitable. Stock kept free from worms will be healthier; will do better, act better, and be in better condition to resist dangerous diseases. As proof of this read a few of the thousands of letters from stockmen who feed SAL-VET — who depend on SAL-VET to help them make greater profits — and to prevent loss.

READ!

"Before I started to feed SAL-VET my hogs were sick, and I had lost six of them, since feeding SAL-VET I have lost none, although some of them were pretty sick before they had access to SAL-VET and had lost their hair. However, they pulled through all right and now have good appetites and are thriving."

ERNEST TRIEBEL,
Route No, 2, Clearwater, Minn.

"After feeding SAL-VET to sheep, hogs, horses and cattle during the past winter, and found it a reliable conditioner and worm destroyer. My stock never looked so healthy and thoroughly conditioned as now."

U. H. SUMMER,
Brownville Jct., Maine.

"My hogs are doing finely; have kept SAL-VET before them for two months and while there has been lots of disease amongst hogs in this section, none of mine have been sick."

GEO. A. ELINE,
Route No. 20, St. Matthews, Ky.

"I have fed SAL-VET to all my stock; it has put them in fine condition, and improved them wonderfully. The cholera has been killing hogs all around my home, but I have not lost a single one. I have never used so effective a remedy."

SANFORD GERST,
South Boston, Va.

"I enclose check in payment of the SAL-VET sent recently. Four times this sum would not begin to pay for the benefit I derived from feeding SAL-VET."

W. H. WALLACE, Franktown, Va.

"I have great faith in SAL-VET. Since feeding it, I can certainly see a great improvement in my stock. I have fed a number of different stock foods and remedies, but have never found any as good as SAL-VET. I am recommending it to my neighbors and others who lost hogs with the cholera."

C. G. FIELD, Hiawatha, Kansas.

READ!

"I am feeding SAL-VET to 750 lambs and about 100 hogs. During this time there has been no sickness whatever among this stock. I consider SAL-VET cheap insurance."

THOS. J. LILLY, Wheeling, Mo.

"SAL-VET is certanly a great medicine. I have been feeding it all winter, so far and since I started, my stock are better than ever before."

ALBERT MEANS, Walthill, Nebr.

"Have been feeding SAL-VET to some of my horses which were very thin and in a run-down condition. They have now picked up in flesh and spirits in spite of the heavy work incident to this time of year."

ELI FURLAND, Artesian, S. D.

"I had a yearling colt which was not doing at all well. I had fed turpentine, tobacco and other worm remedies, but all failed. On the evening of the 19th of February, I gave this colt a dose of SAL-VET and the following day I had plenty of evidence of its value. It is doing the work, all right."

HARRY BRENNEMAN,
Rt. No. 5—Ottawa, Ohio.

"I am well pleased with SAL-VET. I never knew a horse could have so many worms and live. SAL-VET surely brings them—big and small. Horses to which SAL-VET is fed, act 100 per cent better, and what we formerly thought was colic and meanness, was nothing but worms and worms."

J. E. TERKEURST,
271 Dauphin St., Mobile, Ala.

"The more I use SAL-VET the better I find it. My sheep and hogs were never so thrifty and healthy as now. We butchered this week, and did not find a single worm, while our neighbors' hogs are wormy and dying. I have been recommending SAL-VET to them and they are now ready to use it too."

WESLEY CHAMBERS. Bussey, Ia.

(208)

Look for this Label

on all SAL-VET packages. Don't be deceived by imitations. Don't buy "Sal" this or "Sal" that. Get the original genuine **SAL-VET.**

Fill Out the Coupon Below Today

You take no risk whatever in accepting this no-money-down offer. Just fill out the coupon, tell me how many head of stock you have, and I'll ship enough SAL-VET to last them 60 days. You simply pay the freight charges on arrival. If SAL-VET has not done all I claim, and you report results in 60 days, then I'll cancel the charge, and you won't owe me one penny. Address

Sidney R. Feil, Pres.

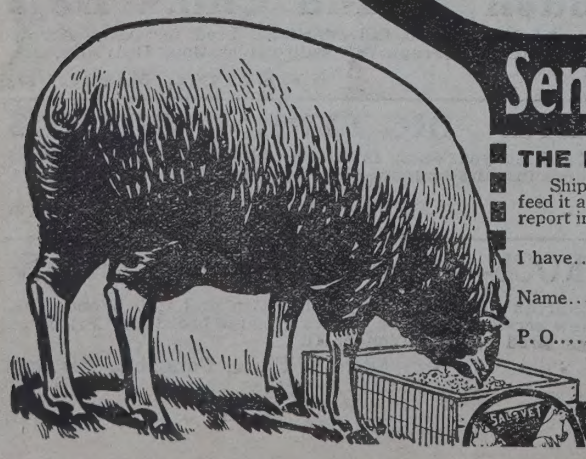
THE FEIL MFG. CO., Chemists

Dept. MF&B Cleveland, Ohio

PRICES

40 pounds.....	$ 2.25
100 pounds.....	5.00
200 pounds.....	9.00
300 pounds.....	13.00
500 pounds.....	21.12

No orders filled for less than 40 lbs. on this 60 day trial offer. Never sold by peddlers nor in bulk; only in Trade-Marked SAL-VET packages. Shipments for 60 days' trial are based on 1 lb. of SAL-VET for each sheep or hog, and 4 lbs. for each horse or head of cattle, as near as we can come without breaking regular sized packages.



Send No Money-Just the Coupon

THE FEIL MFG. CO., Dept. MF&B 3-1-15 Cleveland, O.

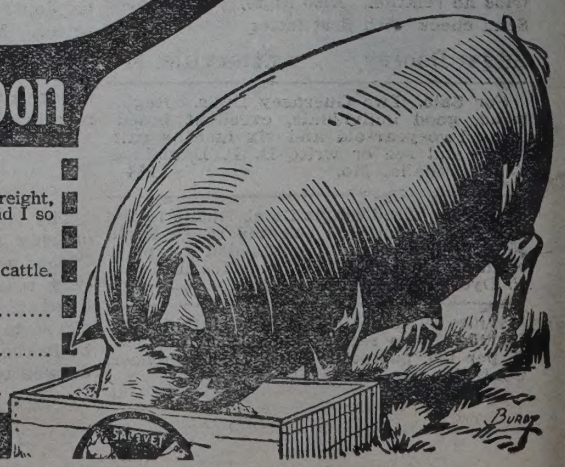
Ship me enough SAL-VET to last my stock sixty days. I agree to pay the freight, feed it as directed, and will then pay for it if it does what you claim. If it fails and I so report in sixty days, you are to cancel the charge and I will owe you nothing.

I have.....hogs.....sheep.....horses.....cattle.

Name.....

P. O.....

Ship to.....State.....



BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE MISSOURI FARMER

COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE
AND THE MISSOURI EXPERIMENTAL STATION

Some Questions

What kind of a home do you live in my friend? I don't mean whether it is bestrewn with costly rugs or filled with the carved trappings of wealth—but what kind of a place is the place you call home? Is it a haven of retreat from the World's harsh buffeting? When the night's shadows have fallen and when the day's perplexing tasks are at an end—at that hour, what kind of a place is your home? Do love and laughter abide within it? Are there children who shout for joy and a mother who smiles contentedly through the lines of care which time has written upon her kindly face? Does the tea-kettle sing a lullaby or a dirge? When supper time comes, is it a case of everybody trying to talk at once—hearts filled with that gladness and buoyancy which magnifies the little commonplace happenings of the day into miracles more wonderful than any fairy tale ever told? And when the dishes have been cleared away, the next day's lessons learned and a pan of apples brought from the cellar—is there then a brief spell of sweet family communion in which paying off the mortgage and telling the old ghost story for the thousandth time vie with each other for preference? And lastly, when it is time for the little "nighties," are there little kneeling figures who murmur "Now I lay me down to sleep" and then a bunch of goodnight kisses ere the old sandman comes and the kindly night sends old and young into peaceful slumberland? If your home is this kind of a place—though humble otherwise—I know you are happy and I know, too, that in the after years the boys and girls who may go forth from it will be splendid God-fearing men and women who will leave the World better for their having lived.

What kind of a farm is your farm, my friend? I don't mean how big it is in point of acres—but whether large or small, what kind of an opinion would a visiting stranger form of it? Judging by outward appearances, what would he think of you as a citizen and as a farmer? Are the fences broken and tumbled down? Are the gates and barn doors off their hinges? Does the house yearn for a new coat of paint and does it look as though its occupants had died or moved away? Are the farm implements standing around in the fields where they were last used? Is the barnyard filled with scrubby, ill-fed and ill-cared for live-stock? Does the orchard look as though it had been mangled by the storms of other days with only here and there a blasted tree remaining? If a stranger viewed the place from end to end, would he involuntarily murmur the word "failure" and wonder how much longer the holder of the mortgage will permit things to drift?

Or, is your home a place where everybody loves everybody else—where the most difficult tasks are inter-mingled with mutual kindliness and forbearance—where frowns are permitted to hide the sun for but a passing moment—where everybody works because work is a pleasure as well as a duty?

Or, is your farm—though small and broken—the home of a real farmer who appreciates the dignity of his labor which is bottomed upon the idea of helping to feed and clothe humanity? Are you trying to farm a little better this year than last? Do you regard your farm as a factory for the production of those things which make the World better and happier? Are you the leader of a wholesome conspiracy in which wife, children, pigs and chickens vie with each other in paying off the mortgage? Do the little home, barn, outbuildings and the fences look like they had lately been scrubbed with Dutch Cleanser from beginning to end? Is there a silo which, like a light-house of progress, stands silhouetted against the sky for miles around? Is there music in the call of the quail and does it carry to your ears the message that the whole World is a friend of you and yours? Do the silent stars at night urge you on to more splendid effort on the morrow and do you gather inspiration from the murmuring tongues of field and woodland? Possessed of a home where love is master and engaged in a task where every drop of sweat makes the Earth a better place to live upon—does it not occur to you, my friend, that the farmer has more to live and fight for than any other husbandman the World has ever known? —The Author of After-Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

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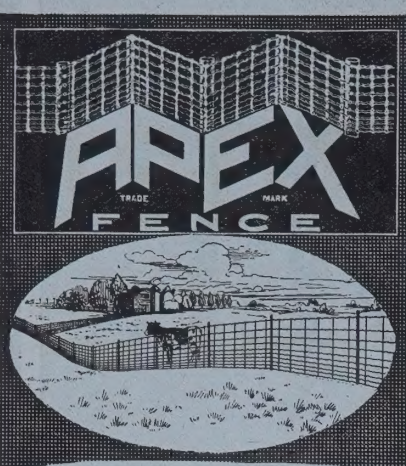
WILLIAM HIRTH
PUBLISHER



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It's the "swinging joint" that gives you this big advantage in "Apex Fence." It allows the line wires free play—prevents binding or buckling. Apex Fence is easier to put up—lasts longer and holds its shape better than any other good fence that we know of. It's made of best grade, open hearth steel wire—full gauge, thoroughly galvanized. Write for booklet.

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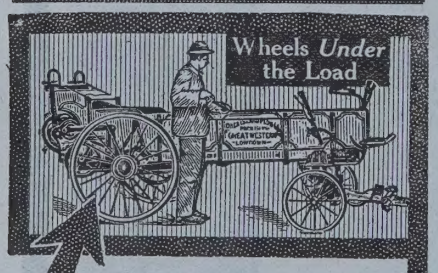

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HOW THE KNOX COUNTY FARM BUREAU WAS ORGANIZED

In July, 1914, the president of the Federated Commercial Clubs, of the State of Missouri, Mr. William Hirth, suggested, to some of the citizens of Knox County, that as all the Commercial Clubs of the State had decided to boost for a Bigger and Better Missouri, it would be a good idea for Knox County to put on a Booster movement.

In accordance with the suggestion the Commercial Club of Edina, the county seat of Knox County, called a meeting to devise ways and means to put on a Booster campaign. Every one being new at the work it took several meetings of the Commercial Club before a suitable plan was worked out. At the end of two or three weeks, however, arrangements had been completed for a three days' campaign of motor cars filled with enthusiastic farmers and tradesmen who were to visit all the towns in the county.

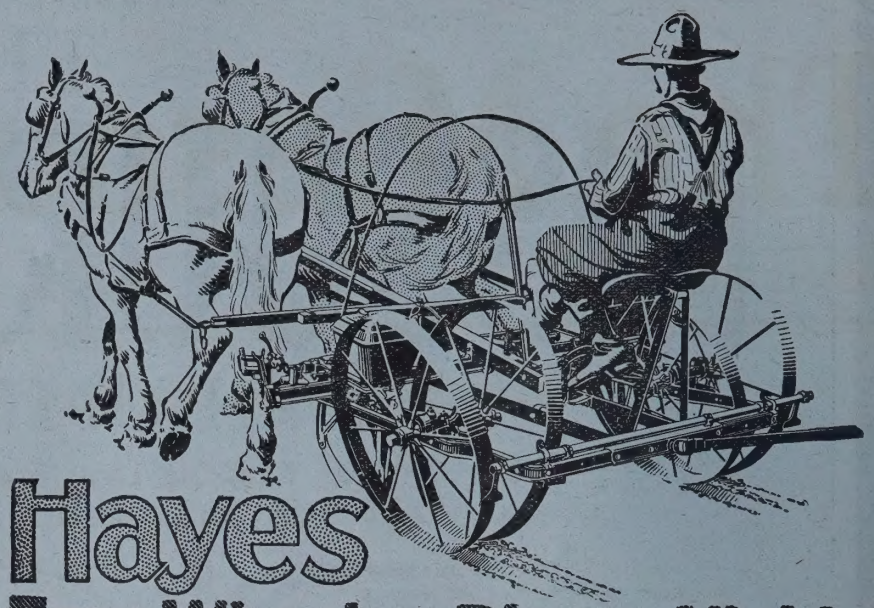
The committee had arranged a Booster Yell, as college boys would call it, and after practicing on the yell for four or five evenings, in which men from the age of seventy down to the small boy on the street, took part, the community fairly echoed with,

Boosters, boosters, who are we?
Knox County Boosters, don't you see?
Are we Boosters? I should smile;
Knox County Boosters, all the while.

On a beautiful August morning, we started from Edina, and at a given signal about thirty automobiles loaded down with enthusiastic men and women of every calling in life, started on the Booster trip. The cars were decorated with flags and bunting and a large banner with the words Knox County Boosters was fastened to both sides of every car. The caravan carried the Ladies' Quartet of fine singers of Edina and amid the "honking" of thirty auto horns and the Booster shouts a hundred and fifty enthusiastic citizens of Knox County, the Knox County Boosters started on their mission to boost for everybody and everything good in Knox County.

Little did that army of enthusiastic men and women dream of the good they were starting for their county when the auto wheels began to spin on that beautiful August morning. The first lap of the trip was made without incident when the thriving town of Newark was reached about 25 miles from the starting place. As one auto after another rolled into the beautiful city park and unloaded its load of human freight, it seemed that every citizen of the city was vying with each other to see who could do the most to make our visit a pleasant one. And they certainly succeeded, for the pleasant memories of that day will never be erased from the mind of the writer. The speaker of the occasion, Mr. William Hirth, was introduced by Dr. Simpson in that pleasant manner, in which the doctor does those things, always saying just the right thing in the right place. Mr. Hirth told of the object of our trip. We had come together to get acquainted with each other, to do each other good, to help our fellow man, to try and make a greater Missouri and to make every Missourian greater. After talks by several of the party we were invited to a dinner fit for a king served by the good women of the churches of Newark and paid for by the bankers of Newark. This elegant dinner was served to one hundred and fifty visitors without money and without price to the visitors. All regretted to go but on schedule time the people of the caravan bade their Newark friends a fond goodbye and amid the honking of our horns, many of the people of Newark joining the Boosters, we started for Plevna, a delegation from that place having come to meet us.

We arrived at Plevna about 1:30 p. m. and the assemblage of people had swelled to over 200 and the enthusiasm had kept pace with the size of the crowd. One of the beautiful churches was here thrown open to us, the ladies' quartet sang beautiful and appropriate songs, as they had done at Newark, and the talks were by those who had spoken at the first stop. After the meeting here had been dismissed, the large crowd were treated to free lemonade by one of the enterprising merchants of the town.



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GOOD seed, rich soil and favorable weather count for little if your corn crop is carelessly planted. Planting is *just as important* as seed, soil and weather. It is the one thing over which you have complete control—the one thing you can regulate to insure a *bigger yield.*

The Hayes Four Wheel is *guaranteed.* It *must* be all we claim and all you expect. 180,000 users verify that **Hayes** Four Wheels regulate depth of planting to the *fraction of an inch.* Corn all comes up at the same time, allows earlier cultivation, an earlier harvest, a *better quality* and *bigger quantity.*

Hayes Four Wheels guarantee *surer germination* and *quicker growth.* Wheels pack the dirt around the corn to hold the moisture and leave a *ridge of loose soil* on top. Ridge over corn prevents washouts in hilly fields and gives greater surface for sun's heat.

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The **Hayes** Drop *never misses a hill* Simple, reliable and most efficient. Fewer parts, less breakage and delays. Has no clutch to miss and give trouble. *Never cracks or grinds the seed.* Will drop accurately any size or shape kernel. *No bare spots* in **Hayes** planted fields. No replanting necessary. Increased yields soon pay for it.

Thousands in use for years with practically no repair expense and every one giving *time-saving, money-making* service. No complicated parts to get out of fix. Strong construction, *practically exempt from breakage.* No expensive and aggravating delays in the busy planting season. Easy and simple to operate and can be trusted to unskilled help.

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HAYES PUMP & PLANTER CO., Galva, Ill.

At 2:30 p. m. we started for Novelty and the trip was a delightful one, over the fine roads which the enterprising farmers of that community have built. We were held up, however, on the way, but it was one of the holdups characteristic of the people of that part of Knox County, for when we reached the beautiful and well kept farm of Mr. J. Ed. Taylor, the landlord stood at the front gate, he having taken the lead when we started from Plevna, and beckoned us to turn in. We did, and there the vast crowd was refreshed at the expense of Mr. Taylor. We were loath to leave but duty called, so 40 cars pulled out from Mr. Taylor's and arrived at Novelty on time 3:00 p. m. Our stay at Novelty was one long to be remembered, and one of the beautiful churches there was filled to its capacity. The songs by the quartet and speaking by the citizens was a most joyous occasion. The speakers of the Booster crowd were now more enthusiastic than ever and when it came time to start for home, every one felt that the first day of the Boosters had been a decided success.

The second day we started about nine o'clock from Edina, and by the time the crowd reached Hurdland, which was the first stop, the cars exceeded in numbers of the caravan of the day before. Led by prominent citizens of that wide awake town the cars traversed the principal streets of the city, stopping at one of the churches, which would not hold the people. One hour was here spent in the same way as were the meetings of the day befor e and as we were due at Baring at noon to take dinner we were obliged to leave the pleasant people of Hurdland and go on our mission of gladness and good will.

On arriving at Baring the crowd was larger than ever and the beautiful and modern Hotel Baring, a hotel that would do credit to a city of many thousand people, served a most elegant dinner to a hungry crowd of enthusiastic Boosters. After dinner we assembled at the hall and listened to words of welcome and commendation from a number of farmers and citizens of Baring. The meeting there will not be forgotten by those who were there as it was one of those so fraught with pleasant rememberances that time will not efface the good and lasting impressions made. This ended the second day.

On the last day the Boosters went to Knox City, the home of the Knox

(Continued on page 14)

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and you WILL SEE WHY "SQUARE DEAL" Fence is the best fence to buy. Before you buy another rod of fencing, see for yourself why the **SQUARE DEAL LOCK** makes this the favorite field and stock fence of discriminating farmers everywhere. See how firmly it double grips the one-piece stay wires to the wavy strand wires without cutting, breaking or slipping—how it combines solid strength with remarkable flexibility—how its self-draining shape prevents rust—how it makes

Square Deal Fence

especially strong where others are weak. See the one piece stay wires that prevent sagging, bagging and buckling—save posts, time and trouble. See the wavy strand wires that give springiness, elasticity and life, keeping **SQUARE DEAL FENCE** tight and trim the year 'round. We want to send you our **FREE** catalog telling all about **SQUARE DEAL FENCE,** prices, etc. Land owners write for it **NOW—TODAY** and we also will send you **FREE** and postpaid (if you have not sent for one before) a regular 50c edition of **ROPP'S NEW LIGHTNING CALCULATOR**—160 pages of money, time and labor-saving ideas—the GREATEST book of its kind ever published. WRITE.

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The Missouri Farmer

VOLUME VII MARCH 15, 1915 NUMBER 6

Farmers Should Organize for Selling and Buying

By Geo. B. Ellis, Managing Editor

In a previous article we called attention to the immediate need of organization among farmers that they might be able to hold their own against organization of other lines of industry and commerce. We merely called attention to the advantage of organization for the purpose of both increasing and cheapening production. These alone are sufficient reasons why farmers should be closely united and working together as one man for their own interests and whatever is accomplished along this line must without question benefit all other classes to a greater or lesser degree. But when farmers are organized for production they will study this matter just as manufacturers do. They will study production in its relation to demand as well as to its cost. When they find any product is being produced to such an extent that its sale is not profitable they will divert more of their attention to the growing of other crops. The greatest question before the farmers today concerning the problem of production is to find the most efficient way of doing things so as to cheapen the cost of production. Every cent we can save on the cost of growing a bushel of grain or making a pound of meat is that much added to our profit without increasing the cost to the utlimate consumer.

It is a fact that goes without saying that in every school district there may be found some men who are more successful at growing certain crops or breeding or feeding certain classes of live stock than the general average. When the farmers of a community are closely organized and studying these things together, the methods of the better farmers are put before the poorer farmers and the whole number will be benefited because we have long since learned that there is such a thing as community reputation and whether it be a pure-bred pig, calf, or lamb; a bushel of seed wheat, seed potatoes or seed corn; a carton of butter or a case of eggs; a crate of strawberries or a barrel of apples; whatever the article may be, the community reputation if good brings more buyers, a more ready sale and often a considerably better price.

Should Organize For Selling

However, important it is for farmers to learn from each other and from the experiment station and other sources the best methods for increasing and cheapening production, it will not benefit them any unless they have some control over the marketing of what they produce. I know there are a lot of people in this country who either from self-interest or ignorance of economic laws hold that it is criminal for farmers to make any organized effort to control the marketing of their products but necessity is gradually forcing organized marketing on the producers as a means of self preservation. Hundreds of instances might be cited to show where the lack of organized marketing has been disastrous to the industry. During the last several years there has not been a season but what there were individual apple growers, or peach growers who let the fruit rot on the ground or marketed it at a loss because their own local market was over-done, but at the same time if they had been in possession of information of other markets they could have found sale at a profit. The strawberry business and the melon business are two striking examples of the need of organized marketing. In the first place the individnal grower does not generally produce enough to ship in car lots. In the second place the individual can not maintain a force of men and bear the expense of telephone, telegraph and other sources of quick communication to know the exact condition of every important market so as to know where to consign the daily shipments. Then again the farmer may be an expert grower of some kind of fruit while he may not be a good salesman. If he is a member of an organization he can have the benefit of expert salesmen who are able to get top prices for his products. It may also happen that the individual grower is not familiar with grades or with methods of packing that may be demanded by the people who buy his products and this too can be taken care of by an organization strong enough to employ expert packers and inspectors.

Co-operative Grain Elevators

But there are thousands of farmers who are not growing fruit but whose main effort is devoted to grain and live stock production and who are asking how organized co-operation can help them? Farmers' elevators are now an accomplished fact in quite a number of states and are doing a good business at a profit for the members. The first farmers' elevator we have an account of was organized at Rockwell, Iowa, in 1889, and in 1900 two more were organized. The venture was so new and untried that up to 1904, that is in the first five years, there were only thirteen of these co-operative elevators started. The success of these few ventures demonstrated the possibility of added profit to grain growers and during the next seven years the number in Iowa alone reached 325, which sold 65,000,000 bushels of grain for their patrons besides buying for them 200,000 tons of coal and $750,000 worth of flour, feed, lumber, etc. These co-operative elevators have spread to other states and already a number have been organized in Nebraska, Kansas and a very few in Missouri. If these elevators were not a success and did not pay their members a better profit on their grain than the private-owned elevator, does any one for a moment believe their number would have increased so rapidly and so persistently in the face of strong opposition? It is not within the province of this article to give details about how to organize a co-operative grain elevator or any other co-operative business venture, but such information may be had from the United States Department of Agriculture, Washington, D. C., or the National Farmers' Union, Ft. Worth, Texas.

Co-operative Creameries Are Profitable

It appears to the writer that the most promising field for co-operation at this time in Missouri is among dairymen. There are a half hundred or more towns right now in Missouri where there are enough cows kept and milked to support a local creamery. We have but to study the routing of a can of cream as it is now marketed to see the great and unnecessary expense incurred under present methods as well as deterioration in quality, both of which most surely take just that much off the price of the product of the man who milks the cows. We have in previous articles in The Missouri Farmer published articles from Mr. E. G. Bennett, State Dairy Commissioner of Missouri, and from others showing positively that because of saving the above expenses and losses that the co-operative creamery is able to pay the farmers from four to six cents a pound more for butter fat than the centralizer can afford to pay. Upon this basis figuring the average difference at 5 cents a pound, the man who milks ten cows and sells an average of two hundred pounds of butterfat for each cow is losing annually $100 for patronizing the centralizer system. For the community surrounding a shipping point and having 600 or 800 cows this means an annual community loss of $6000 to $8000. There are now something more than 800,000 cows in Missouri and if we could by changing from the present method of shipping cream to the local creamery, add $10 per cow to the value of the output, we would save the cow owners of the state more than eight million dollars.

How can we save this immense loss? First, let us understand that the price of butter is fixed by its quality. At any season of the year there is a surplus of poor butter and at no season is there much surplus of butter of high class quality. As I write this article I can buy ordinary country made butter at retail for 25 cents a pound, some centralized stock at 33 cents a pound, while high class creamery from a local plant is selling at 40 cents a pound. The extra profits on six hundred cows for one year ought to build and equip a co-operative creamery plant and after the first year the profit over and above what farmers are now getting will be all velvet.

There are other advantages coming to the members of a co-operative creamery aside from the extra price for the butterfat. A great many of the co-operative creameries of Wisconsin and Minnesota are marketing the eggs for their members at a profit of one to three cents a dozen above what they can expect in the ordinary way. This does not come by accident but it comes because of improving the quality of the eggs and by cutting down the expense of selling. The same agents who sell the butter can sell the eggs and rules adopted requiring poultry owners to gather their eggs daily, to keep them in a cool place, to market them regularly and often will cause them to sell at 5 to 10 cents more per dozen than the ordinary grocery-handled stock will bring. During the Census year, 1909, there were sold off the farms of Missouri 71,886,000 dozens of eggs. If better handling and marketing could add only 5 cents a dozen above the price now received the farm women of the state would have $3,594,000 more money to put in their bank account for each year. Again, I ask, is it worth while to do a little thinking, to do a little more acting that will fatten the pocket-book and pay off the mortgage?

The cattle and hog feeders may find it a little more difficult to market their products in a co-operative way but they can do it to their great advantage if they will only stand together. It is the power of a large number of men acting not as individuals but collectively through their chosen agents that gives them the advantage.

Should Avoid Past Mistakes

The experience of the past has demonstrated that it is not wise for farmers or others inexperienced in business to engage in co-operative retail business. About ninety-nine ventures out of a hundred of this kind of co-operation have been disastrous failures. But there are lines where the farmers can profit by co-operative buying. These lines include those heavy and coarser products that are not quickly perishable and that must be handled in car lots. Where there is a co-operative elevator, or creamery or any other co-operative selling agency there is no valid reason why this agency should not be used for buying whatever flour, grain, hay, fertilizers, coal, and other like products used by the members. These articles are all considered legitimate trade for private owned elevators and why not for the co-operative plants? They are all articles that can be handled in car lots and can easily be delivered to the buyer directly without cost of extra handling, storage and insurance, and farmers can make a considerable saving by buying such products co-operatively in car lots. It may in many instances, be found advantageous to buy these products from local dealers because they can well afford to cut their profit to a minimum when they can find the opportunity to sell in car lots for cash and make delivery from the car door and save expense of handling. If farmers want to make these savings they must readjust their methods in both selling and buying and cut out needless expense and risk.

FARMERS MUST ORGANIZE

I have been reading your valuable paper for something over a year. I have read it closely along with some four other farm papers I take.

Farmers subscribe for farm papers for several different reasons. Some to educate themselves, some to educate the boys, and still others because some one has asked him to do so. But the majority of us are taking them for profit and pleasure for the whole family. And your paper is nearly filling the bill.

It is a source of much pleasure to spend our spare moments in reading the advice of able writers, and also the experiences of some of us farmers who are not so able to express ourselves.

I love to read a pretty poem that makes the father and mother look grander and more noble, the wife more lovely and the little fellows if possible a little bit sweeter.

It is fine to know how to make the grass grow greener, the corn to grow faster and the wheat to yield more and at the same time make our lands grow richer and richer.

All these things we must know, and yet, as I read and reflect, I cannot but feel we are neglecting probably the most important phase of the whole situation, namely, the selling of what we do raise. We as farmers and agricultural journals have made no headway along that line. For instance, the papers told us last summer to raise all the cattle, hogs and sheep we could possibly raise, there would be no danger of an over supply now, with half the world at war. From the President down this advice was freely handed the farmer. The prescription being filled and handed him, the farmer took the dose. He is getting the entire benefit of it now. What is the result: 80c corn and 6 and 7 cent hogs and cattle. True we have high priced wheat, but every man in America who has anything to do with the wheat business, knows that 90 per cent of the wheat is out of the farmers' hands. It is simply mockery to tell him wheat is high and he is thereby getting rich. On account of the existing high rate of interest and the dry years we have had, many a poor farmer owed the grain dealer for feed he had bought to carry him till his wheat was thrashed, then as a matter of fact he felt like he should pay his feed bill. Also, notes many bearing 8 per cent, become due or possibly past due. Was he in a position to hold it? The result was he sold it for from 64c to 70c per bushel.

Now comes our packer friends. When the war broke out they sold tons of meat to the foreign countries, far above anything they have ever sold. Meat to the American consumer is as high as when we were getting 10 cents for hogs and cattle on foot. In the face of these things they tell us there is no demand for meat and expect us to believe it.

The query is just this, how long will the farmer and consumer permit this thing to go on? The packer has been trying for years to eliminate the speculator on the open live stock market, and he together with the authorities that are handling the foot and mouth disease have about accomplished that end. It looks very suspicious the way this thing works. Are the authorities and the packers in a combine? I hate to allow myself to think such a thing. Yet when we analyze some of the cases at hand I think I may be pardoned for so doing. The disease is very contageous and I believe in using drastic measures. But surely the government should have men that really know the disease when they see it. Take the St. Louis case for instance. A couple of loads of hogs were shipped east; at the destination it was claimed they found four cases of foot and mouth disease. The authorities were notified and without warning the St. Louis market was quarantined. The eastern shippers and speculators were caught full handed. The case as I understand it was traced back to the farm from which the hogs came and no trace of the disease could be found. The market was again opened and in a few days the same thing repeated. This time the shippers refused to sell to the packers at a loss and held his stuff till the quarantine could be raised. But when the day came to raise the quarantine the government sent them word that they must be slaughtered in St. Louis. And the packer got the 800 or so cattle at his own price, or $1 per hundred less than the shipper had paid for them. And from what I can learn they have never yet found a genuine case in the St. Louis market.

What I want to bring to your minds is just this: the grain speculator, the meat combine and the high rate of interest are all working absolutely against the American farmer. It is folly to expect the young man to stay on the farm and face these conditions.

Unless we organize we are absolutely at the mercy of the grafter. In union there is strength. If we were in a position to tell our representatives and senators and even our President, what we wanted, do you suppose they would not get an ear to the ground? No representative will disregard the wishes of his rural constituency if they are in a position to vote as a unit.

My idea is a wide awake farm adviser in every county in every state. But let us commence at home in Missouri. These leaders could get us together on pending laws, both in Jefferson City and Washington, D. C. For instance, how many farmers have done anything to help pass the farm loan bill at Jefferson City, to say nothing of the one that has been lost at Washington? It would be interesting reading to know how many bankers have told our representatives it is a bad law and should be defeated.

Why not pass a law to put the packer, who deliberately robs us, in the penitentiary instead of fining him $25,000? When we know he will do just what he did this time, drop the price of cattle and hogs 50 cents per hundred the next day and make us pay the fine and put another $50,000 in his pocket besides. Let's get over this Democrat and Republican and Bull Moose doctrine and be men, instead. Work and vote for our interests just as the banker, the elevator man and the packer are doing. We must fight the devil with fire or go down in the blaze.

Chas. F. Barron,
Howard County.

HOW THE FARMER CAN MAKE MORE MONEY

Why doesn't the average farmer make more money? I was asked to write an article on the above topic. In reply will say that I am not a newspaper writer but a common country clod-hopper, but do not hop many clods from the fact that I have been a cripple all my farm-life. It would take a very wide experience for a man to be in a position to tell why the average farmer does not make more money. I think one of the reasons why many farmers fail is the lack of knowledge in handling and growing of live stock.

Changing this to how **can** the average farmer make more money, my answer would be to first familiarize himself with his life work—obtaining a thorough practical knowledge of such subjects as soil improvement, crop raising, breeding, raising and marketing of stock and farm products.

While the majority of farmers have been denied the advantage of a thorough schooling in the subjects as taught in our agricultural schools and colleges, we are not to be denied what our more fortunate brothers have obtained, who have the advantage of attending these schools.

Each and every one can for a nominal sum receive a thorough training in these subjects by subscribing for a few of the many farm papers and magazines which so ably treat on all the subjects pertaining to the farm and farm life. Through their columns we are brought in close touch with the progressive farmers of our and neighboring states. Many men who have spent time and money working out some difficult problem of the farm are only too glad to talk with the farmers through the columns of the farm papers imparting to us the knowledge gained by them through every-day knocks, thus saving their brother farmers many hours of hard and unprofitable toil. Just subscribing for these papers, having the mail carrier fill our box to overflowing will never gain us one thing unless we have an allotted time for the study of what we have purchased. We must have a system and that system whatever it may be must be strictly adhered to. Thorough organization with practical system strictly adhered to spells success in any undertaking, and success gained in any other manner will be only temporary and must be attributed to that element commonly called luck, which by the way is as good as any when it strikes, but the strikes are not regular and persistent.

The feeding of the stock should have our closest attention and study. By giving careful attention to the tables published from time to time in our papers and in the bulletins issued by our many experiment stations which can be had for the asking, we will be able to work out a balanced ration for any stock that we may be feeding, and the feeding of a balanced ration is the only way to realize to the fullest extent on our feed. The using of the pure bred sire can not be too strongly urged as it is a recognized fact that he represents half the herd in breeding.

Land building is one of the most important things that comes before the farmer and land building must be practiced if we wish to progress. The time was when we thought that our land would last forever. We went on abusing and taking away until almost too late we awoke to the fact that we must give assistance to our ground. We turned to commercial fertilizer but it offers only temporary relief. Our only hope is through our farm-made manure and the growing of the leguminous crops. We must get away from the idea of large areas poorly tilled.

The silo is offering the greatest opportunity of turning what we have been allowing for ages to go to waste into the most profitable gains. Our experiment stations tell us that in the average crop of corn the ear represents sixty per cent of what we raise the other forty per cent is in the stalk, blade and tassel. The greater part of this forty per cent we have been allowing to go to watse for ages. The silo is the solution. By it we are enabled to save the entire crop raised, allowing nothing to go to waste. These stalks that we formerly allowed to stand in the field until spring, we now have converted into the most succulent and palatable feed taking our stock through the winter at half cost of other times, bring them out in the spring sleek and ready to go on the grass in a shape to give us the most profitable gains. The silo also means more stock can be kept on the same acreage and more stock means more fertilizer, more fertilizer means more profitable crops from our land.

J. W. Jeans,
Montgomery County.

GREEN CROPS FOR SOIL MAINTAINANCE

My attention has been attracted lately by the number of articles appearing in the farm press, and more especially The Missouri Farmer, dealing with the necessity of keeping live stock for the purpose of maintaining and increasing the fertility of land and drawing the conclusion that this is the only safe and profitable way in the long run. Generally as this opinion seems to be held, I must disagree, not wholly, but in part, in that the alternative to the keeping of live stock for the improvement of our land is as a general thing overlooked and hardly ever mentioned in the agricultural papers; whereas, owing to its ease of application and to its cheapness, it should take precedence in being presented continually to the readers of farm papers.

This alternative is the growing of catch and regular crops in the rotation for turning under, or if the operation can be made more profitable for partial or whole feeding off upon the land. This system does not interfere with the keeping of live stock and the making of all the manure possible, but rather in its practice, tends to encourage it.

No one has a greater appreciation of the benefits to be derived from the application of manure to our land than the writer, but in all fairness to both systems, I must say that results

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My New Low Down No. 8 Spreader with cut under front wheels and trussed channel steel frame is positively the best spreader in the world. Light draft, endless apron, positive force feed, double chain drive. Just ask for my book, "A Streak of Gold," FREE, and I will tell you the truth about manure spreaders and how to get the greatest profit out of your manure products.

obtained by me taking everything into consideration have been in favor of the green manure crop turned under.

The advice of the agricultural press to grow and feed cattle is good when the factors entering into the process can be controlled so as to show a profit on the operation, but of late years many of the conditions entering into the process have been entirely out of the hands of the feeders, so that there has been great uncertainty and often loss in the financial outcome of the process when completed. Of course, if the carrying and feeding of stock could be so arranged that a profit could be shown on the operation, then it would be most wise to feed stock and apply the manure to our land for maintainance and increase of its fertility. Inasmuch as this seems to be an impossibility under present conditions, it would seem to be the part of wisdom to try to find a method that will accomplish the same result without the intervention of live stock, and this method is the growing and turning under of green manure crops; some as catch crops and some as regular crops for that purpose in the established rotation.

In favor of this method of green manuring may be mentioned its cheapness, its ease of operation, the ability to cover large areas of ground, the absence of any call for funds to put it in operation such as required for cattle carrying and feeding, the short time that passes before returns come in from the slight expense of its operation, the absence of all risk that is ever present in the handling of cattle, and the further fact that lands on which this system is practiced tend to become clean and free from weeds, the seeds of which are carried on the ground in the manure used.

When one's mind is put to the task of devising ways and means to produce the greatest amount of valuable matter to be turned under, it is surprising what a quantity can be produced and at such a small expense; owing to this the wonder grows that the system is not more often and forcibly presented by our agricultural writers, and the only conclusion to be drawn is that they have not had in practice the opportunity of carrying the system into effect.

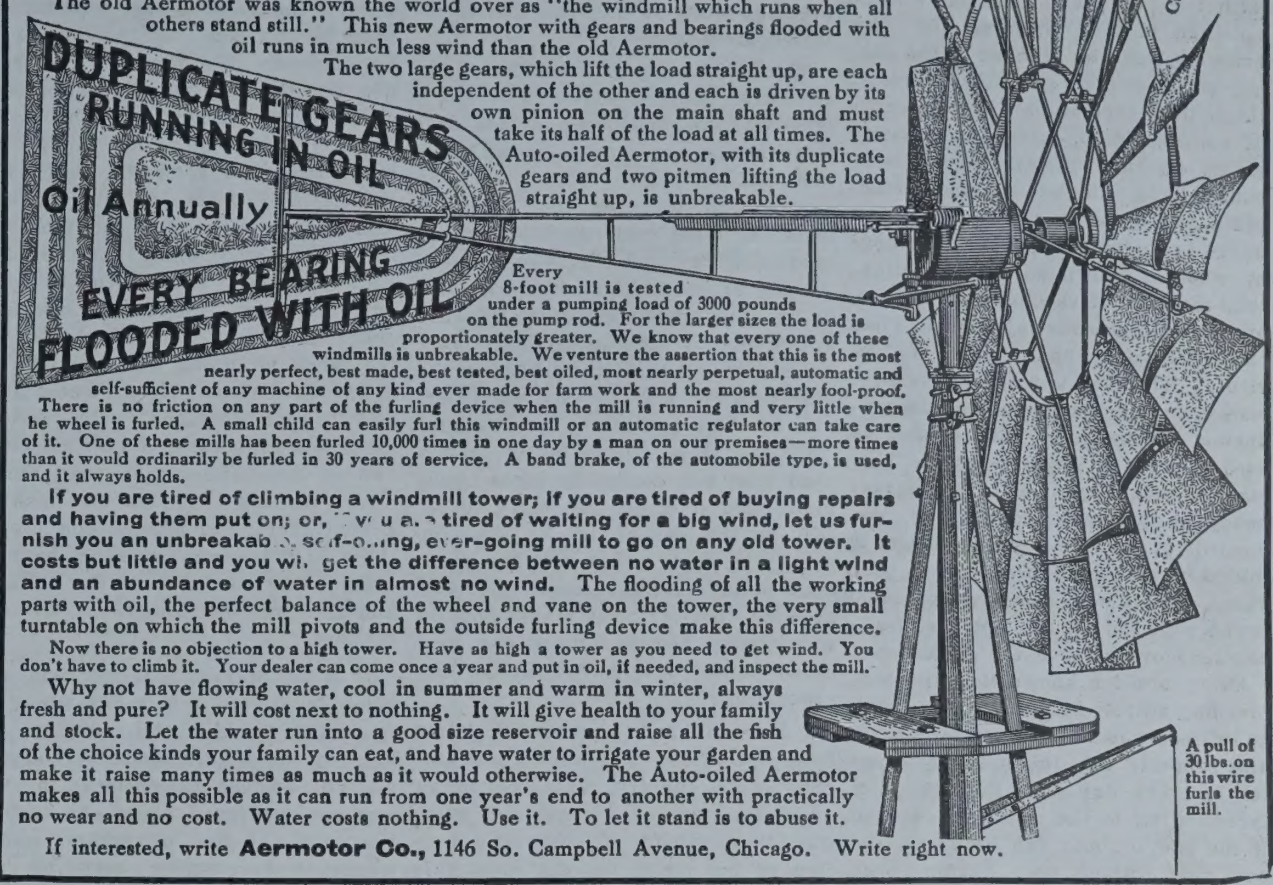
There is nothing new in the system. It has been practiced largely in European countries, where land is much more valuable than here, and always with beneficial results. We seem, on account of our cheap land and consequently cheap feed, to have drifted into a system of relying on manure for the improvement of our soil, when improvement was attempted. Now, however, owing to the increase in land prices, the high prices of grain and hay, the amount of capital invested in even a few head of cattle, and the uncertainties of the market for the finished product, it seems that the time has come when it would be wise to take advantage of any and all methods that would enable the maintainance and increase of the fertility available in our soil, and to my mind, nothing will do this quicker and cheaper than the growing and turning under, or feeding on the ground, of green crops. R. F. Tesson.

St. Louis County.

THE AUTO-OILED AERMOTOR WITH DUPLICATE GEARS RUNNING IN OIL

Every bearing is constantly flooded with oil. The gear case, in which the duplicate gears run, holds two or three times as much oil as is required by the mill for a year of constant running, days, nights and Sundays. From the gear case the oil flows through every bearing in a continual stream. It goes out through the thrust washers in the hub of the wheel and is automatically returned to be used over and over again. No oil is wasted. This mill needs oiling but once a year. **Two quarts of oil in the gear case of the 8-foot Auto-oiled Aermotor will keep the gears and every bearing flooded with oil for a year or more.**

The galvanized helmet covers the gears, keeps out rain, keeps out dust, keeps in oil. The old Aermotor was known the world over as "the windmill which runs when all others stand still." This new Aermotor with gears and bearings flooded with oil runs in much less wind than the old Aermotor.



The two large gears, which lift the load straight up, are each independent of the other and each is driven by its own pinion on the main shaft and must take its half of the load at all times. The Auto-oiled Aermotor, with its duplicate gears and two pitmen lifting the load straight up, is unbreakable.

Every 8-foot mill is tested under a pumping load of 3000 pounds on the pump rod. For the larger sizes the load is proportionately greater. We know that every one of these windmills is unbreakable. We venture the assertion that this is the most nearly perfect, best made, best tested, best oiled, most nearly perpetual, automatic and self-sufficient of any machine of any kind ever made for farm work and the most nearly fool-proof. There is no friction on any part of the furling device when the mill is running and very little when he wheel is furled. A small child can easily furl this windmill or an automatic regulator can take care of it. One of these mills has been furled 10,000 times in one day by a man on our premises—more times than it would ordinarily be furled in 30 years of service. A band brake, of the automobile type, is used, and it always holds.

If you are tired of climbing a windmill tower; if you are tired of buying repairs and having them put on; or, if you are tired of waiting for a big wind, let us furnish you an unbreakable, self-oiling, ever-going mill to go on any old tower. It costs but little and you will get the difference between no water in a light wind and an abundance of water in almost no wind. The flooding of all the working parts with oil, the perfect balance of the wheel and vane on the tower, the very small turntable on which the mill pivots and the outside furling device make this difference.

Now there is no objection to a high tower. Have as high a tower as you need to get wind. You don't have to climb it. Your dealer can come once a year and put in oil, if needed, and inspect the mill.

Why not have flowing water, cool in summer and warm in winter, always fresh and pure? It will cost next to nothing. It will give health to your family and stock. Let the water run into a good size reservoir and raise all the fish of the choice kinds your family can eat, and have water to irrigate your garden and make it raise many times as much as it would otherwise. The Auto-oiled Aermotor makes all this possible as it can run from one year's end to another with practically no wear and no cost. Water costs nothing. Use it. To let it stand is to abuse it.

If interested, write **Aermotor Co.,** 1146 So. Campbell Avenue, Chicago. Write right now.

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THINKS ORGANIZATION IS NEAR

It has been a long time since I have read after the editor of a farm paper that showed any symptoms of "horse-sense" in regard to the needs of the present-day farmer. Most farm papers aim to get "circulation"—some way, and then fill what space they do not want for advertising in giving advice to the farmer: How to raise bumper crops, or how to keep the boy on the farm, etc. What the farmer needs is not advice, but a way, a plan, whereby he can realize a decent return for his labor and upon the investment required to equip the average farm.

I have read a good many trade papers, but have yet to find the one that advises and urges their class to work their forces overtime to produce, regardless of the cost or the effect of such production. Yet the farm papers, so-called, have been hammering away on that topic since I can remember.

The present condition of things, as regards the farmer, leads one to believe that he is going to be "forced" to organize to protect himself. I do not think he will organize until forced and it may be several years yet, but I think the time is near. Farmers living near small towns are greatly handicapped now for there is no market for anything excepting poultry, eggs, butter and cream. Surplus of garden truck, there is no market for—only at a price so low that it does not pay for the time and trouble to take it to town.

All this as preface to the fact I am enclosing $1 for three years subscription to The Missouri Farmer, hoping the editor's "symptoms" may develop into something of real benefit.

E. E. Seymour, Boone County.

Profit of Manure Spreading

Manure spreading time is all the time. If one could only impress on the farmer who does not own or use a manure spreader, the importance of it's year-round use by showing him the actual crop dollars he is losing by refusing to properly spread all the fertilizing material that accumulates in barnyard and barn, he would in the future try to make up for this cash money crop the profit he has been losing.

Hundreds of thousands of good farmers testify that their corn, oats, wheat, hay and other crops have been increased steadily by the application of manures and fertilizers yet through the country are to be seen hundreds of manure piles that are going to waste.

The average farmer who has a quantity of this wonderful barnyard fertilizer on hand can make it more than pay for a first-class spreader if he will top dress his meadows this spring or apply the manure to his corn land or put it on any other piece of ground that really needs it. A good manure spreader will pay for itself on the average 160-acre farm several times over every year, according to the amount of manure it spreads.

A good, well built, low-down spreader if reasonably well cared for, should last from ten to fifteen years. Many spreaders have been in use even longer than this. When it comes to a money-making farm implement there is nothing on the farm that pays a bigger return on the investment or that will continue to pay year after year a bigger profit than a good, strong, modern manure spreader.

The Plow That Insures You Moisture

The Rock Island "CTX" Universal Plow is the best crop insurance you can buy. It's the only plow that leaves no air spaces to cut off moisture from below. In dry weather, water comes up from below to the plant roots just like kerosene comes up your lamp wick. Air spaces have killed many a crop but they won't kill yours if you use

Rock Island "CTX" Universal Plow

On account of its peculiar corkscrew-like shape, the "CTX" goes into stubble, tame sod, trashy corn ground, tough gumbo, heavy clay, etc., and does perfect work in all. Turns the slice *clear over*, lays it *flat* and *buries all trash*. You don't need extra bottoms for the "CTX." This wonderful plow pulverizes the soil so much better that you save at least one harrowing.

Free Plow Book shows how the "CTX" increases yields from 2 to 10 bushels per acre. Write for it.

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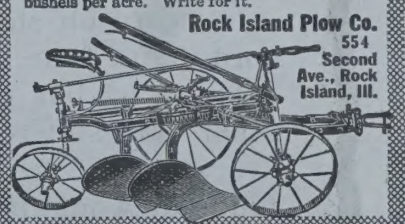

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ASK ABOUT FAMOUS "CHORE BOY" LINE OF GASOLINE ENGINES—MADE IN ALL SIZES **$28 AND UP**

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"IMMUNIZED BREEDING SWINE"

Dr. J. W. Connaway, Veterinarian, College of Agriculture and Experiment Station, University of Missouri.

There is, in some of the hog raising states, a false "trade demand" for immunized breeding hogs, among farmers whose premises are infected with hog cholera germs, and who do not like to risk bringing in new breeding stock on account of the danger of these hogs getting cholera. I think they overestimate the difficulty of getting rid of the hog cholera germs on their farms. Serum companies have stimulated among breeders a notion that it was to their best interests to immunize their sale hogs by what is known as the "simultaneous method" of vaccination. That is, by the simultaneous injection of "hog cholera serum" and "hog cholera virus." The first is a protective substance and the latter a disease-producing substance. This method is used in order to give the hogs a "permanent immunity." But the permanency of immunity cannot be depended upon in all cases unless a tolerably well developed fever is produced, and this in some cases is followed with bad results, and the disadvantages overbalance the advantages.

Every breeder knows that the best breeding animal is one that has never had disease; one that is properly bred, and properly fed, and properly cared for in every way from the time it is farrowed up to the time of sale; and if the sow or boar can be put in the sale ring without ever having been treated with hog cholera virus there is no doubt but the animal is a better breeding animal than one that has had disease, whether it was contracted naturally or produced artificially by inoculation. The observations of many farmers indicate that the reproductive functions of the breeding animals are sometimes injured by natural cholera or by the serum-virus vaccination. And as the injury is just as liable to fall upon one of the very best bred animals, it is desirable to avoid all risks in this direction, and to turn more to the **eradication of the disease** from the farms, rather than to try to **immunize** breeding stock so they can live on infected premises.

The field agents of a number of agricultural papers, whose business it is to visit the breeders and look over their herds, are impressed with the fact that the men who resort to serum-virus immunization so as to meet the false trade demand for immune hogs, are not supplying as good looking stock as they formerly did; or as other swine breeders, who are not trying to immunize their hogs, but are trying to fit their hogs in the best possible way to give good service to their patrons. The "immunized" hog is of course better than a dead hog, but many breeders have found that it is not necessary to resort to the serum-virus method for protecting their herds, and the tendency is to get away from this bad practice, that certainly stunts hogs in some cases and in others has rendered some of them sterile or less productive.

I have at hand a personal letter from one of the best known auctioneers in the country, who lives in an adjoining state. I am quoting, without his knowledge or consent, a portion of his letter bearing upon this matter. For obvious reasons I do not mention his name. He says: "I have put in the last month with hog men in this state and—(an adjoining state). Naturally hog cholera and its treatment was talked quite extensively, and if I can catch the drift at all I feel sure that farmers are more awake than ever before to the importance of **sanitation** as a factor in hog cholera control work. I have had pointed out to me by some breeders of registered stock that it was absolutely necessary that they "immune" their hogs, in order to make good sales; and at some sales which I have conducted that did not go as well as they should, the reason was directed by some to the fact that the hogs were not immune. We have had this happen, and the very next day after such a sale, under practically the same conditions, the hogs not being immune either, a splendidl sale was made. The facts are that the best sale I made in the state this year was for a man who under no circumstances would allow virus to come onto his place. During the last four years this party has had cholera on the farms adjoining him, but has escaped the disease. He protected himself in each instance with serum-alone and sanitation. I visit his place two or three times each year, and I can truthfully say that one making a visit there will always find everything in first-class condition, both as regards the condition of the animals and the sanitary conditions of the premises."

It is my opinion that the time will come in a very few years when no man will think of immunizing his hogs by the simultaneous method and all will protect themselves in the manner mentioned above—by sanitation, and the use of serum alone, whenever vaccination may be required. You will note, however, that in the case of the individual breeder mentioned above, he was exposed to cholera which was on adjoining farms. This man's herd was in constant danger from the disease, by the carrying of the infection by dogs, pigeons and other carriers, and so demonstrated the value of his methods Under such exposure, however, severe losses might happen, in some cases, in spite of the careful attention that was given. If he could have only taught his neighbors how to do the same things, so that they too might be free from cholera, and they in turn would enlarge the area by encouraging their neighbors further on to do the same thing, cholera could be gradually pushed back and off the map. Hence co-operation and instruction and better hog farm management are essential to good results in eradicating the disease.

The Dominion of Canada has regulations against the importation of hogs that have been vaccinated by the "simulaneous method. They fear the introduction of the disease into their country. The fact that hogs have been vaccinated is evidence that they come from infected premises, or that neighboring farms are infected, and no breeder can ship hogs into Canada if the disease is within five miles of his place. Each breeder's farm, therefore, should become the center of a clean-up area which would have a radius of at least five miles, so that he could not only ship breeding hogs to Canada, but to other sections of the country where they do not want to introduce the disease, and to his neighbors in the next county. The breeders of the country can do great good toward eradication of hog cholera if they will banish the "serum-virus" methods and take the lead in their neighborhoods in getting the farmers to apply the simple and rational methods of sanitation and serum alone, in a well organized way, such as is being advocated and being put into operation by the University through its Agricultural Extension Department.

A Good Corn Story

"THREE miles from our farm we rented 55 acres to two men to put in corn on shares. One man put in corn in due time, and cultivated it in the usual way but did not fertilize. The other man suffered an accident and after everyone else was through planting, we found he would be unable to use the land. We sent out four teams and plowed it and planted it. One day we sent out 4 cultivators and gave it one and only one cultivation during the entire season. In planting we put 150 pounds of

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to the acre, the other man used none. Result:—With only the one cultivation, we took off nearly twice as much corn as the other. This, we think, tells the whole story. J. R. CRAIG, Bentonville, Ark."

May we help you to grow your corn this year? Send for our booklet entitled "King Corn" and "Better Crops" mailed free to any address.

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Get the facts. Compare with other silos. Remember, **we unqualifiedly guarantee saving of $50.** Written guarantee of **satisfaction or money back.** Prompt, safe delivery no matter **where** you live. Quick shipments **direct from Davenport,** or mill in Washington. Write **now** for details.

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In Business Half a Century!

SAVE THE FARMER'S THRESH BILL AND GET THE BIG RUN

The Red River Special outfit will do it. It uses the correct principle in taking the grain out of the straw.

It ***Beats it out*** just as you would do by hand with a pitchfork.

Other machines depend upon the grain dropping out.

It saves the farmer's grain and is less liable to break down. It runs steadily and does its good work when conditions will not permit others to do so. It threshes fast and does the very best of work in all particulars, so that the farmer prefers it.

It is the most profitable outfit for the thresherman to buy. It enables him to do more work—better work, and gets him the good jobs. It wears well and lasts longest.

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Builders of Red River Special Threshers, Wind Stackers, Feeders, Steam Traction Engines and Oil-Gas Tractors
(1) **BATTLE CREEK, MICH.**

THE EARLY CORN PLOT FOR HOGGING DOWN

If I read the signs of the times aright, the already high prices of corn will by next August bring prices soaring still higher.

Now in legislation our constitution provides for an emergency clause; so should the farmer resort to some practice to tide him over the high prices of those feeds that go to make up an ideal hog feed.

Owing to the great variety of climate in the United States where corn is grown, the corn breeders have given us a number of varieties as to time of ripening—early and late varieties.

Now the thing for the live stock farmers to do this year, regardless of their location in Missouri, is to plant a part of their general planting to an early variety—a real ninety day corn, not corn that is supposed to ripen in 90 days that will require 110 to 120, but a corn that will mature and be ready to feed in 90 days.

There is plenty of such corn and any reliable seed corn house will be glad to furnish such at reasonable prices.

This corn should be planted just as early as the coming season will permit. Along with this early corn, plant about a gallon to a gallon and one half of cow peas or soy beans. For myself, experience has led me to prefer an early variety of soy beans. I plant the corn in drills, then with the same planter, follow the same track and drill in the cow peas or soy beans. [It would be a saving to buy an attachment for the planter and plant both corn and peas at the same time.—Editor]. Give this corn as near level cultivation as the season will permit, and at the last plowing sow five to seven pounds of rape. The corn, being a small variety, will not shade the ground, but what the soy beans, cow peas and rape will get plenty of sunshine and air and all will come along together.

The corn will furnish the fat producing element, the cow peas or soy beans, the bone and muscle making element, and the rape, the tender succulent pasture.

Now by hogging down this feed, you get the manure evenly distributed over the field and every corn plant, rape and soy bean and cow pea plant is returned to that specific part of the field that produced it, in a much better way than could be done by man with the most modern and up-to-date manure spreader.

The plot can be regulated in reference to the number of hogs. By establishing a strong solid post at each end the corn stalks can be used as an intermediate post to hold up the woven wire. A hog with access to such pasture is not going to do anything but eat and thrive and spend very little or no time in breaking fences.

The main crop should be planted to the varieties that do best in the respective localities of the state. The varieties that the farmers know are best adapted to the soil and climatic conditions.

There is another material advantage in planting this ninety-day variety in regions of the state where the soil has not the moisture holding capacity. The moisture accummulated from the fall, winter and early spring rains will make this early corn and get it out of the way of the usual drouth.

I know by experiance this to be a sound farm practice. It will save the labor of gathering and feeding the crop,will help to keep up the soil fertility and eliminate the necessity of buying high priced hog feed.

W. D. McKee, Ray County.

RYE FOR PASTURE AND GREEN MANURE

I sowed rye in the fall late, about October 15, 1913, after a crop of cow peas. I didn't get any pasture from it until April. When it did begin to grow, I never saw so much pasture per acre. I put everthing I had on it and they didn't make any show on it. I believe rye will take care of three grown head of stock per acre for two months in the spring.

I turned the rye under, finished plowing May 16th. It was so high that two men plowing with sulky plows could not see each other across a narrow land. I plowed as deep as three horses could take a good gait and keep it all day—about six or seven inches. I intended to plant corn right away, but it was too dry to plant any thing, so corn was not planted until June 16th.

About six acres of this field was cut for hay, as an experiment, which didn't prove successful with me. It was cut when the rye was in bloom and a green dusty mould formed in it, causing a fog of dust when a fork full was lifted in feeding. As a result three horses had the duct from the eye to the nose clogged with this dust, at least I thought so. One of them got all right after I quit feeding the hay. One eye of each of the other two continued to run water on account of this tear gland or duct being obstructed; a veterinary flushed or washed out this small passage. One of the two horses got well entirely; the other lost one eye. Whether that was due to the blossom dust of the hay, I can not say, having only circumstantial evidence, but I am inclined to believe it was.

The part that had rye cut off and the other was all plowed alike. Corn was planted the same depth, checked. Some of it had fertilizer, 2-10-2; some had no fertilizer; some had soy beans. There was a lot of difference in the fertilized corn a month or six weeks, but when time came to cut it, there was not much difference. Such an unusual season was no test for the fertilizer, but it was for the rye. Where the rye was taken off the ground, the corn was not so good, and when we got ready to sow wheat this fall, the same ground took longer to air out. When the rye was turned under it seemed to hold moisture better in any weather and to dry out quicker on top after a wet spell.

I thought it would be in the way of the cultivation of the corn, but it was as rotten as if it had been plowed under two years instead of two months.

Pam Grinstead, Pettis County.

We are glad to see the increased interest in the subject of green manuring because we consider this one of the first steps toward soil improvement. Humus, that is decayed vegetable matter, is important and essentially necessary to a productive soil. As was demonstrated by the results as shown where the rye was turned under as related in the above article a good supply of humus not only helps the soil to retain its moisture better during a drouth but it helps to aerate it during excessively wet weather. When the green crop turned under is some legume such as clover, sweet clover, cowpeas or soybeans in addition to the humus we have returned all the plant food taken from the soil by the crop and have added whatever nitrogen the crop has taken from the air and nitrogen is the most expensive element of plant food.

Studebaker
WAGONS BUGGIES HARNESS

HERE'S WHAT MR. McINTYRE HAS TO SAY

I purchased my Studebaker in 1874 from Henry Brown of LeRoy, N. Y., and paid for it in wood, cut by myself.

The wagon drew all the stone that was placed in my house and barn. It has never been idle.

All the heavy work that is done on the farm today is done by the old wagon.

It is just as good as it was the day I bought it.

Peter R. McIntyre, Caledonia, N. Y.

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"All the heavy work that is done on the farm today is done by my old Studebaker I bought thirty-nine years ago."

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—and doesn't it also prove that it pays to buy the best?

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Suppose you buy a Studebaker Wagon today — and it costs you a little more — but lasts a lifetime — isn't it, after all, the cheapest wagon you can buy?

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Durability — long service — have been always the watchwords of Studebaker.

That is why, within the last sixty-three years, Studebaker has grown to be the largest wagon builder in the world.

Studebaker Harness and Studebaker Buggies are built with the same integrity as are Studebaker Farm Wagons.

STUDEBAKER, South Bend, Ind.

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Adv. 2034

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Why WITTE Engine Prices are Lower

Because I have a natural gas well which gives us free power, heat and light; sell my entire output direct from my factory to user, giving you the dealers' profits; because of my large, superior manufacturing facilities—just doubled in size—I make lowest prices ever made on dependable engines.

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Kerosene, Distillate, Gasoline, Gas

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When it comes to durability and ease of operation, no engine, regardless of price, can show a better record than the WITTE. All have detachable cylinders, 4-ring pistons, automobile vertical valves, safety spark shift, automobile ignition and all are guaranteed to give their full rated horse power, with a liberal surplus, at the smallest possible fuel cost.

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160 ACRE FARMS IN WESTERN CANADA FREE

The war's fearful devastation of European crops has caused an unusual demand for grain from the American Continent. The people of the world must be fed and there is an unusual demand for Canadian wheat. Canada's invitation to every industrious American is therefore especially attractive. She wants farmers to make money and happy, prosperous homes for themselves while helping her to raise immense wheat crops.

You can get a Homestead of 160 acres FREE and Other lands can be bought at remarkably low prices. Think of the money you can make with wheat at its present high prices, where for some time it is liable to continue. During many years Canadian wheat fields have averaged 20 bushels to the acre—many yields as high as 45 bushels to the acre. Wonderful crops also of Oats, Barley and Flax.

Mixed farming is fully as profitable an industry as grain raising. The excellent grasses full of nutrition are the only food required either for beef or dairy purposes. Good schools, markets convenient, climate excellent.

Military service is not compulsory in Canada, but there is an extra demand for farm labor to replace the many young men who have volunteered for the war.

The Government this year is urging farmers to put extra acreage into grain. Write for literature and particulars as to reduced railway rates to Superintendent Immigration, Ottawa, Canada, or

GEO. A. COOK
125 W. 9th St., Kansas City, Mo
Canadian Government Agent.

THE MISSOURI FARMER

Devoted to Better Farming, Better Farm Homes and Better Citizenship.

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William Hirth - - - Publisher
Geo. B. Ellis - - Managing Editor

Published twice a month, on the 1st and 15th, at Columbia, Mo.

Subscription Price 50 Cents a Year in Advance

The date on the address label gives month and year to which subscription is paid.

Agents Wanted. We want some one to represent us in every community and make up clubs for which we will pay liberal commissions. Write us for terms and sample copies.

We solicit communications from farmers and members of the family on timely and practical subjects. Photographs illustrating farm life or plans for buildings, live stock, etc., are appreciated.

To render service is our aim and we will endeavor to answer all pertinent questions or have them answered by competent authority. When answer is desired direct, always inclose stamp.

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The greatest question before Missouri farmers today is "How to make the farm pay?" If you have solved this question write and tell us about it to help your brother farmers.

—o—

Some wise men say the farmers will never organize until they are forced to do so from sheer necessity. Well, may be that is true but then isn't necessity now staring us in the face?

—o—

We need to be organized along both economic and social lines—these two needs must be worked out "hand-in-hand." We must know how to produce more abundantly, how to produce more efficiently, how to produce more cheaply, but after all, unless we are able to sell what we produce at a profit, what will it avail us?

—o—

Will those who oppose organization among farmers for economic reasons tell us why the price of every manufactured article on earth is priced by the maker at what it cost to produce it plus a profit, while on the other hand every product of the soil is sold on a manipulated market at whatever it may chance to bring regardless of what they cost to produce?

—o—

When a feeder buys cattle at the market price and finishes them for market, don't you think he is fairly entitled to the price of his cattle and feed when he sells, together with a reasonable profit for his venture? But a great many men have failed to get their money back this year regardless of the fact that the consumer is paying the same high price for his daily meat.

—o—

Organization for economic purposes, however important, must be associated with organized effort to better our social conditions. The decadent rural church, the oftentimes poor condition of the rural school, the neglected country road and the lack of high class entertainment for farm folk, all demand our most earnest attention if we hope to keep the best farmers on the farm. None of these better things will come to us without effort, neither will they come to us without organized co-operative endeavor when the great majority of farm people are joined together, pulling in one direction, voting together and demanding not an advantage but only equality of opportunity. "United we stand, divided we fall" is a pretty good banner to keep floating from our standard all the while.

—o—

While we are waiting for organized help suppose we do what we can to help ourselves. Why not resolve to plant our seed oats this spring in a better seed bed and to have the seed treated to prevent smut? When our land was new we could get a good crop of oats put in the ground most any careless way, but that is not possible now. We sometimes blame the dry weather for things we ought to charge up to "dry methods." The oat crop is not much of a money making crop at best, but it fills in a very good place in a rotation and supplies some mighty good feed for calves, colts and brood mares and anyway it takes just as much to pay the interest and depreciation on an acre devoted to oats as it does an acre growing wheat or corn, so why not try to make the oat crop a little more profitable? Fifty cents worth of formalin and a half day's work will treat enough seed oats for prevention of smut to sow at least ten acres and the total increase ought to be somewhere between 30 and 50 bushels in the yield. In what other way can you make oats so cheaply?

—o—

FOR A BIG CORN CROP

The renewal of good times and general prosperity depends more on getting a rousing big corn crop this year than on any other one thing we can think of. A good wheat crop will, this year, as it always does, bring some ready money at a very opportune time and because of the relative high price just now much is depending on a good wheat crop, but even a maximum wheat crop at one dollar a bushel will bring little more than one-half as much as a maximum corn crop at fifty cents a bushel. Practically our whole live stock industry depends upon the corn crop for its success. Certainly, then, we should leave nothing undone this year to produce a bumper corn crop. If we get a little more than the market will take at a good price it would be a pretty good idea to just store up a pen or two of good sound corn and hold as a protection against some future shortage.

The first step towards a good corn crop is to have good seed. The fellow who failed to select his seed last fall had better lose no time in getting it ready now. There is likely to be a lot of bad seed this spring and any way every man, whether he is going to plant ten acres or a hundred acres ought to know just what he is planting and the only way to know is to make the germination test. We would not want to plant seed testing less than one hundred per cent good and every man can have that with a few days' work now while the weather is too bad to work in the field. The next important step toward a big corn crop is the seed bed. In a fertile soil full of humus like most of our corn land was forty or fifty years ago it is possible to raise a good crop of corn without much seed-bed preparation. We have under those conditions seen thousands of acres planted right after the plow and with only about three cultivations make a good crop of corn—not a maximum crop to be sure, but a good crop. Under present soil conditions and present prices of corn and the high price of the land it grows on, it is not good policy to plant corn on any but thoroughly prepared land. The extra work on the seed bed makes more plant food available, destroys many weeds and lessens the amount of after cultivation. Let us all start right this year for a big corn crop.

TWO SYSTEMS OF FARMING

In this issue there may be found on another page an article by a good farmer from St. Louis County, Mr. R. H. Tesson, in which he discusses the possibility of maintaining soil fertility by the use of green manuring. An absolute system of grain farming under our conditions in Missouri coupled with a proper use of commercial fertilizers is possible, we think, only on our rich bottom lands, where there is no loss from erosion; and near cities where high priced crops can be grown and where the green manure can be supplemented by manure easily obtained from the city. These are conditions under which our correspondent is working, his farm being located near the great city of St. Louis furnishing him the best and highet priced market for whatever he may produce. It is a well known fact that plenty of decayed vegetable matter is essential to any fertile soil. This decayed matter of course may be supplied by turning under green crops, but what are we to do to replace the mineral elements which we know are removed in large quantities where the entire crop is gathered and sold off the farm?

Based on the level of prices for the last ten years we are safe in saying it would be disastrous for the man growing such coarse crops as wheat, rye, oats and corn, selling them off the farm and trying to maintain the soil fertility by turning under green crops and buying mineral fertilizers at current prices. He might do it if he were growing potatoes and other garden crops which not only take as a rule much less plant food from the soil than the grain crops do, but these crops also bring a much higher price per acre. The other alternative would be to buy cheap stable manure from city stables and stock yards to apply to the crops annually.

But for conditions as they exist in most of Missouri it is much safer to depend upon a mixed system of crop growing and live stock raising, live stock feeding or dairying. In Missouri we have much rolling land that should not be plowed at all. How are we to use this land profitably without plowing it? We must either seed it down to permanent pasture or plant it to orchards and as the supply of fruits is easily overdone, and much of this rolling land is too far away from markets for fruit growing any way, the only thing to do with it is to utilize it for pasturing live stock. It is apparent to any one familiar with actual facts as they are in this state that the greatest loss on our rolling lands is that caused from erosion. Many a plowed field has lost more fertility in twenty-four hours from a heavy rain than the farmer can put back in five years. Time and again we have called attention to this irreparable loss, and urged our farmer friends to plow fewer acres and keep more live stock and sell less fertility off the land.

True, the live stock farmer must grow crops but if these crops are all used on the farm for feeding animals and the animals or products are sold only in the most highly finished form and the manure and waste returned to the land then only a minimum amount of plant food is taken off the land. Roughly speaking if we count the value of plant food in a bushel of grain at twenty cents and that three-fourths of it is returned to the land when fed to stock, we have only five cents worth of fertilizer to buy to maintain our soil, while if we sold the grain outright we would have to buy the full twenty cents worth of fertilizer which makes quite a difference.

The time has come when this question of the maintenance of fertility must be counted as an expense in the production of any crop. The stock raiser may find it profitable to occasionally turn under a crop of clover, sweet clover, rye, etc., but generally speaking he will find it more profitable to turn the crop back to the land after it has served in the process of butter, beef or mutton production.

—o—

SHOULD ENCOURAGE HOME OWNERSHIP

The figures gathered by the United States Government show that there is a decided tendency in this country towards tenantry in the operation of our farms and we are surprised that so far as we know, no great leader among our agricultural colleges or U. S. Department of Agriculture has in any very forceful way pointed out this danger. In fact, we think as a rule the efforts of our agricultural experts have largely been to encourage this tendency rather than retard it. We have more than once pointed out the "big farm" fallacy enunciated by a number of our agricultural leaders. We think it is natural under their present methods for them to fall into this error and as their association is largely with the larger farmers and as riches and bigness naturally appeal to all of us we can see why they may be misled. We are willing to follow the agricultural leaders with implicit confidence in all technical or purely scientific thought, but when it comes to the more important economic subjects—questions which concern the whole human race, we would rather take our advice from the great field of human endeavor rather than the necessarily narrow views of the college man.

Our own college and others, as well as experts from the U. S. Department of Agriculture have been making farm surveys and from the data secured have tried to show that the only profitable farm is the big farm, forgetting that the reason big farms show a better profit is in the men who own them and not in the system itself. It is a fact apparent to any close thinker that as a rule the owners of big farms have them because they have been better business men than their more unfortunate neighbors and if the owners could be transposed and these same big farm owners were put on the small farms, as a rule we would see a difference the other way.

Big farms mean fewer people in the country, fewer home owners to take an interest in good schools, live churches, better roads, etc. It would mean more hired men in place of home owners, more tenants and as a recent survey by the Missouri Agricultural College, has shown it would produce more poverty and illiteracy among the people. This survey made among near 700 farmers of Johnson County representing all classes shows that on the average farm owners had at the end of the year $696 to invest in better living after all expenses were paid while the average tenant farmer had only $368. This survey also shows that among land owners 32.7 per cent of all the children complete the district school course, while among tenants only 12.7 per cent of the children get this far along with their education. The same relative showing is made as to the number completing a high school and college course. Our agricultural leaders would do better to encourage the hired man to become a tenant and the tenant to press forward and try to own a farm, but they cannot do this by trying to prove to him that a small farm is not profitable and that a tenant is getting more for his labor than the land owner. Restricted ownership would mean more profit for the few but less wage for the many.

USE WHAT YOU LEARN

Here is a good suggestion from one of our subscribers about how to get the full benefit out of what you read in The Missouri Farmer. We frequently get a letter from some one asking about something that was a short time before fully explained in the paper. Certainly we are always glad to answer these letters but many times it is worth more to the man if he can lay hold of the information at once and this is a good way to have it ready for an emergency. Our friend, John H. Proctor, of Boone County, writes: "I have been taking your most valuable paper for some time and have found it one of the best helps on the farm I can get. I generally find some special feature in which I am interested in each issue that is a real help at the right time. I keep a blank book right at hand and when reading The Missouri Farmer and I run across any special information I may want to use sometime I note it down in my hand book and so when I need information on alfalfa or other things I turn to that subject in my book which is always near at hand.

"I find most everything fully explained, and keep that before me and if my neighbor should come in and ask about something it don't take me long to tell him even though I have forgotten it.

"Next I advise him to take The Missouri Farmer if he is not already doing so because I think it gives the most information of any paper, for the price, I get. In fact, I think sometimes I get more than is due me according to what I have paid. We take several papers but The Missouri Farmer has the upper hand at our house and we think every farmer as well as business man should take it. I would like to see the paper in the home of every Missouri farmer."

Editorial Comment: We appreciate all the nice things in the above letter but we want to specially comment on the practical suggestion of how to get full value out of what information is in every paper. If every reader would keep this little note book and under different subjects make notations of articles and then keep all the papers filed away where they are easy to get at he will have the information at hand when it is needed. It will not take much space on a bookshelf to keep a year's file of The Missouri Farmer, nor even five years, but any intelligent farmer will be surprised at the great variety of subjects treated if he will look through a whole volume. It does not pay to depend too much upon memory for the farmer has too many things to know to keep them all in his head and ready for use.

MORE MONEY OR GREATER HAPPINESS?

I feel honored by your request for me to write on "Why the Average Farmer Doesn't Make More Money?" I am now 83 years old and being closely confined to my room, I have little to do but read and think. This is a question every farmer in the whole wide world has thought about for ages, and I can not hope to excel their practical solution, which is, I think, they are making all they can under present conditions. I think if the farmers would raise less on the average than they now do they would get a better price for it—they would get more money. The question is more money and is not prosperity and happiness. If money were the supreme measure of all things then money would mean prosperity and happiness. But money is not happiness. If you will raise less and have the market come to you instead of you hunting the market then you make the price instead of the other fellow. The farmer can contribute to his own and his family's happiness by farming less acreage and farming better; by raising more of what you consume—a good garden. Keep more live stock and turn more of the land into pasturage and save hiring labor. A good garden, which is so often neglected by farmers, will supply one-half the family supply.

The supreme thing for the farmer's happiness is a comfortable home, and this is sometimes obtained more by well directed labor—by good management—than by more money.

A. A. Hess, Jonesburg, Mo.

Just imagine the axle of a car TWISTED 3 TIMES without even showing signs of fracture, and you can begin to get a little idea of the quality that Studebaker BUILDS into this FOUR—simply "because it's a Studebaker." For that's the test—as this picture shows—that Studebaker axles have to undergo. And that's the kind of steel that Studebaker develops.

No car that ever goes on the road will ever have to face a trial one-hundredth as drastic as this axle test. But it's Studebaker's belief that every Studebaker Car ought to be built as strong as that—with that much extra safety and that much longer life.

And that is typical of Studebaker's entire manufacturing policy. That is why, for example, you find Timken Bearings *everywhere* in the car, even in the differential. They are the BEST anti-friction device made—and Studebaker uses them. So, too, Studebaker puts into this FOUR at $985 a FULL-floating Rear Axle such as you find in only the highest priced cars.

But you'll appreciate even more what that name of Studebaker stands for on a car when you see this FOUR at your local Studebaker dealer's—and see how Studebaker, knowing the farmer's wants so well, has built into this FOUR conveniences and SERVICE-giving qualities that make it ideal for use in the country.

But SEE it at your dealer's. You'll find it EASY-riding and EASY to drive—and with lots of POWER. And when you study its design, its simplicity, its accessibility and the way it is built to make its upkeep LOW, you'll see why so many men living in the country have bought this FOUR simply

—because its a

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Electric Lighting and Starting—FULL Floating Rear Axle—Timken Bearings—Safety Tread Rear Tires—One-man Type Top.

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F. O. B. Detroit

Write for "The Story of Studebaker"

Address Dept. F21 STUDEBAKER — DETROIT

FARM MANAGEMENT PAGE

D. H. Doane, University of Missouri

It is not enough to be industrious; so are the autos. What are you industrious about?

Ordinarily we find in people the qualities we are looking for, or the qualities that our own prevailing characteristics call for. The larger the nature, the less critical and cynical it is. The more it is given to looking for the best in others.

How many have purchased cowpeas or soy bean seed to go in the corn field? Next month it may be too late. Intentions now will not feed lambs next fall. It takes deeds; these deeds must be cowpeas, soy beans and rape.

Well prepared is half finished. This applies with double emphasis during the rush time of the spring. Let us apply it to machinery, workstock, fertilizer and seed. It means dollars at the end of the year.

We have published our first summary of the work of the Missouri Farm Advisers. It is in bulletin form and may be had upon application. I wish to quote one paragraph.

"An instance showing the anti-hog cholera work accomplished in a county is taken from the annual report of one of the farm advisers.

"A few remarks concerning the anti-hog cholera work done might be quite in place. Thirty-one herds of hogs were vaccinated in 1914. In twenty-seven of these herds hog cholera was present as indicated by postmortem examination. The other four herds were vaccinated because they were in danger of taking the disease from infected herds. In but one case did the outbreak spread to an adjoining farm. In this instance little pigs from the neighboring farm came down the road and exchanged greetings with the sick hogs through the fence. . . . . The value of the hogs saved in diseased herds through the single serum treatment exceeds $3800 for 1914. This does not include the value of one of the largest herds in which the disease has not yet run its course, but which at this time is doing exceedingly well."

Quoting further from some of the back reports from this county we find these conditions: Work began April 1, 1913—up to December 1, 1913, eight months— 3700 hogs were vaccinated, 462 hogs per month, which marks a fight with one of the worst epidemics in the county. In the fall of 1913 the anti-hog cholera club project was organized and a man left in the county to do follow-up work. The campaign appears to have been effective. From January 1 to December 31, 1914, twelve months, 924 hogs were vaccinated, 77 hogs per month. As an addition to these statements, we should consider the fact that one of the worst epidemics known has existed on the borders of this county during the latter part of 1914."

The Many Sided Farm Adviser

We are wont to think of the different Farm Advisers as being employed primarily to vaccinate hogs, assist in getting stands of alfalfa, and work in a general way to increase the yield of crops in the county. The following, which is taken from one of the news letters of C. M. Long, Farm Adviser in Johnson County, brings out the very human side that these men possess. They are just the same kind of people we are. They have a desire for work and success; they are ambitious to accomplish things worth while, and they have their shortcomings and their sympathies. The following illustrates the last point.

"One from the ranks of our boys and girls is gone. One of the brightest of our land. One that helped her district to win first place in the township and later in the county. Last fall when I visited Cass school and explained about the school exhibit, one of the first pupils to offer to take part was Hazel Reed, a sweet-faced, bright-eyed little girl twelve or thirteen years old. I had never seen her before nor have I seen her since until yesterday, but I remember her. I remember asking Miss Wilkerson about her. She seemed so wide awake. She proved that she was awake for at the County Exhibit at the round-up she scored highest of any girl in the county in her class. This score won her a trip to Columbia, but illness came and she was not able to make the trip. It was decided to save it for her until next year.

"Friday night at the Farmers' meeting at Cass school it was reported that she was dangerously sick. Friday morning word came to the neighbors where I was visiting that Hazel had passed away. The neighbor and I went over. The father led me to her bier and, laying his hand on my shoulder, said, as the tears streamed down his face, 'Mr. Long, this is my little girl who won the trip to Columbia, we are going to use that money for a little stone to mark her resting place.' Surely no more fitting use could be made of it.

"We would remind the sorrowing parents that she lost that little earthly trip to join the great caravan on their journey through eternity, that the happiness she experienced in the possession of the little prizes she won only in the faintest way exemplifies the happiness she enjoys from the prizes won in that better land. Remeber that thousands have lived out their three score years and ten to less purpose than this little girl of a dozen summers."

Waste of Time of Work Horses

Under this heading I have had quite a good deal to say on this page from time to time. I have said that I counted it one of the biggest wastes on Missouri farms, and that it presented one of the greatest opportunities for improvement in the state. Along this line I am interested in what Mr. A. D. McNair of Washington, D. C., says about conditions in Arkansas.

"There were 435,000 mature horses and mules in Arkansas at the last Census, yet with proper crop systems 300,000 work animals would have produced as much agricultural wealth. The acreage of crops per horse for the entire State was about 12½, whereas, with the lesser number of work animals it would have been 18 and a fraction—a very moderate acreage per horse under a good system."

It appears, therefore, that Arkansas farmers boarded 135,000 work animals for nothing, and as it costs about $100 per year to keep such an animal, there was a loss of thirteen and a half million dollars to the State in one year of feeding, caring for, and having money invested in these unnecessary work animals.

"Investigations that are not quite complete indicate that on a group of nearly sixty farms from which records have been obtained, there were not more than 100 days of productive work per horse in the year 1914, and it will possibly fall below this. It is apparent that this waste of time on the part of the teams is one of the largest losses that farmers suffer. The remedy is plain enough—diversification, with proper size of farm, in such manner or with such crops as will keep teams reasonably busy the year round."

After reading the above I thought it would be interesting to see what the situation is in Missouri, for surely our conditions would be better than those in Arkansas. Here is the Missouri situation.

According to the last census we have about 14,335,588-crop acres in this state. That means that we have about that many acres of land devoted to some kind of crops. Subtracting from the total number of horses and mules in the state, the colts and young stock, it gives us just a few over a million head of work animals. A simple process of division shows that we have one work animal for about every twelve acres of crops. Investigations of the Farm Management Department here at the Agricultural College show that on a well managed 240-acre farm a mature work animal will easily handle twenty-four acres of ground when averaging all crops together. If this figure is correct, and it has been verified in other states, it means that we are supporting practically double the number of work animals needed. Further investigation covering quite a good many farms shows that it costs about $85 a year to keep a work animal. This shows us that we are paying an excess feed bill of about fifty million dollars a year. Quite an item, is it not? I feel that it verifies the statement I have made before, that the work horse problem is one of the most vital and far reaching that confronts our farmers. Figure out your own situation and see how it can be improved.

A FARM BOY'S OPINION ON SILAGE

I am seventeen years old, have always lived on the farm and think that is the most interesting place for a boy to live.

In the fall of 1913 father and I built a "Common Sense Silo," sixty tons capacity. It is twenty feet high, fourteen feet in diameter, made of 2x4's, seven sided and lined with rubber roofing, which makes it air tight.

On account of scarcity of feed we began using our silage November 1, 1913, and we fed ten cows, six horses and a few calves. I do not think it can be beat for calves. I have found that this amount of stock will consume about four feet of the silage in seven weeks. The cows will milk longer and give a better flow than when feeding anything else we have tried. We feed each cow about twenty-five pounds a day and they seem to relish it as much as corn chops or wheat bran. Benton Steel,
Halfway, Mo.

It is the opinion of a number of farmers that growing soybeans with corn helps to keep out chinch bugs. What has been your experience? Write and tell us.

Creating a New Art

At the Centennial Exhibition at Philadelphia, the exhibit of the Bell System consisted of two telephones capable of talking from one part of the room to another.

Faint as the transmission of speech then was, it became at once the marvel of all the world, causing scientists, as well as laymen, to exclaim with wonder.

Starting with only these feeble instruments, the Bell Company, by persistent study, incessant experimentation and the expenditure of immense sums of money, has created a new art, inventing, developing and perfecting; making improvements great and small in telephones, transmitter, lines, cables, switchboards and every other piece of apparatus and plant required for the transmission of speech.

As the culmination of all this, the Bell exhibit at the Panama-Pacific Exposition marks the completion of a Trans-continental Telephone line three thousand four hundred miles long, joining the Atlantic and the Pacific and carrying the human voice instantly and distinctly between New York and San Francisco.

This telephone line is part of the Bell System of twenty-one million miles of wire connecting nine million telephone stations located everywhere throughout the United States.

Composing this System, are the American Telephone and Telegraph Company and Associated Companies, and connecting companies, giving to one hundred million people Universal Service unparalleled among the nations of the earth.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy *One System* *Universal Service*

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No tired feet, backache, headache or shattered nerves. Labor, time and money saved with the

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More Exclusive Features than any other. Sliding Power Wringer, All Steel Frame, Adjustable Height Platform, etc. Gas, gasoline or electric power. Low Price. Liberal Guarantee 14 Days Free Trial.

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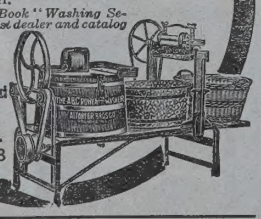


Free Trial in Your Home

Fish Bite like hungry wolves any season, if you bait with **Magic-Fish-Lure.** Best fish bait ever discovered. Keeps you busy pulling them out. Write to-day and get a box to help introduce it. Agents wanted. J. F. Gregory, Dept. 74 St. Louis, Mo

NEW ALL STEEL FLEXIBLE HARROWS

$12.00 to $24.00 THE NEW GALLOWAY

ALL STEEL FLEXIBLE LEVER HARROW AND HARROW CART combination will prove to be the best investment you ever made. You can cover twice as much ground as the man that walks. It costs less than the shoes you will wear out following the harrow. **WRITE TODAY** for full particulars. Get my big new 170-page illustrated catalog. Save big money. Can ship from our Kansas City warehouse.

High Wheel Harrow Cart $6.00 to $6.75

THE WILLIAM GALLOWAY COMPANY
Box 591 WATERLOO, IOWA

MOVEABLE SCHOOLS OF HOME ECONOMICS

In a previous article we have shown how a desire for greater knowledge about the things of the home has been created among our girls and incidentally among many of the women.

We hope to meet this desire by Moveable Schools of Home Economics as have been conducted here the past two summers. Summer before last the first schools of this kind in the State were tried out in our county. Two plans were followed. In ten cases the schools were of three days' duration and in four cases they lasted six days. In the three days' schools only lectures were given. In the six day school lectures were accompanied by demonstrations. The latter method proved the most effective and this year eleven schools of six days each were held.

Enough equipment was secured to put the entire school to work if not more than 25 were in attendance. The teachers were selected by the University and the Farm Bureau and were paid by the community in which the school was held. The teacher received $25 and board. Sometimes it was necessary to bring material for demonstration. This made the schools cost from 25 to 32 dollars. The money was raised in various ways. In one instance a Grange guaranteed the money, gave two entertainments and found after the school was over that it had $3.50 in the treasury more than at the beginning. The school was free to grangers and nongrangers alike. One school district paid for the school out of its incidental fund. The most popular way was to have a supper at the close of the school as well as to sell some of the products secured during the week. No trouble was experienced in financing the schools.

Johnson County Home Economics School at work. They learn to do by doing

The subjects considered and demonstrated were cooking of meats, bread and bread making, canning fruits and vegetables on farm and cutting and fitting garments. In many cases a morning session was held with the girls to take up candy making. Where the community wished it a night meeting was held where the instructor talked on modern conveniences in the home and a physician discussed cause and prevention and cure of infectious and contagious diseases.

These schools were attended by about 800 women and girls and how well they were appreciated the following letters attest:

"The school of Home Economics has been a great blessing, an inspiration to us. It has helped and encouraged us in our effort to make the daily work in the home of fascinating interest instead of monotonous labor—and to make housekeeping an inspiring profession instead of deadening drugery. It has helped us to think of cooking as a success and home making as an art.

"We have long had a craving, a burning desire to ask the 'why' and reasons for doing this or that about our cooking; and our teacher had so much patience to give us reasons for each step taken. In three cases, three generations were in attendance, and the grandmothers enjoyed the lessons with the grand-children, only regretting that they could not have attended such schools when they were young.

"The school has helped our community in many ways. It has instilled a desire to have this as a part of our regular school work and to make an annual affair of the school for the older folks. Also a desire for a building suitable to accommodate these community meetings."

Another school writes:

"It would be difficult indeed for just one person to give an estimate of the good accomplished by the school of Home Economics just held here. We know from the large number in attendance each day, and the great interest manifested by each and every one who attended, and by the excellent co-operation of many who attended in the work we attempted to do, that much interest has been aroused in this community. Many have learned the 'why' of so many things we do in housework that they did not know before. Many have learned to look at home making from a different viewpoint from which they have in the past. And to feel that home making is a pleasure and a profession rather than a drudgery and a nuisance that must be 'endured' because it could not be 'cured.' Many learned that these schools were not simply 'cooking schools' but that the aim was to teach how to prepare the articles of food for the human body the way they are best suited to the use of the body—to promote health and repair the waste which is taking place at all times, and to build new tissues in the body of the young.

"This was our first school but we are proud of the results. We feel that next year, should it be possible, we will have a larger, better school than this. We earnestly hope not only to have a school here at Walker but hope there will be one in every district in Johnson County."

And this is what another says:

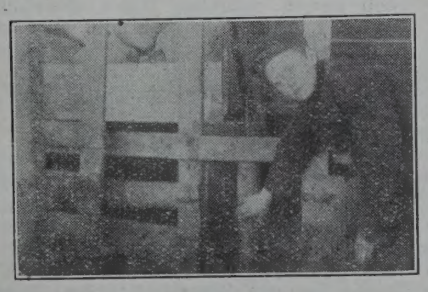
"I, like a number of others, expected to use the laboratory method in our school of Home Economics, but owing to lack of equipment we could not. However, the demonstration method was very satisfactory.

"I feel repaid for all of my efforts in fostering this movement in the knowledge of 'why' we do certain things to get certain, definite results. I feel further repaid in the ambition of our children to put these lessons in practice for school, county and state contests. The ambition to be winners in all lines of work has been the direct result of our School of Home Economics." C. M. Long,

Johnson County Farm Adviser.

HOW TO INTEREST THE BOY

Last Saturday I called to David to come and let me take his picture holding the roller that guards the creep for the little pigs. With a whoop he led the way. David, like all boys, likes to be master of the situation and make a success, which gives them self-confidence. Let a boy make failures and he soon loses heart, but when he takes care of the hog house, takes intense interest in his pets and pet schemes of handling the pigs and other stock, you will not have to frown much when a mistake happens but may correct it yourself. Use tact in getting the utmost confidence of the boy, and when you gain his confidence the boy is certain of success.



David at the pig creep

If you will look closely at the picture you will see behind the roller and above is a hopper with 100 bushels of shelled corn ready for the pigs. This calls the little pigs in. Should this roller be a stationary board when the pig's jowls get larger most every day a pig would get fast. Here on our farm with a use of two years not a pig has been fast in it. These creeps are essential in that when the milk from the sow is insufficient the pig can go and crack corn any time.

But should the sow in the next sty be singing a lullaby to her litter at her breast, these husky big fellows are sure to jump in and a waning litter is the result. With corn on tap along with his own mother's milk when he clambers over the younger litter, they resent his intrusions by violent thrusts of their tusks, which sends him off with a twist of the tail and a grunt as much as to to say, "I don't care I have enough any way." And, by the way, when the tiny pigs are about a week old we spend time watching them suckle as their tusks are as sharp as the point of a knife and pointed like a pen which causes terrific losses in litters and make some over-grown pigs and some runts. We have a tool box and in this box is a 25-cent pair of pliers and the boys know just how to nip these points and then the piteous wail of a starving pig is silent. The sow, too, enjoys peace in the family.

We have 14 stys in this hog house, one of them is used for the hopper with a retreating and dropping floor giving most all of the sty for the pigs while above is the corn. Look over David's head and you will see sacks of tankage which cost $50 per ton. This tankage is fed dry and the pigs do not sicken from it as when fed as slop. I find an excuse in not using slop in that I get mussed up, and a terrible loss of feed, while dry corn, dry tankage is quick to feed and with no waste, and very conducive to mastication. These sacks of meat meal are up high over a sty out of the way, still easy to get to.

At David's feet is a faucet with water on tap the year round direct from the storage tank a fourth-mile away, and this one is used only in winter while the outside one is for summer use.

Possibly I should explain that all the doors to the individual stys do not swing on hinges but are on a track over head as a sliding barn door, and the gate in this sty with the roller is pretty open.

E. E. Laughlin, Bates County.

The greatest farm product is the farm children and we think more attention should be given to those activities that will get the boys and girls interested in the every-day things about them. Love for work is the first step to success, and if children can have this love for their work instilled into their susceptible minds they will become so interested and enthusiastic about their tasks that they will require very little attention for government. It will soon give them more self-confidence.

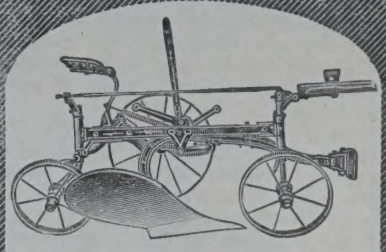
Growers Products for Sale

During the past few months of the winter the effort of the Exchange has been spent in locating and listing pure bred seed among farmers in Missouri. As a result we now have a very complete list of seed. The quality of this seed is good. Most of it is offered subject to the test made for the grower by the Government Seed Testing Laboratory. We have the samples sent in to this office, send a sample on to the laboratory here, and request that a copy of the report be sent to us and the grower. This makes it very convenient for the member selling the seed to describe it, and assures the purchaser of what he is getting.

By writing us a card you can get information about the following articles: Seed Corn, Seed Oats, Cowpeas, Soy Beans, Alfalfa, Clovers, Rape and other products in which you are interested.

Members of the Exchange wanting a complete list of Seeds and Feeds should request it of the Secretary as the list has been completed for spring distribution. Address, The Missouri Farmers' Exchange, Columbia, Mo.

The New Janesville Plow



Only One Lever Needed

We have done away with the bothersome second lever. This one lever working with the foot lift controls the plows while plowing deep or shallow.

Operate Foot Trip Only

Set the depth lever to plow as deeply as you wish, and you are fixed for the day's plowing, operating the foot lift only at the ends of the field. Simply press the foot trip, and the plow enters the ground point first; touch it again and out it comes. This simplicity in construction takes a whole lot of work and worry out of plowing as you go round after round in any kind of a difficult field.

Floating Bottoms Assured Depth

The depth of the furrow is the same all over the field, up hill or down, as well as in the hard spots. This is regulated automatically by the hang of the plow bottoms in the frame. The plow bottoms have just enough motion at the cutting edge of the shares to take away the "pinch" at the plow points as they turn over the furrow. It is somewhat like the flexible movement that you get in a spade when digging into hard ground, you must work the handle a little before the spade will enter. This easy motion reduces the all-day pull of the team as the plows glide through the soil.

Easier Pulling

Don't forget the sun-baked fields in the late summer when your poor horses will have to sweat and pull to turn over the hard ground, or next spring when the work is rushed and your colts are green. This flexible movement is found only in a plow like the Janesville. The proper suck of the bottoms is self-regulating according to the depth you are plowing, and as the shares become dull more suck is added, another feature found only in the Janesville.

No other wheel plow hugs the furrow wall like this New Janesville. This provides steadiness, allows more tug room, insures even width of furrows, and makes easier work for you and the horses.

These are only a few features found in this New Janesville, but they help take the hard work out of plowing. You save your team, you have an easier day yourself, and you speed up good plowing with less effort.

Write for Booklet

of many actual field scenes showing how the six times World's Champion won with Janesville Plows. It's the secret of all good plowing and how it is done. Write for copy.

THE JANESVILLE MACHINE CO.
50 Center St. Janesville, Wis.
Established 1859
Builders of Harrows, Planters, Cultivators and

JANESVILLE PLOWS
Manufacturers of Farm Implements
With S. & S. Auger Twist Moldboards

Lightning Can't Strike if

Illustrated Book on Lightning free. Explains cause and tells what kind of rods will protect your building.
W. C. SHINN, 141 No. 16th Street, Lincoln, Nebr.

Shinn Gets There First

"It seems to me that every farmer in Missouri should be willing to pay 33⅓ cents a year for a paper like The Missouri Farmer." This is the sentiment which is expressed in hundreds of letters which reach us from all over the state. Don't you think so too?

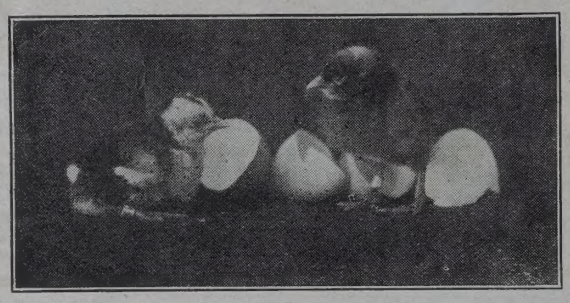
Poultry Department

COTTON SEED MEAL RATION

Feed at this time is very high. Many leading poultrymen are writing to the Missouri Station to find what feed that they can use to substitute for high-priced wheat. Cotton seed meal is the cheapest source of protein that can be obtained. The cost of protein in cotton seed meal is about one-third the cost of protein in wheat bran.

When we were in Experiment Station work in Mississippi, we could see little profit to poultrymen who bought high priced wheat for poultry. Wheat has always been high in the South where it is not raised. We worked for sometime on the cotton seed problem and our experience thoroughly convinced us that it was an efficient poultry feed. Many of the northern stations had tried it and asserted that the hens would not eat a ration in which cotton seed meal formed the chief source of protein. Our Mississippi hens ate it and produced good results.

A test of the value of cotton seed meal is being made at the Missouri Poultry Experiment Station and I am not basing what I say on the work at the Station as the test is not sufficient to give definite results. But one thing that we do know is that Missouri hens will eat a cotton seed meal ration. One of the cotton seed meal pens is going to eat about fifty pounds of the cotton seed meal ration the first month. The cotton seed meal fed pen has ten hens in it and every hen is laying. So you need not worry about the hens going hungry on a cotton seed meal mash.



The first few days of the little chick's existence are the most important ones. State Poultry Experiment Station, Mountain Grove.

The Growing Stock

Many of you are going to have late hatches and will need to push the stock for growth. Right here many millions are lost on American farms as so little attention is paid to forcing the stock for growth in order to get them to laying in the early part of the season. A pullet that you cannot mature before fall is not often profitable, for she will generally wait until spring to lay her first egg.

We are modifying the Cornell feeding method by making a substitution of cotton seed meal for the beef scrap. Where wheat is not available and when you are forced to buy it at prevailing prices, I believe that it would be possible to use corn and force them to eat more of the mash. Just feed them the grain ration once each day. Bone meal is an important part of a chick ration as it supplies a large amount of ash which the growing chicks require. It is possible to substitute crushed oats for the bran or wheat middlings with good results.

On many Missouri farms cotton seed meal is the most available ration to be had to supply the protein for growing chicks or laying hens.

The Ration

Mixture No. One—8 lbs. rolled oats, 8 lbs. bread crumbs or cracker waste, 2 lbs. cotton seed meal, 1 lb. bone meal.

Mixture No. Two—3 lbs. wheat (cracked), 2 lbs. cracked corn (fine), 1 lb. pinhead oatmeal.

Mixture No. Three—3 lbs. wheat bran, 3 lbs. corn meal, 3 lbs. wheat middlings, 4 lbs. cotton seed meal, 1 lb. bone meal.

Mixture No. Four—3 lbs. wheat (whole), 2 lbs. cracked corn, 1 lb. hulled oats.

Mixture No. Five—3 lbs. wheat, 3 lbs. cracked corn.

The Method

1-5 days—Mixture No. 1, moistened with sour skimmed milk, fed five times a day; Mixture No. 2 in shallow tray containing a little of No. 3 (dry) always before chicks. Shredded green feed and fine grit and charcoal scattered over food.

5 days-2 weeks—No. 2 in light litter twice a day. No. 3 moistened with sour skimmed milk, fed three times a day; No. 3 (dry) always available.

2-4 weeks—As above, except that the moist mash is given twice a day.

4-6 weeks (or until chicks are on range)—Reduce meals of moist mash to one a day; Mixture No. 4 in litter twice a day; dry mash always available.

6 weeks to maturity—No. 3 is hopper fed. One meal a day of moist mash if it is desired to hasten development.

You will find the chief difference in the use of cotton seed meal mash and the beef scrap mash is that they do not eat quite so much of the cotton seed meal mash as they do of the beef scrap ration. As a consequence, there is a portionate difference in the growth but where they have access to the fields they will largely supply bugs and worms.

The efficient hen is the early layer. It is a problem with the early incubator hatched chicks to keep them from laying too early but the average farmer does not have this to contend with and his chief problem is to get them to maturity in time to lay.

We are great believers in advocating feed that is available. The more you shorten up your feed formula and keep the feeding value, the greater the chance of getting the farmers to use it.

We get reports nearly every week of fine results obtained from the use of cotton seed meal and we find a greater interest in the balanced rations in communities where cotton seed meal can be easily had.

Mr. Hare, who was formerly with the Poultry Division of the poultry department, has issued a bulletin advising the use of cotton seed meal by southern farmers, as he says that his observations have led him to believe it is effective in egg getting.

The Bureau of Animal Husbandry has recently sent out a modification of the three rations used at the Mississippi Station for general use in the South.

J. H. Morrison,
Missouri Poultry Experiment Station,
Mountain Grove, Mo.

Variety is essential in feeds, but make up the variety as much as possible from home-grown feeds.

RAISING BABY CHICKS

Strong, healthy, vigorous chicks are produced only from properly mated parents. The first eggs that pullets lay, even if fertile, will produce weakly chicks; using immature cockerels will also bring like results. Keeping your eggs too long before incubation will weaken the germ and bring you a lot of chicks of low vitality which will never mature as they should. Inbreeding if indulged in for more than one season will also lower the vitality and vigor of the young. These are some of the many things that make baby chicks hard to raise, taking it for granted that you have a lot of strong, healthy baby chicks just hatched. What is the best method to care for them? Your good old mother will be the first one to give advice for she has had experience along these lines for more years perhaps than you are old. Then the nearest neighbor tells you how, then the medicine man comes along with his household and chicken remedies and he tells just how it should be done, and they all differ in their mode of care. So it will be all along the line. I have my idea about the matter, which I have used with a reasonable degree of success. In the first place the first forty-eight hours of a baby chick's life should be a very quiet one. They need rest and quiet and no food whatever while the system is absorbing the yolk of the egg which is always in a baby chick's system. I think a great deal of bowel trouble is brought about by feeding them too soon. The first feed is hard boiled egg, cut fine. After a day I begin to feed steel cut oatmeal sprinkled in bran. I use bran for litter instead of chaff, but renew the bran often or they will soon be eating their droppings which might cause trouble. Also furnish them some fine grit of some sort. In 10 days I begin feeding the regular commercial chick feed (mixed grain). I adhere to the dry food ration and never feed moist, doughey or sloppy feed of any sort. If you let a little chick get damp and chilled you have a sick, stunted bird. Never have a lousey baby chick if you can avoid it, and you can dust your hens when you set them with a lice powder and again a few days before the hatch and there is little danger of any lice appearing on the newly hatched chicks. The old time custom of doping a chick's head with grease to kill the lice is death to the lice and also nearly death to the chick. It usually gives them a cold, stunts their growth and makes a scrub out of what might have been a prize taker.

As soon as your chicks are ready for open air and out-door life you should have a patch of rape provided for them. This is beyond any question the best for little chicks. It furnishes shade, green food, bugs and insects, shelter from sudden rain storms, absolute protection from hawks and crows. Sow it broadcast and don't be too pinching with your seed. If you will try this once you will never try to raise a bunch of chickens without the rape patch.

Keep dry bran in a hopper for your growing chicks all the time. It is a good bowel regulator and develops strong, healthy fowls. It will surprise you how much they will eat if they have free access to it at all times.

E. L. Andrews, Maryville, Mo.

RAISE PUREBRED CHICKENS

In response to your request for experience in poultry raising will say: It is now seven years since I decided to quit the scrubs and to raise purebred poultry. I chose the Barred Rocks for my favorite. I had been told this breed were all-purpose fowls and laid eggs when eggs were a good price. So I bought a few settings of eggs from a reliable breeder and from these eggs I raised twenty pullets. I sold the cockerels at 75 cents and that gave me clear money enough to buy a good cockerel to mate with my pullets. The new cockerel cost me $7.20, which was quite an investment for a beginner and some of my neighbors thought I was wasting my money, but I did not regret what he cost.

I have always had since I started with pure-bred chickens a nice flock, have sold breeding stock for many times the amount I invested and have had the satisfaction of having something worth while to work with.

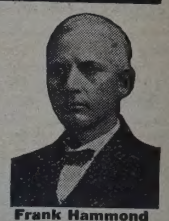
I have made it a practice to ship my surplus fowls direct to a St. Louis groceryman and as a rule I get two cents a pound more than for mixed coops, which in time makes quite a difference.

I have found that to live up to the motto, "Keeping everlastingly at it brings success."

Ernest Meyer,
Hermann, Mo.

148 Chicks From 150 Eggs

Osceola, Mo.
I surely praise the Sure Hatch incubators. I have a 150 egg size. The first setting I put in 152 eggs and broke two the first week which left only 150 at hatching time. I got 148 chicks and never tested the eggs. We surely have had fine luck with our machine the past two years. Would not sell it and be without it for any money. My neighbors have other incubators and I beat them all. NELLIE GARDNER



Frank Hammond
President

Women and children find it easy to succeed with the Sure Hatch Incubator

We can give you the names of tens of thousands who make a handsome, steady income with very little effort, and would not bother with hens or with any other incubator. The

Sure Hatch

Is Automatic in Operation

Any one can succeed with it, even if they have never seen an incubator before. It is a plain, simple, strong machine, so built that it can't go wrong. Will hatch in cold weather when others fail. We send with each machine complete instructions for operating that are very easily followed.

We guarantee it 10 years and send it to you freight paid, on 60 days trial. Satisfy yourself by actual test that it is a quality machine in every respect. Your money back promptly if it is not all we claim for it.

Poultry turns kitchen waste and other farm waste into ready money; and you can depend upon the Sure Hatch to bring you the chicks at the time of year you want to hatch them to get the best price for them.

Write for our Free Illustrated Catalog, giving full information on Sure Hatch Incubators and Brooders, with much valuable information about poultry.

SURE HATCH INCUBATOR CO., Box 49, Fremont, Neb.

Our **Uncle Sam Poultry Book** will help you to succeed. It tells all about how to handle the business the best way. It is a compilation of official reports by U. S. Government experts. Tells what to do and what not to do. Many illustrations. Free with every **Sure Hatch.**

Build a Chicken Income

The first step is to get in touch with the Johnsons, who have pointed the way to 580,000 others. Let me send you the book and show you how you can start with a small outlay and get a good big income coming your way.

Old Trusty

provides an assured income with big average hatches the whole year around. Write for low price made by big output this year. We pay freight East of Rockies—give 30 to 90 days' trial—10 year guarantee.

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Free Book "Hatching Facts" tells whole story.
My $800 Gold Offers come with Free Book—Money-Back Guaranty Hatching outfit shown in actual colors, Jim Rohan, Pres

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BIG HATCHES!

On One Gallon of Oil—One Filling of Tank!

RAYO Incubators produce higher average hatches because center heat insures even temperature. Hinged glass top puts eggs, thermometer and all in plain sight, saving labor. Oil tank needs but one filling for entire hatch. Flame regulator saves 3 to 6 gals. oil every hatch. Hatching chart and money making book on request. Write for them and new catalog.

Rayo Incubator Co., U.D. Sta 5160 Omaha, Neb.

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OLD TRUSTY INCUBATORS
Delivered to your station, freight paid
100 to 120 Size..... $ 9.80
150 to 175 Size..... 13.00
200 to 240 Size..... 17.50
Best hot water machine made. 500,000 of them in the hands of satisfied users. Prompt shipments.

E. L. ANDREWS, Agent
Maryville, Mo.

Golden and Silver Campines (Kennedy Strain), Eggs $5 for 15. Barred Plymouth Rock Eggs $2 for 15. Geo. Boettler, St. Peters, Mo. 2154

Big Barred Rock Cockerels.—25 tops, May hatched, splendid quality, weight 8 to 10 lbs. $3 to $5 each. Obadiah Prettyman, Fairfax, Mo. 1154

Barred Plymouth Rocks, Thompson Ringlet Strain, fine cockerels, priced to sell. Pen eggs $2 for 15, utility flock eggs $5 per 100. A. F. Skiefer, Defiance, Mo. 1156

White Wyandotte Cockerels, extra good, $5. If not as represented, return bird and get your money. Eggs for hatching $3 for 15. Isham Boulware, Centralia, Mo. 216

S. C. White Leghorn Eggs, $4.50 per 100. Yesterlaid Strain. Mrs. J. W. Ezell, Houstonia, Mo. 312

Barred Plymouth Rocks, Black Langshan. Better than ever. Cockerels, $1.50 to $3 each. Eggs from pens, $2.50 for 15. Range flocks, $1 for 15. Harry L. Brown, Stephens, Mo. Mutual Phone. 316

S. C. Rhode Island Reds. Eggs, 15, $1.50; 50, $2.75; 100, $5. Mrs. C. B. McClanahan, R 4, Kirksville, Mo. 316

Barred Rocks, Utility and Exhibition Matings. Indian Runners, Fawn and White—Persistent layers. Mrs. F. A. Daniels, Vandalia, Mo. 314

Superior, heavy laying, Single Comb White Leghorns. Eggs, Chickens. Armstrong Bros., Arthur, Mo. 314

Buff Rocks. First Prize Winners, Columbia, Mo. American Poultry Association diploma for best Buff Rock cockerels in show. Eggs from prize winning stock $1.50 per 15. H. D. Wilkinson, Route 7, Columbia, Mo. 316

Single Comb White Orpington Eggs for hatching, from my famous English strain. Best pens $2 for 15 eggs; utility stock, $1.50 for 15 eggs. Fertility guaranteed. Order from this add. E. L. Andrews, Maryville, Mo. tf.

White Wyandottes—Winter layers. Eggs $1.50 per 15; $2.50 for 30. Richard Bloom, Fulton, Mo. 314

Eggs. Rose Comb Reds, S. C. W. Leghorns, 65c for 15, $3.65 for 100. G. Kitterer, Emma, Mo. 315

Barred Rocks of Quality. Eggs: Settings, $1.50; 100, $5. Stark Farm, Arcadia, Mo. 3153

Thoroughbred S. C. Reds, bred for heavy egg production and standard points. Deep red. Healthy flock. Eggs: 15, 75c; 105, $4. Mrs. Geo. Gerhart, Glensted, Mo. 3154

Barred Rocks. Eggs for hatching from Second pullet bred cockerel at Chicago, $5 per 15. Utility pens, $3 per 50, $5 per 100. F. M. Cramer, Louisiana, Mo. 3152

Yesterlaid—Vannoy Single Comb White Leghorns. Photograph free. 30 eggs, $2; 15, $1.25. 25c stamps books order, balance before shipment. W. C. Carver, Vandalia, Mo. 2156

Wanted—Rare Indian stone relics, particularly flint spades, hoes and spear heads, 6 inches and up; stone axes, 8 lbs. and up; native iron ore axes, any size. C. . Weck, Jefferson Barracks, Mo. R. 9. 3151

Barred Rock Eggs from extra choice, high-class stock. Deep, clear barring. Large and vigorous. $1 per 15; $5 per 100. M. D. Porter, Vandalia, Mo. 314

White Wyandotte Eggs for hatching, $2 for 15; utility eggs, $1.50 for 15, or $5 per hundred. Postpaid. Mrs. L. L. Spencer, Centralia, Mo.

White Plymouth Rock and Black Minorca Eggs for sale. From Pen No. 1, $3 per 15; from Pen No. 2, $2 per 15. Also a few choice R. I. cockerels, $5 each. Pleasant View Stock and Poultry Farm, Sikeston, Mo. 3153

100 SPECIAL SALT FISH lbs. ASSORTMENT $6.50

50 lbs. herring, 35 lbs. trout, 15 lbs. whitefish. Just think —6½c per lb. for fine select fish—**"Cheaper than meat"** and every fish guaranteed. Notice keg in which "Satisfaction Brand" fish are shipped. Trade mark on keg is your protection for good fish. Send us P. O. Money Order for special assortment and write for our prices on other fish. Remember, we guarantee every shipment of fish to be perfectly satisfactory or money refunded. JOHNSON & CARR, 640 Torrey Bldg., Duluth, Minn.

SOME BABY CHICK TROUBLES.

This is the time of year for "Baby Chicks." There are very few sights which cause one's face to light with smiles more than to see a brood of nice, fluffy, thrifty, little chickens. Too often the scene changes in four or five days, and the hopes of the owners are blighted for the little chickens grow sick and weak, finally dying, and the owner cannot locate the trouble. Many causes of trouble with baby chicks may be traced to one of three sources, namely, heat (too much or not enough), feeds, or crowding.

While the chick was yet in the shell the egg may have been heated to such an extent that the yolk was hardened till it could not be used by the chick, yet the heat was not great enough to kill the chick. Chicks in this condition look strong and healthy for a few days, but soon get sick and die. This condition is found with chickens hatched in incubators only as the hen's temperature does not get high enough to cause this trouble.

After the chicks hatch, the mistake is often made of keeping them too warm, which has a tendency to weaken them. The best brooders are arranged so the chicks can find the temperature they like.

Letting the chicks get chilled is just as injurious.

The second cause for losses among baby chicks is the feed. Just before the chick is hatched it takes the yolk into its body. This is a little lunch basket given to the chick by nature to supply it with food till it learns how to eat after it comes out into the big world. Much has been said about feeding baby chicks as to what, when, and how to feed. Some people seem to think that because a little chick is picking at everything it sees that it is hungry, so they feed it at once. The little chick is a new creature in a strange land investigating through curiosity and is not really hungry. Other people know that the chick has the yolk inside its body and that it contains food enough to last the chick for several days so do not feed it for three or four days.

These are the extremes and may either of them do injury to the chick. To feed as soon as hatched would gorge the digestive system with too much food, and to wait four or five days, the labor required of the digestive system would be too great for its strength.

The better plan is to begin feeding small quantities of food at from 24 to 48 hours and increase the feed as the yolk decreases. Nature does not like abrupt changes. Hard boiled eggs ground fine, shell and all, mixed with bread crumbs are good for the first two days, then change gradually to rolled oats and wheat bran. After the chicks are five or six days old feed a mash composed of equal parts wheat bran, rolled oats, shorts, corn meal and to each 100 pounds, add one-half pound fine table salt and two pounds of fine charcoal.

In the afternoon moisten enough of the dry mash with sour milk or buttermilk that it will take the chickens twenty or thirty minutes to clean it up. Do not mix so much feed that some will be left to spoil.

Begin gradually to feed a good grade of scratch feed, feeding but very little at first. Keep grit before them all the time. It is a good practive to give a few drops of sour milk or buttermilk to the chick as soon as it hatches. It helps to control diarrhea. Keep either a good grade of sour or buttermilk or water before the chicks at all times.

The third cause for trouble is crowding. A chicken cannot sweat like many animals do, for they have no sweat glands in the skin, therefore much of the impurities and moisture must be carried out through the breath. If the chickens are crowded without proper ventilation, the air becomes laden with moisture and impurities so that the air cannot do the work it should. This places an unusual strain on the kidneys, which results in a weakened system. The chickens come out in the morning weak and tottery with little or no appetite. This is often responsible for the weak, low vitality birds after they get older.

If a chick is properly hatched, fed and cared for, there are very few diseases which will affect it.

The Missouri Contest

The contest is moving along nicely with all pens doing good work.

Considering the breeds by adding all varieties together in each breed during the past four months of December, January and November and February, the Leghorns averaged about 33 eggs each; Plymouth Rocks, 40; Campines, 33; Orpingtons, 39; Missouri White Fluffs, 28; Rhode Island Reds, 30; Anconas, 30; Langshans, 33; Black Minorcas, 37; and Wyandottes, 42.

Of the ten highest pens for the four months there are four Plymouth Rock pens, two Wyandottes, two Leghorns, one Orpington, and One Rhode Island Red. They are as follows:

Pen No.		No. Eggs
26.	Buff Wyandottes	277
34.	Barred Plymouth Rocks	269
40.	Barred Plymouth Rocks	266
4.	S. C. White Leghorns	262
38.	White Plymouth Rocks	260
47.	Buff Orpingtons	256
24.	White Wyandottes	255
14.	S. C. White Leghorns	249
36.	Buff Plymouth Rocks	245
35.	S. C. Reds	237

C. T. Patterson,
Missouri Poultry Experiment Station,
Mountain Grove, Mo.

SOME DON'TS

Don't keep foul, dirty, ill-kept poultry houses and nests.

Don't keep hens that lay but two or three months of the year.

Don't keep doping for prevention of disease.

Don't allow dark and insufficiently lighted hen houses.

Dont' corn feed and fatten laying stock.

Don't keep hens too long before replacing with pullets.

Don't forget that you can hatch both early and late.

Don't fail to provide wind breaks for cold north winds.

Don't fail to provide some green stuff for winter feed.

Don't think it requires capital to start with.

—Mrs. M. M. Johnson, Clay Center, Neb.

A Hardwood Post and a Tight Staple Can't Bother *This* "Puller"

Here is the handiest little tool a farmer can have in his "kit"—a combined staple puller, driver, wire puller, splicer and bolt grip. Forged from highest grade crucible steel and oil tempered. Takes hold of a deeply driven staple with a bull dog grip, and pulls it easily. You can't imagine what a time-saver and bother-killer this

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is about the farm until you try it. Like all other Keen Kutter farm tools, it is fully guaranteed. If you find a defect of temper, adjustment or balance in a Keen Kutter hoe, rake, scythe, fork, shovel, axe, spade or corn knife, your dealer is authorized to refund the purchase price. The same broad guarantee covers the Keen Kutter line of carpentry tools, pocket knives, razors, shears and table cutlery.

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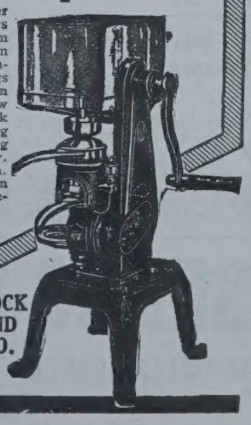

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E. G. LIMERICK, Route 3, Columbia, Mo. 'Phone 10-Y

HOW THE KNOX COUNTY FARM BUREAU WAS ORGANIZED

(Continued from page 2)

City Fair, famed throughout Northeast Missouri. When we were about two miles from the city we were met by the Boosters of that thriving city. They were with numerous cars and with colors flying and amid Booster shouts we were led to a beautiful church where we had a most delightful meeting. Every citizen seemed to be happy to have us there and we were surely glad we were there. In the afternoon and evening we were at Edina where fully five thousand people assembled. The Edina Ladies' Band rendered beautiful music and the speaking by out of town people was very entertaining. About ten o'clock in the evening the tired people began to go home, each one seeming to feel they were glad they were living and especially glad they were Boosters and that they lived in Knox County, the county that is the center of farm values of the United States of America and that has the most fertile upland of any county in the state.

The Booster movement was held during the worst drought that has ever been experienced in Knox County, less than four inches of rain having fallen from the first of May till the third week in August. But it seemed that even Mother Nature had caught the fever, for not many hours after the Boosters had dispersed the thunders rolled and the parched earth got such a soaking as it had not had for two seasons. For three weeks it rained.

Following up the Booster movement the Edina Commercial Club appointed a committee of three to organize a Knox County Farm Bureau. The committee was composed of the writer, Mr. S. E. Botsford and Mr. E. E. Nance. The next things, as the boy said, was something else. Organizing a county seemed no small task. But with confidence in our fellowmen we started. Our first meeting we called at Plevna, in Bourbon township. We had announced through the people of the township and the schools that we would hold a Farm Bureau meeting and invited all to come. We were much pleased to find a church full of men and women. I wish to state right here, that the way in which the churches of this county were thrown open to us was very gratifying, and is conclusive to the writer's mind that the management of the different churches are striving to do all the good in this world they can.

After stating the object of the meeting, the chairman asked the people to place in nomination a man for president of the Plevna Farm Bureau, stating that it would be a local branch of the Knox County farm Bureau, that would be organized when all the townships had been organized. Mr. Lafe Hunt, a prosperous farmer was nominated and elected. Mr. Hunt has the honor of being the first president of a Farm Bureau in Knox County. A secretary and treasurer was then elected. The newly elected President was then called upon to appoint a membership committee of four to take petitions to be signed, petitioning for a Farm Adviser. We used the form as prepared by the State of Missouri. The committee having had one hundred printed for such use. The newly appointed committee canvassed the house for signers and got, I believe, about twenty signers. The wisdom of the appointment of the committee on membership by the President is self evident that Mr. Hunt knew his men, for Plevna brought in about sixty names on their first set of petitions and later there was another organization made in the same township, at Hedge, and it too has a good membership.

All the townships in the county were organized in this manner, some of the townships having two organizations. When all the townships had been covered, the committee reported to the Edina Commercial Club the results of the work with an estimate of the membership, and reported the committee ready to organize the Knox County Farm Bureau. The committee was given full power to act and complete the organization.

The chairman of the committee then requested the Commercial Club to appoint committees on entertainment, to entertain the members of the Farm Bureau on the day of organization. January 30th was set for the day of organization. All committees had their work completed and ready on time. A program was prepared for the day as follows. Eleven a. m. to one p. m., free dinner to every farmer who would come, this included his family. In fact every person in the county was invited. One p. m., band concert by Edina Ladies Band. Two p. m., address by Prof. D. H. Doane, followed by organization of the Knox County Farm Bureau. After organization of the bureau, address by Dr. Gingery of Columbia.

The day came with one of the worst storms of the winter, sleet and rain all day, but in spite of the weather and bad roads, over seven hundred were fed by the refreshment committee. The program was carried out without a hitch and every one felt that the affair had been a decided success.

The ladies of St. Ann's Society and the Ladies of the Edina Civic League served the dinner, donating their services and many of the good things to eat. The serving was done in a most elegant manner and every one was delighted with the service.

The committee never could have done the work without the untiring efforts of the people of Edina and are under lasting obligations for the loyal support, so willingly tendered.

The citizens of Edina raised a subscription of over $650 in support of the Farm Bureau.

Now that the Farm Bureau was a reality, the committee, in company with many farmers and citizens of Edina, every banker in Edina being present, went before the Knox County Court and asked for an appropriation of $4500 to pay one half the salary of a farm adviser for Knox County for three years. The request was granted and the order made. The order of the Court together with all petitions and reports of committees, minutes of meeting of organization, copy of Constitution and By-laws, names of officers, etc., were then sent to Professor D. H. Doane at Columbia with a request that a Farm Adviser be employed in accordance with the Farm Adviser Law.

The Knox County Farm Bureau expects to free the county from hog cholera, to establish harmony and cooperation between farmers and the town's people of the county, to advance community interests, to assist in keeping the farm boys and girls on the farm, by helping them to make farm life more enjoyable, and at the same time to make farm work more profitable. We expect the merchants of the county to assist us in marketing our produce to advantage to us and at the same time make for themselves a fair profit. We expect to foster the dairy industry, establish creameries within the county. We expect also to induce canning factories to locate in the county, that the produce market may be improved. We expect to assist in the betterment of rural schools and help any industry that is right. In fact the field is like the old song we used to sing,

There's a wideness in God's mercy,
Like the wideness of the sea.

Dr. E. H. Bullock,
President Knox County Farm Bureau,
Edina, Mo.

PRACTICAL FARM PAPERS—No. 7.

I have often said and written that I believe that we here in the Ohio Valley have the best plowmen in America, good work being the almost unvarying rule. It is just as easy to do a good smooth job of plowing, as a slouchy, rough one, leaving the plowed land all over "cut and cover," "dog beds," half turned sod and trash on top. By far the greater part of our work is done on two-year-old timothy-clover sod, and with a fourteen-inch walking plow and two horses, yet the sixteen-inch sulky, drawn by three horses, is coming into use pretty rapidly in the past few years.

As to depth of breaking land for the main farm crops, I supopse that I am not orthodox in my belief, as I hold to the doctrine that I would rather chance a crop on land broken two inches deep, that two inches thoroughly pulverized to the very bottom of the furrow, than on land broken eight inches deep and not well prepared. Now when I write of two-inch plowing and eight-inch plowing, I am going to both extremes as to depth, two inches being too shallow to admit of a good job of plowing, and —here I will meet with dispute—eight inches being deeper than one farmer in 100 ever plows.

It is safe to lay down a general rule, that no spring breaking should ever be deeper than it is possible to thoroughly pulverize before planting, and as I have never found an implement that will do good work at a greater depth than six inches, actual measurements, that is about the depth that I would call good plowing, as six inches by guess, is usually about four inches by measure.

Although my farm is a heavy clay loam, it is well filled with humus, and up to April 15, the date when we are apt to get our last mellowing frosts, I pay little attention to the oft repeated advice, "Do not plow your land too wet," and I have never observed any ill results from such practice. We have but four or five acres that would possibly be improved by under drainage, and those spots are in three fields, where I have plowed many a day when the water followed the plow all through these spots.

It is our rule to harrow each half days plowing done after April 15, before we leave the field, and we seldom break this rule but that we regret it before the season ends.

Last year, owing to a combination of troubles, we did not get to breaking on ten-acres in a field until May 5, and we rushed through without harrowing as we plowed. This ten acres made several bushels less corn per acre than the five-acre section of the same field, broken early, but not as good soil.

Some ten years or more ago, I was

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The kind you can depend on—Pure, Genuine and Unadulterated. Our customers our best advertisers. Everything from A to Z. Field, Farm, Vegetable, Flower seeds. Fruit, Shrubbery. Trees, Plants all kinds. Get it now—our new different and original complete **1915 Pure Seed Book and Planting Guide.** Also wholesale list. Book sent free for asking postpaid. An eye opener; work of art, six colors; 300 pictures. Send a postal today for your free copy. Free seeds with every order.

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Beet, Best first early favorite.
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Send us 12 cents, stamps will do—with each order we include a copy of **Good Poultry,** our quarterly magazine, devoted to special crops—also a copy of our new book, **Intensive Farming.** Write tonight.
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Fine Seed Corn

Yellow Corn: Reid's Yellow Dent, Shenandoah and Gold Mine mixed, White Cap 90-Day. White Corn: Boone County, Johnson County, St. Charles, Iowa Silver Mine, and Davenport and Boone County mixed or crossed. Prices per bushel, F. O. B. Skidmore: Butted and tipped by hand, graded and tested, $2.40; over 10 bu., $2.30. Same corn, shelled, butted and tipped by hand, tested, but not graded, $2, over 10 bu., $1.90. Sacks free. Order early. My supply will not last long.

A. F. HOWDEN, Skidmore, Missouri

SALINE COUNTY SEED CORN

Improved Reid's Yellow Dent, Gold Coin, Mortgage Lifter, Silver Mine, St. Charles and Boone County White. All hand picked, butted, tipped, shelled and graded. Germination 96% and better. Any variety, $2 per bushel F. O. B. Marshall, Mo. Bags free. Samples on request. Also seed oats, potatoes, clover, timothy, alsike, millet, cane, alfalfa, cowpeas, etc. Inquiries answered promptly.

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Cowpeas, and most varieties of Soy Beans, consisting of
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in the late varieties, and
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SEEDS This big offer of Tested Seeds and our new catalog for only 25 cents. 1 pkg. Crosby Beet, 1 pkg. Sure Header Cabbage, 1 pg. Butter Lettuce, 1 pkg. Double Curled or Single Parsley, 1 pkg. White Summer Radish, 1 pkg. Livingston Beauty Tomato, 1 pkg. Mixed Asters, 1 pkg. Sweet Mignonette, 1 pkg. Giant Mixed Pansies.

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Buy them now. Will be 20 per cent higher when the sowing season opens. Write at once to

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Johnson County White SEED CORN

The greatest drouth resistant and heaviest yielding variety of corn grown. My seed was from the originator's prize winning stock; cost me $10 a bushel, and what I offer was all in the crib before freezing weather.
Price extra select crated ears, $5 per bu. No. 1 Shelled Seed. $3 per bu. $5.50 per two bushel bag.
Only my own growing and selection. Better order early.

C. D. LYON, Georgetown, Ohio

FREE "Linene" COLLAR

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Reversible Collar Co.
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compelled to turn some young horses in a field next a barb wire fence, and for security plowed a ten-furrow strip along this fence. This was about August 1, and the next April when I went to break the field I did not replow this strip, simply discing it four or five inches deep just ahead of planting. It was a very dry season, and this strip of three rows of corn made 25 per cent more corn than any other three rows in the field. I have also had excellent crop results from simply disking corn stubble before planting, and am going to practice this plan this year on three acres of land where I expect to grow near 100 bushels per acre, as I did this year. C. D. Lyon.

BUCKSHOT BY THE PROFESSOR

Hound dogs seem to be popular with the present Legislature—at least more so than sheep.

If some fellows were to put in an hour of real hard thinking it would put them in bed for a week.

Many a man's chance of going to heaven has been lessened by trying to scour rusty plows and cultivators.

The fellow who says "I am taking "too many farm papers" is usually a fellow who doesn't get any good out of any of them.

Taking into consideration the kind of fellow some mules have to work for, it isn't any wonder they kick at things on general principles.

There is still time to get that wood pile in shape so the good housewife won't have to run around in the boiling sun all over the farm next summer.

Show me a man who is popular in his own family and I'll show you a man who has a pile of good in him and who is a tolerably good kind of a citizen.

Looks to me like Wilson is getting ready to get mad about that Mexican muss. If he ever does I'll bet a lot of "greasers" will be jumping into the Gulf of Mexico.

Are you really giving that boy of yours a "square deal?" Are you trying to make a friend and companion out of him? Do you pat him on the back once in a while and compliment him when he deserves it?

How about your seed corn? Are you going to plant some that will insure a stand of vigorous corn—or are you one of the kind who goes to the corn crib in the eleventh hour and picks "good lookin' ears?"

Old "Josh" Simpson says it's not as much fun to live now-a-days as it used to be. For instance, he says that dry goods boxes these days are made out of wood that's so tough that it "won't whittle worth a durn."

I heard a robin red breast the other morning—and it reminded me that in a few weeks from now the violets will be peeping out of the ground and that the whole World will once more receive its greatest promise of a resurrection.

There's mighty little excuse for the average farmer having to buy feed even in a bad crop year. Let's see if we can't at least raise enough this year—regardless of the season—so we won't have to tell the banker a hard luck story next winter. Just a little bit better farming than we did last year will turn the trick.

A BIG CROP IN 1915

Let's square away for a big crop in 1915. What do you say? Out of the last four crop years, three have been poor ones. The last big corn crop we had was in 1912—and outside of a couple of good wheat crops in most sections, it has been pretty slim picking. It's a long road that has no turn—and we've got a hunch that 1915 is going to be a hummer. In the meantime, let's do our part. Let's get on the job and stay on it as never before—and let's be sure we start in with the right kind of tools and implements. To this end, we want to call your specific attention to a number of things advertised in this issue of The Missouri Farmer—for they are all designed to make your farm labor more profitable and less irksome. A postal card will bring you the literature by return mail from all of these manufacturers—and it will give you a good sized library of the latest farm information.

Of course we want this to be a great corn year for corn is Missouri's greatest crop. You will find several improved corn planters described in this issue and if you are not using a good planter, ask for the literature. A poor corn planter will lose more in one season than a good one will cost.

The average farmer doesn't pay enough attention to preparing his seed bed—and to this end, he needs up-to-date plows. You will find several of the latest makes advertised in this issue and the literature describing them will give you a world of mighty important information about seed bed preparation in general. It will make an interesting evening's reading.

Then there is the manure spreader question—an indispensable implement in the fight for better soil fertility and a tool which every wide-awake farmer should own. You will find several good ones advertised in this issue.

If you are going to need any woven wire look up the concerns which are offering dependable goods in The Missouri Farmer. A certain concern is putting out a steel fence post that seems to supply a long-felt want.

The Aermotor Co. of Chicago is offering a new low-priced windmill which should interest every farmer. This mill is said to require less wind than any other kind on the market and can be fastened onto any kind of a tower. Every farmer needs running water in the barnyard—and at little cost it can be piped into the garden or house. A windmill adds dignity to any farm and we suggest that you write for the literature. Information never hurts anybody.

The J. D. Tower Co. of Mendota, Ill., has a new corn cultivator worth studying. The Janesville Machine Co. of Janesville, Wis., also has a line of up-to-date cultivating implements worth looking into.

For $7.50 you can buy a clipping machine from the Chicago Flexible Shaft Co.—and all your work horses and mules should have a "hair cut" before you commence the spring work. They will do more and better work and be less subject to harness galls. This machine will last for years and will pay for itself on the first span of horses or mules you sell because they will bring a better price when they are neatly clipped.

Are you using a cream separator? A good one will pay for itself in a little while in the amount of labor it saves. It is a question you ought to investigate if you are not familiar with it. You will find several good ones advertised in this issue.

Undoubtedly there is a greater interest in poultry this year than ever before—evidenced by the flood of inquiries we have had about incubators and you will find several of the best on the market described elsewhere. If you haven't got a good incubator, buy one. It will save its cost in the first two or three hatches. Why not make some money out of poultry this year?

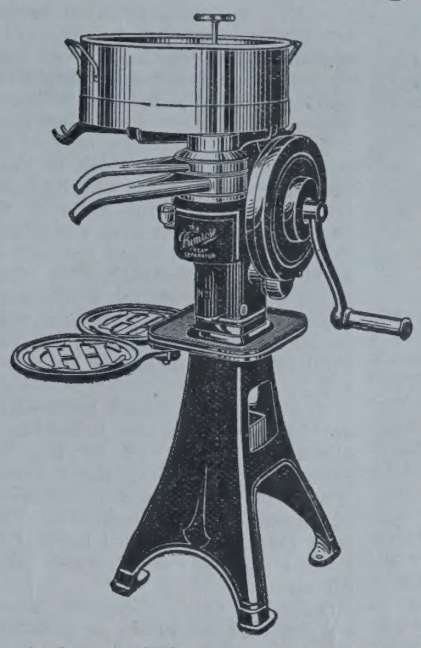
Undoubtedly Missouri will build hundreds of silos this year because farmer after farmer has demonstrated that a good one will pay for itself the first year. The Dickey Clay Mfg. Co., 202 New York Life Bldg., Kansas City, Mo., is putting out a new tile silo which is attracting a great deal of attention. The Woods Bros. Co. of Lincoln, Neb., are also putting out a good stave silo.

A new idea for hog raisers which seems destined for a reign of popularity is the Hog Oiler—a device which contains medicated oil that kills lice and otherwise disinfects the skin of the hog. The hog soon learns to rub himself on this "oiler" and thus keeps himself free from vermin. If interested, write to the Rowe Mfg. Co., 103 Liberty St., Galesburg, Ill. When writing to advertisers always mention The Missouri Farmer.

Make Your Hens Lay

The S. R. Feil Co., Dept. 17, Cleveland, Ohio, are out with a new poultry tonic which is said to be one of the best preparations for making hens lay ever put on the market—and they will gladly send our readers a free sample. They will also send you free their poultry book entitled "Lots of Eggs—How to Get 'Em." Just drop them a postal card and ask them to send you a free sample of poultry tonic and the book. Be sure to mention The Missouri Farmer.

International Harvester Cream Separators



"AFTER you put in a cream separator and once experience the relief it gives and the work it saves, you will never go back to the old way of handling milk and cream." So says a farmer's wife who has managed a farm dairy for over twenty years, and who now has an I H C cream separator.

I H C cream separators—Dairymaid, Lily or Primrose—fill the bill completely. They turn easily. They skim closely—leaving barely a drop of cream in a gallon of milk. They need few adjustments and none that a farmer or his wife cannot easily make. They have the large, low supply can; the strong frame with open sanitary base; the quiet, easy-running gears oiled by an efficient splash system; and the clean, classy appearance which make I H C separators such favorites wherever they are used. There is room for a 10-gallon can under the milk spout.

I H C separators can be furnished with pulley equipment for the use of power. Belted to a small I H C engine, or to a line shaft, they give you the very best cream separating outfit it is possible to buy.

The cream separator that gives you the most cream, saves you the most work and lasts the longest time. See the I H C local dealer who handles either Dairymaid, Lily or Primrose cream separators, or write to us for full information.

International Harvester Company of America
(Incorporated)
CHICAGO USA
Champion Deering McCormick Milwaukee Osborne Plano

Build Today the World's Best Silo —Pay Next Fall

THIS is the most liberal and convincing silo proposition ever made. We make this offer to prove to you, first, our supreme faith in the Dickey Silo, made of vitrified clay tile, "tight as a jug." And secondly we can better afford to send you this silo now, so that you can have it up and ready for use when silage time comes, rather than stack the tile up in our yards waiting for your order later in the year.

So buy a Dickey Silo now, and pay for it September 1, 1915. Without a dollar down, you can have the Silo that lasts a life-time, the Silo that rids you forever of all silo troubles, and annoyances, and up-keep expense. The time price today is the same as the cash price in September—dollar for dollar.

Dickey Glazed-Tile Silo

"Tight as a Jug"

The Dickey Silo is built once only. It cannot blow down, warp, twist, crack, crumble, or decay. Never needs painting. The glazed, vitrified hollow tile, reinforced by bands of steel laid in the mortar, are guaranteed to withstand many times the pressure of any ensilage you can pack into the silo, protect fully from frost, and absorb no moisture. It's built "for keeps"—which is true economy.

NOTE—We want first class men, Stockmen, Farmers, Dairymen, to act as agents of the Dickey Silo in their localities—men who enjoy a wide acquaintance and the respect of their neighbors.

Send the coupon, or a postal for our liberal proposition. Ask for catalog H

W. S. Dickey Clay Manufacturing Co.
202 New York Life Building, Kansas City, Mo.

W. S. Dickey Clay Mfg. Company, Kansas City, Mo.

Please send catalogue H particulars regarding your Proposition to sell a Dickey Silo on 5 months' time. I am thinking of erecting a silo ....size.

NAME.....
TOWN.....
STATE.....

"I want to keep on getting your a Missouri publication." This is the paper not only because it is one of sentiment expressed in many letters the best I ever read but because it is we receive. It's the kind that counts.

MISSOURI HOME MAKERS' CONFERENCE.

This Department is Edited by Miss Alice Kinney, New Franklin, Mo.

STATE OFFICERS
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A CLUB AT MARCELINE

The Rural Home Circle was organized in March, 1910, and now has a membership of thirty. It stands frankly and openly for sociability and recreation, has never attempted any work or study. It meets once a month at the home of a member; a short program of music, vocal and instrumental, a paper, a reading or perchance a story, a short business session, a delicious lunch and social chat fills the program. The members all live within three miles of Marceline, where most of them attend church and the children attend school, so that the call for community work along these lines does not seem very urgent.

These busy farmer's wives found themselves growing apart, they were better acquainted with the church and lodge people in town than they were with the neighbors a mile away; they needed a common interest, they were tired and needed recreation. The Rural Home Circle has answered their needs most acceptably.

It is nice to deck out the home in its very best and to vie with the other members in dainty service and delicate cookery. Then in mid-summer there is the annual picnic, with the families along, frying chicken, popping corn, roasting potatoes over the big camp-fire and inhaling the aroma of coffee.

During the mid-winter there is the banquet—a real banquet from shaded lights to an elaborate menu, soft music, and an excellent program.

We feel that our circle has been well worth while.

Mrs. W. C. Patrick, Sec.
Woodland Place Marceline, Mo.

Every pleasure and relaxation that comes into the mother's life is relived and shared with her family, and it will be safe to predict that the girls and boys of the Rural Home Circle community will not drift to the city for their pleasures nor lack interest in the old farm home.

Your report next, please, we feel that through these we are learning to know our farm women and more of their home interests.

IMPROVEMENT LEAGUE OF JACKSON TOWNSHIP, JOHNSON COUNTY

I have endeavored as a member of and a delegate from the Jackson Township Improvement Club of Johnson County to explain to you as nearly as I can that which we have accomplished during the past year..

Our club was organized early in 1913 for the purpose primarily of improving our community socially. I think this an important work which each school district, as well as township, should endeavor and strive to accomplish. I long for the time to come when each township shall have this kind of an organization and hope that you will all join me in this wish for our country's improvement from a social standpoint. In our township league are four minor leagues, which are the improvement leagues of four districts of Jackson township, namely Fairview, Pittsville, Lone Walnut and Elm.

The Township League meets on the Monday after the second Sunday every three months, at the Elm High School building, which is situated in the center of the township. This rural high school, which was spoken of last year in this connection, as doing excellent work, especially for its first year, is doing even better work this year.

The four free trips offered by the county to Farmers' Week in the stock judging contest were won by four boys from this rural high school. One of the boys also won first place in judging corn in the county and one of the girls won a scholarship in the Warrensburg Normal in a dressmaking contest. She also won first place on an essay contest, entitled "Pure Bred Poultry and Why Better than a Mixed Lot."

The district leagues generally meet at the homes of the members in an alphabetic order or at the district school house. They meet every two weeks or every month according to agreement of the members. The district leagues do not all have the same rules and by-laws. However, they are all similar.

The Township Leagues used fifty per cent of its funds as premiums in the domestic science line at the Jackson Township Fair, which was held at Elm, Oct. 14, 1914. Several of the districts offered premiums as a club and others were offered by individuals. This is an annual affair which we are eager to see progress, because it stirs ambition and love for rural life and helps us to be able to have a show-up in the county.

At one of our township meetings last year, our president, Mrs. Ivan W. Phillips, asked that each of the district clubs prepare one program each to be rendered at the meetings for the coming year. I will here state three of them, omitting the other because it has not yet been handed to the president:

(1) Play grounds, care of, by children; agriculture and what might be accomplished by its teaching in the country school. Home Economics and Manual Training; how far practical in the public building.

(2) Helpful suggestions for the comfort and convenience of school grounds, and as to school lunches.

(3) Diversions of farm women and especially the basket dinner. There were arrangements made for special music also.

Three of the district leagues held home economics schools in 1913. However, the Pittsville League was the only league which held one the past year. The school this year was conducted by Miss Rose from the University of Missouri.

The Pittsville Improvement Club organized a tomato club this year, having eight members. Their object was to see which could clear the most money off of one-tenth acre of land put to tomatoes. As the season was so unfavorable, only two girls were successful in raising enough tomatoes to can. One of the girls cleared twenty-one dollars and thirty cents ($21.30) while the other cleared forty-nine dollars and ninety-five cents ($49.95).

Several of the district clubs organized sewing societies for the girls. Most of these prove to be very beneficial. Teachers were appointed to teach the children according to their ages. Embroidering, crocheting and plain sewing were taught. These sewing societies meet once a week at the homes of the members.

The Fairview Improvement Club gave an entertainment on the night of July 3, 1914. From this we realized the sum of twenty-five dollars. If the night had been favorable, we would probably have gained more. The weather was threatening and the play was given in the grove on H. W. Phillips & Son's farm.

Ruth Ballard.

Wanted—Farmers!

Mayes County, Oklahoma, wants more farmers; good farmers to take advantage of her splendid opportunities.

Located in Northeastern Oklahoma, Mayes County produces corn, wheat, oats; dairy products; live stock. Has 40 inch rainfall. Good plow land, $20.00 to $50.00 per acre; pasture and hay land $2.00 up. Good schools. Trunk line railroad; low taxes. Write for up-to-date booklet, descriptive of the square deal proposition of the Mayes County Farm Bureau.

Special homeseeker's fares to Oklahoma on First & Third Tuesdays of each month.

Colonization Dept, M. K. & T. Ry., 1546 Railway Exchange Bldg, St. Louis, Mo.

THE MKT

The cheer-up wind of jimmy pipe joy

Copyright 1915 R. J. Reynolds Tobacco Co.

It sure comes to real men mighty quick when they get on the trail of Prince Albert—pipe and cigarette makin's tobacco that *never did* and *never will* bite tongues or parch throats.

That's because it's friendly-like; because it's manufactured by an exclusive patented process that cuts out the bite and the scorch and just makes men so all-fired happy they can hear the pollywogs purr even before the pussy willows peep into the spring sunshine.

PRINCE ALBERT
the national joy smoke

is particularly for men who smoke and for men who want to smoke and have found heretofore they couldn't. So take this invitation and come on around and get acquainted with Prince Albert in the tidy red tin. Let real pipe and cigarette happiness break right into your life.

Get started on the tidy red tin, then you'll graduate to the crystal-glass pound humidor with the sponge in the top that keeps your P. A. fine and pipe-fit all the time.

Prince Albert is sold everywhere. Toppy red bags, 5c; tidy red tins, 10c; handsome pound and half-pound tin humidors; crystal-glass pound humidors.

R. J. REYNOLDS TOBACCO CO., Winston-Salem, N. C.

Cold Frames.

Most cold frames are similar to those used everywhere by gardeners, with the slope to the south; the north side is boarded up to a height of 18 inches, and the south is simply a 12 inch board stood on edge; both sides are braced by posts set in ground at distance of six to eight feet. One can make it as long as desirable with the ends tightly boarded up.

The sash is usually the standard size, 3x6, rafters between the sash are very useful in saving labor, and a woman can the more easily pull it down from the top for ventilation and not have to lift off entirely; it also saves or prevents the sash from sagging in the middle.

It is well not to put the sash on until the bed is finished.

It requires three inches of finely turned stable manure well packed down and perfectly level in the bottom of the frame, after which, two inches of good soil is put on top of the manure, taking care to keep it also perfectly level, complete with rafters and sash and all is ready for plants.

If the tomato seed were drilled thinly in the house box, they will probably not crowd nor grow too spindling, thus they can hold until about March 20th-25th, when, if the weather permits, they should be transplanted into either old strawberry boxes or four-inch pots—possibly paper pots; some plant directly into the bed, placing plants 4 inches apart.

Set the pots or boxes as closely together as possible and sink them down well into the bed.

These plants will call for attention during their stay in the cold frame, they are to be kept warm, watered and ventilated according to the weather; the sashes need to be covered every cold night to prevent loss of heat or the frost getting into the plants.

Much is said in favor of the patent double glass sash, which saves much extra care and no covering.

The plants by the time of transplanting to the open garden in May should have thick stems with little side branches starting at leaf joints with buds forming or the crown setting and beginning to open.

Home Canning.

"What will be the effect of home canning?" was a question put to several members of the National Canners' Convention, which met recently in New York—a body of 7000 men.

"We rather encourage the policy," they agreed.

"We want the farmer's wife to know the value of canned goods in her household program. She can put up many of her products, such as her berries and tomatoes in cans, and do it well. She may some years have a shortage of this or that, and she will naturally turn to the commercial product.

"I believe the outlook is encouraging and instructive, particularly to the farmer's wife, and it will develop an interest in our work and our product."

"THE ROBIN"

I heard a song this morning
That thrilled me with delight;
The singer, the first spring robin,
A cheerful, pretty sight.

And I wondered where he wintered,
How many miles away;
What other lands he gladdened,
With his blithesome roundelay?

And glad I was he hastened
Back home, when snows are o'er,
And perched upon the old elm tree
Outside my cottage door.

He's true, and always busy,
And working all day long
To make the old world better
And brighter by his song.

T. K. E.

BLACK STRAP MOLASSES

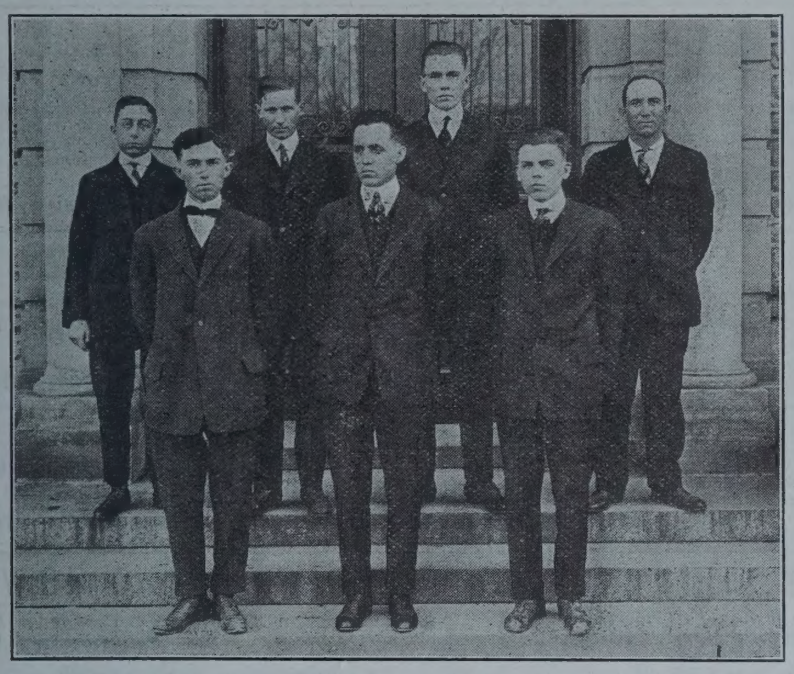
I have read the article by Mr. J. P. Maurer of Nodaway County on silage and note that he has been feeding black strap molasses with silage. I bought a car of black strap molasses last month, 64 barrels, and thought we might benefit by exchanging notes as to the best place to buy it and as to the best methods of feeding it, and results obtained, if you will put me in touch with Mr. Maurer. I am feeding a bunch of mules on silage and molasses, but we have been pouring the molasses over the silage without diluting. It seems to mix fairly well but we have not had any very cold weather since we began to feed it. I am also feeding it to hogs by pouring it over some shelled corn and stirring it up, then adding some bran and shorts. On one bunch we noticed that after feeding this bunch a few days on this feed, the shotes passed a large number of worms. I am not sure, however, that the molasses caused the removal of the worms. Have you fed any molasses to your hogs and have you noticed the passage of any worms?

I bought my molasses in St. Louis, the car was shipped direct from New Orleans. It cost 8 cents a gallon on track and the freight rate was 30 cents a hundred making the cost about 12 cents a gallon, laid down. I think I can sell the barrels for enough to bring the cost to about 10 cents a gallon. This molasses is rather low grade, being only about 44 per cent sugar. I had some priced to me at 14 cents f. o. b. St. Louis and it is a better grade than what I bought but I do not think it is worth the difference, as it would cost 16½ cents here. Another lot was priced at 21 cents guaranteed at over 60 per cent sugar.

I would be glad to have any information you and others can give and if you wish will give you what results I get feeding hogs.

Earl Johnson, Carroll County.

Editor's Comment: This letter has been forwarded to Mr. Maurer and we invite both of you to give our readers through our columns the benefit of all the information you have on the subject. The Missouri Farmer is the farmer's real paper and with their continued help we can make it of greater value in every issue.



Winners in Short Course Live Stock Judging, University of Missouri. Three men in front row, reading from left to right: Mr. Milton L. Remer, Mr. G. A. Tabor, Mr. H. D. Lawler (who tied for high place in the contest). Back row, reading from left to right are: Mr. I. B. Hoberecht, winner of Brown Galloway medal; Mr. Abel Hensel, winner of Wallace Poland China medal; Mr. B. F. Vaughn, winner of Crosby Clydesdale medal. Mr. Harry S. Cunningham, winner of Walker Shropshire medal.

MIX YOUR OWN FEED

Any farmer can cut his feed bill two-thirds and get better results by a simple method of mixing molasses with roughage.

The Bliss Syrup Refining Co., of Kansas City, Mo., manufacturers of BLISS-FED, a pure molasses for feeding purposes, are giving away absolutely free an interesting booklet containing letters from farmers and telling all about this method.

Simply send name and address today for a copy of this free booklet and also their free trial offer for your own use. Write today—a postcard will do—to the BLISS SYRUP REFINING CO., 929 Hickory St., Kansas City, Mo.

For Sale, Two Guernsey Bulls. Registered, good individuals, excellent breeding. Two-year-old and six months calf. Come and see or write D. P. Daniels & Son, Vandalia, Mo. 314

STOCK and GRAIN FARM SACRIFICE

100 Acre Rich Farm Will Be Sold at $60 Per Acre

Owner is compelled to sell this highly improved 930 acre farm. Adjoins a Missouri town of 1000 population with 2 railroads. Eight hundred acres, rich,smooth, tillable land, remainder good bluegrass land. About 500 acres in corn and feed crops. Improvements, a good 10-room house, good 3-room house, good 4-room house, also 5 large, substantial barns, a 250 ton steel silo, corncrib for 10,000 bushels of corn, granary for small grain, haymow for 300 tons of loose hay. Can feed 500 head of cattle under barn roof at one time. All improvements substantial and cost and are worth now more than $25,000. Fenced into many fields and pastures, much hog tight. Abundant good water, well distributed, 300,000 tons coal, mined by strip mining, will more than return purchase price and only a small part of land be disturbed.

Also 800 acres in Lafayette county, Mo., adjoining a station. Can sell for $100 an acre. No land adjoining this or in immediate vicinity can be had for less than $150 an acre. Write for further information and terms. J. H. LIPSCOMB, 511 R. A. Long Bldg. Kansas City, Mo.

COMMERCIAL PURE CULTURE

We all realize that commercial pure cultures are finding a permannet place in agriculture. This being true, let us read what our Department of Agriculture at Washington has to say about the matter, particularly as to when artificial inoculation becomes necessary. In Bulletin No. 315 it says:

"Inoculation is desirable—

"(1) If the soil has not previously borne leguminous crops.

"(2) If the legumes previously grown on the same land were devoid of nodules.

"(3) If the legume to be sown belongs to a species not closely related to one previously grown on the same soil.

"(4) If the soil produces a weak growth of legumes, even though their roots show some nodules.

"It is significant of the relative value of pure culture inoculation that a high percentage of beneficial results is being obtained, not only where legumes new to the region are being tried, but where the ordinary legumes used in rotation have been inoculated, a phenomnon which is undoubtedly due to the increased virility of the nodule-forming bacteria resulting from the proper development of the pure cultures in the laboratory. It is also true that the crops following the inoculated legumes have in many cases shown gains not evident in the legume crop. The practice of inoculating is therefore justified when legumes are naturally inoculated but do not seem to reach their full vigor nor to give the best results as green manures."

With the above facts in mind it becomes apparent that pure culture inoculation of legumes is in most cases not only a wise precautionary measure, but a profitable investment that assures us legume crops of greater value whether we grow them for feed or for green manure.

Pure culture inoculation, like other ideas that science has given to agriculture, was a long time coming into its own. For years, in fact, the world only knew but one commercial culture and this was the original product which emanated from two well-known German scientists, Nobbe and Hiltner, of the Royal Agricultural College at Munich. (This product, now known in all farming countries as "Nitragin," encountered much adverse criticism on the start, despite the fact that Nobbe is recognized as one of the world's greatest bontanists and Hiltner was pre-eminent among bacteriologists.)

While this unfavorable criticism proved disheartening, its moral effect was doubtless good, for it impelled these scientists to put years of concentrated effort in so perfecting "Nitragin" that its critics were eventually disarmed and its place among the commercial necessities of the world firmly and permanently established. Nearly every new product must run this gauntlet of criticism and skepticism and perhaps it is a good thing; it is a crucible in which only the fittest can survive.

Today the use of "Nitragin" for inoculating the seed of alfalfa, clover, peas, beans, vetch, cowpeas and soy beans has grown into a dependable farm practice. Many other commercial pure cultures are also on the market, showing how great the demand has grown for artificial inoculation.

We should bear in mind, however, that no pure culture is a "cure all." And before we purchase our legume germs we should first make our soil sweet and our seedbed firm, fine and well settled, so that when our legume seed is inoculated (covered with the proper kind of germs) the soil will prove a favorable home, both for the germs and the seed. With these precautions observed we can make clover, alfalfa, vetch, etc., as sure a crop as wheat and corn.

Legumes we must grow. And they must be inoculated legumes; otherwise our time, labor and money are wasted. It is this vital fact that makes a dependable pure culture product such an important factor in modern agriculture today.—***

Preventing Distemper

Elsewhere in this issue is a description of Crafts Distemper Remedy—a preparation which has been on the market for over 20 years and which is absolutely guaranteed to prevent Distemper, Catarrhal Fever, Pink Eye, Colds, Epizootic, etc. A dollar bottle should be kept constantly on hand in every barn. Your money will be refunded if it fails. Drop a postal card to the Wells Medicine Co., 33 Second St., Lafayette, Ind., and ask them to send you their free "Horse Book." It may save you a big veterinary bill.

For Bigger Crops

If you are interested in commercial fertilizers, drop a line to the Empire Carbon Works, St. Louis, Mo., or to the Middle West Soil Improvement Committee, 925 Postal Telegraph Bld., Chicago, and ask them to mail you their free soil bulletins. They contain a fund of valuable information. Also write to Darling & Co., Dept. 54 Stock Yards, Chicago, and ask for their free book to farmers.

Worms Weaken Hogs

Thousands of farmers all over the Corn Belt use Salvet to eradicate the worms in their hogs. The S. R. Feil Co. of Cleveland, Ohio, will be glad to send you a quantity of this popular remedy on trial. If it doesn't do what they claim for it you don't have to pay. See advertisement on page 19 in this issue. Hogs weakened by worms become an easy prey to cholera. (Adv.)

Interested in Alfalfa

If you are interested in growing alfalfa or clover, write to Armour Fertilizer Works, Dept 62, Chicago, and ask them to send you full information about "Nitragin"—the surest way of inoculating the soil for all leguminous crops.

Feeding Blackstrap Molasses

If you are interested in feeding Blackstrap molasses or cotton seed cake or meal, write to the Chocktaw Sales Co., Live Stock Exchange, Kansas City, Mo., for prices, etc. Be sure to mention The Missouri Farmer.

STOP DISTEMPER AT THE START

(6)

Distemper and all similar head and throat diseases in horses, sheep and dogs, are caused by contagious germs. Stop the disease at the start, kill the germs with a bottle of

CRAFT'S DISTEMPER REMEDY

For 22 years Craft's has been sold on a positive guarantee to cure Distemper, Influenza, Epizootic, Pink Eye, Coughs, Colds, Shipping Fever and Catarrhal Fever, or your money refunded. Craft's is not only the **BEST**, the **SAFEST**, the **QUICKEST** and most **CERTAIN** remedy on the market, but it is also invaluable as a preventive. Even if your animals are not sick at the present time, if you are wise you will get a bottle of Craft's at once to give to your horses as a preventive. It will drive out the germs, tone the blood, re-invigorate the appetite and put your animals in a first-class healthy shape. Buy a $1.00 bottle today and safeguard your animals from disease. Small trial size bottle, 50c. Your dealer has it or can get it for you. Be sure to get the genuine. Imitations are never so good. Remember, you take no risk—**YOUR MONEY BACK** if it fails.

VALUABLE HORSE BOOK FREE

A Practical Veterinary Book. Tells how to cure all the common diseases of horses. Of value to every farmer, stockman and horseman. Write for your copy today. A postal brings it by return mail.

WELLS MEDICINE CO.
33 Second St., LAFAYETTE, IND.

Raised Without Milk!

Her name is "Daisy" and her owner, W. A. Riddle, of Chapin, Iowa, raised her on Blatchford's Calf Meal, which costs less than half as much as milk.

Blatchford's Calf Meal

An absolute preventive of scouring. Calves raised "The Blatchford Way" are heavier, bigger-boned and healthier. Known as the complete milk substitute since the year 1800. Sold by your dealer or direct from the maker.

See Actual Figures —based on results—that show you how to increase your calf profits. Write today.

Blatchford Calf Meal Factory, Dept. 4212 Waukegan, Illinois

10 TREES FREE

To create more interest in orcharding in your section. Five best varieties, including two

Delicious

the finest quality apple. Has been sold on Chicago fruit stands at 50c each.

Send No Money—just write for our offer. Be the first to get the trees. Send name and address for details to

Fruit-Grower and Farmer
Box 208 St. Joseph, Mo.

$138 a Cow per Year

is a late average of a Washington State Jersey herd. Many

Jersey

Cows have records of 500 to 1000 pounds of butter annually—a telling lesson to people who are struggling along with $20 to $30 cows. Investigate the Jerseys. Address

THE AMERICAN JERSEY CATTLE CLUB
324 W. 23d St., New York City

Please send us that dollar for three years subscription today. Don't keep putting it off. After awhile you'll forget it altogether.

THOMAS. E. DEEM
AUCTIONEER
Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased.
Dependable service at a reasonable charge. Address, Cameron. Mo.

Harry W. Graham
AUCTIONEER
PURE BRED LIVE STOCK
Seventeen years experience with America's best breeders.
Chillicothe, Missouri

W. D. ROSS
Auctioneer
Pure bred live stock. Sales made anywhere on reason able terms. Write for dates.
Otterville Missouri

GALLOWAY CATTLE
Young stock for sale at all times. Herd established 25 years
J. & W. R. CLELLAND, New Hampton, Mo.

ChoiceAberdeen-Angus
Established 30 years. 100 head in herd. I am offering good useful Bulls. and Heifers of excellent individual merit and breeding. Prices reasonable. Our customers make them popular.
D. L. Sutherland & Sons Windsor, Mo.

Aberdeen-Angus I am offering a number of young bulls, cows and heifers —good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.
J. D. Blackwell Fayette, Mo.

ANGUS CATTLE
HERD FOUNDED 1904
Seven early calves—3 BULLS and 4 HEIFERS, sired by Dean's Eric 139686 Every one the right kind, and priced to sell.
V. E. LAWRENCE, SALISBURY, MO.

Angus Bargains
Registered bulls and heifers. The market topping kind. Leading families represented. Priced worth the money and satisfaction guaranteed.
Also Poland China hogs.
J. M. JONES, R. F. D. 3 Everton, Mo.

Hereford Bull Calves
I offer three registered Hereford Bull Calves about 10 months old. Excellent breeding, splendid individuals. Priced reasonably. Can ship from Columbia or McBaine.
W. D. Powell, McBaine, Mo.

IDLEWILD SHORTHORN CATTLE
Milk and Beef Type. Dual purpose in name and in fact. Herd 50 years old. In one family, on one farm. The type is fixed. I have a strain that I believe rivals the famous Duchesses. Fine beef cattle that are heavy milkers. And deep milkers of fine beef type. Call, or this blood is safe by order
W. P. Harned, Vermont, Mo.

Shorthorn Bulls and Heifers
PEABODY FARM now offers 12 choice young bulls and 20 heifers. Good individuals; reds and roans. Priced to sell. Also 20 open BERKSHIRE gilts. Get our prices.
June K. King & Son Marshall, Mo.

BAKER'S REAL BIG-TYPE POLANDS
Our winnings at the State Fair prove that we "have the goods." Spring boars and gilts of excellent breeding and individuality at very reasonable prices. Also a number of fall boars, big, stretchy fellows.
W. A. Baker & Sons, Butler, Mo.

Poland China Pigs
Fall and winter pigs, both sexes. Quality the very best—prices the lowest. Can be registered. Order early and get the pick.
Also an extra good herd boar very cheap.
K. H. BROWN, R. F. D. 1 Bolivar, Mo.

LIVE STOCK NOTES

By R. P. Royce, Fieldman

Dean's Good Poland Offering

We want to call particular attention to the change in Clarence Dean's advertisement in this issue. Mr. Dean is now offering about forty head of bred sows and gilts of strictly big type breeding and all vaccinated with the double treatment.

Clarence Dean has a herd of big types that deserves the serious consideration of any one planning to buy. Years ago when the herd was founded, Mr. Dean went to Iowa and secured some of the best sows he could buy from such herds as Peter Mouw, Wheeler, Lawson, Fessenmyer, and others, and he has since maintained his herd on the same high level. Few breeders can show more size and quality than will be found in this herd, and when you do find it you can't buy it anywhere near the prices asked by Mr. Dean.

The forty sows and gilts referred to above are either sired by or bred to one or another of the four herd boars, Mastodon Price, a good son of the famous old A. Wonder, and out of a Chief Price dam; Gritter's Longfellow 3rd by Gritter's Longfellow, and out of a Long Price 2nd dam; A Wonder Price by Pritchett's A Wonder and out of a Longfellow dam; or to Jumbo Wonder, a grandson of Big Jumbo.

The gilts are of March and April farrow and are bred to farrow at about one year old. The dams of the lot are great big, smooth, prolific, motherly sows that would weigh from 700 to 800 pounds in full flesh. Now here is a chance to buy something good at prices that will make you money.

Mr. Dean also has a number of good young boars on hand, of the same breeding as given above, and in the lot are several outstanding good ones. Get in touch with Mr. Dean and we feel sure you will be glad to do business with him. Mention this paper.

Jasper County Dairy Association Sale

Readers of The Missouri Farmer who are interested in securing choicely bred Jersey cattle are referred to the advertisement of the Jasper County Dairy Association's first annual sale to be held at Carthage, Monday, March 29.

On this date sixty head of bulls, cows and heifers will be offered under the auspices of the above association, and so far as we know this will be the first dairy association sale to be held in the State.

Consignments to this sale are restricted to members of the association and only animals that pass the approval of the inspection committee will be offered. Every lot sells tuberculin tested.

For many years Jasper county has been forging to the front as a dairy community, and some notably good herds have been established. In recent years considerable interest has been manifested in the industry and as a consequence some of the best blood of the breed has found its way to that community and in the present sale offering will be found decendants of such sires as Noble of Oaklands and others nearly as prominent.

The sale will be held in Carthage regardless of the weather. George H. Sewall of Carthage is secretary of the association, and we take pleasure in urging those of our readers who are interested to write Mr. Sewall for the catalog. Kindly refer to this paper.

Adenhill Durocs

R. L. Hill, Columbia, Mo., wishes to call attention to a nice lot of bred gilts that he is offering the trade. These gilts were farrowed from April to June, and will weigh around 250 pounds. They are all sired by Golden Tat, a big good son of Tatarrax Again, the reserve grand champion boar at both Kansas State Fairs in 1911. The dams of the offering are Ohio Chief bred sows from prolific strains. For the most part they are bred to Bob's Col. Wonder by Col. Wonder 2nd, a prize winning son of the grand champion boar, Col Wonder, and a litter mate to Belle of Missouri 3rd, the grand champion sow at Sedalia last year. They were bred January 7th to February 4th. Mr. Hill advises us that he is pricing the lot extremely low in order that he may dispose of them as soon as possible.

He also offers an exceptionally good lot of fall boars and gilts sired by Col. Wonder 2nd. Pairs and trios not related can be furnished if the order is received soon. Kindly mention this paper in writing.

60 Head of Registered Jersey Cattle
To Be Sold at Public Sale
AT
Carthage, Mo., Monday, March 29, 1915
Unedr auspices of the Jasper County Dairy Association. Only members are consignors. (First Association sale of dairy cattle held in the State)
The offering is a choice one, representing superior cattle and some of the best herds in the county. All cattle tuberculin tested. Only cattle approved by Association Committee are offered.
Send for catalog.
George H. Sewall, Secretary, Carthage, Missouri

15 Registered Shorthorn Bulls--FOR SALE
From 8 to 18 months of age. They are red, white and roans, Scotch and Scotch topped. Sired by the State Fair winner, Sultan's Heir 368468. The best lot we have ever raised, nicely grown out, under average farm conditions, and priced so farmers with small herds can afford to buy. Write us, or better, come to see us. We will be glad to show you our herd whether you buy or not.
W. C. PREWITT & SONS - - - - Clarksville, Mo.

CLYDESDALE HORSES FOR SALE
MISSOURI FARMERS, DO YOU RECOGNIZE THE OPPORTUNITY?
The war in Europe means that the United States will furnish the Draft Horses and Draft Breeding Stock for the world for years to come. There was never a better time for you to get into the game and Missouri farmers should take advantage of the opportunity. I have Prize Winning Stallions and Mares of all ages for sale at lowest prices.
F. L. CROSBY, Highview Farm - - - - - - - - Mexico, Mo

$25 DUROC JERSEY BOARS DELIVERED $25
We will deliver fall boars anywhere in the State at $25 per head. They are sired by our first prize senior yearling boar, Beauty's Model 152503, and individually are right. We can please you.
W. O. & B. A. SMITH - - - - - Thompson, Mo.

DUROC SOWS BRED TO CHAMPION
CRIMSON COL I AM for March and April farrow. Bred gilts sired by him, stretchy, good bone and color. Choice fall or spring boars $25 each. Guaranteed as described. Come see them.
A. WHITE, JR. Box 422 PALMYRA, MO.

ADENHILL DUROCS--BRED GILTS and SOWS
Sired by Champions Tatarrax Again, Crimson Col. I Am and Col. Wonder II. Priced reasonably. Also a few serviceable spring boars of same breeding. Priced to sell. A fine lot of fall pigs sired by Col. Wonder II.
R. L. HILL - - - - - - - - Adenhill Farm, Columbia, Missouri

THOMSONS' DUROC BARGAINS
Four bred Sows, 6 spring boars, 7 fall boar pigs. Best of breeding and individuality. Everything guaranteed, and priced to sell.
W. H. and GEO. E. THOMSON, Columbia, Mo.

CHAMPION DUROC BOARS AND BRED GILTS
I still have a number of big, stretchy, quality spring boars that I am pricing very low. I am also offering a very desirable lot of bred gilts. Everything I offer is rich in the blood of champions. COL. WONDER sires my champions—he will sire champions for you. Write or come.
CHAS. L. TAYLOR - - OLEAN, MO.

WELLER'S IMMUNE DUROCS
I am offering a choice lot of boars, bred sows and gilts. Priced reasonable. Customers in 48 Missouri counties.
J. E. WELLER,. FAUCETT, MO.

15 DUROC SPRING BOARS & GILTS
We still have 15 boars and a number of open gilts which we will price to sell quick, and are booking orders now for 25 pigs, farrowed Nov 10th.
J. C. Garrard & Son McBaine, Mo.

ANDREWS' SPOTTED POLAND CHINAS
We now offer 75 summer boars and gilts sired by our great herd boars, SPOTTED KING and SPOTTED JUMBO. We are long on hogs and short on corn. Priced for quick sale.
ANDREWS STOCK FARM — — — — LAWSON, MO.

THOMPSONS SPOTTED POLAND CHINAS
Old fashioned Spotted summer boars and gilts. Sired bv one of the best yearling boars in the Corn Belt, SPOTTED BOY. All immune. Priced reasonable.
JAS. A. THOMPSON, - - - Holt, Missouri

MEGOWN'S SPOTTED POLANDS
No matured stock for sale but booking orders for pigs to be shipped later. Have length, bone, size and big spots. Sired by two of the biggest boars in the State, for their age.
B. B. MEGOWN - - - - - - - - - - - - - - New London, Missouri

FOR SALE—MAMMOTH POLAND CHINA SPRING BOARS and BRED SOWS
All safely immuned by double treatment vaccination. The biggest of big type breeding. Spring gilts weighing in moderate flesh 250 lbs. Tried sows bred for early farrow. Mature sows weighing (in flesh) 650 to 750 lbs. All from litters of 7 to 16. Gilts by Mastodon Price and Gritter's Longfellow, bred to Ellerbrock's A Wonder. 25 big, spring boars of serviceable age. See or write CLARENCE DEAN, Weston, Mo.
P. O. Weston, Railroad Station, New Market. Electric line from St. Joseph and Kansas City. Station Dearborn, Mo.

Angus Bargains

Beginning with this issue Mr. J. M. Jones, of Everton, Mo., a prominent Angus breeder of Southwest Missouri, calls attention to the fact that he is in a position to offer the readers of this paper some very meritorious young bulls and heifers.

Mr. Jones started his herd about 1902 by the purchase of a select lot of cows from the herds of such prominent breeders as Hugh Elliott, W. W. Andrews, W. J. Turpin and Berry Lucas.

Most of the popular families are represented in his Prairie View herd and the young stock he is now offering are for the most part the get of the double Blackbird Bull, Laddie Blackbird 142245. This good bull has proved very useful in Mr. Jones' herd, but he finds that it will no longer be practical to retain him inasmuch as he plans to keep a goodly number of his daughters in the breeding herd. Laddie Blackbird is, therefore, for sale, and Mr. Jones is prepared to make a real bargain price on him. This bull was bred by W. W. Andrews, Maryville, Mo., and was purchased at the association sale held at the American Royal in 1911. It might be added that this bull topped the sale.

We have visited this herd in the past and feel sure that the class of cattle Mr. Jones is producing will meet with ready appreciation from farmers who are desirous of improving their herds. Any of our readers who may be interested are urged to write Mr. Jones, and we will appreciate having you mention The Missouri Farmer.

Smith Bros. Durocs

W. O. & B. A. Smith, Thompson, Mo., are again advertising their Durocs in this paper. At this time Messrs. Smith are making an especially attractive offer on fall boars sired by Beauty's Model, the first prize senior yearling boar at the recent Missouri State Fair. These pigs are growthy and smooth and possess the desired easy feeding qualities. The Smith brothers are making a very sincere effort to build up one of the real high-class herds of this state and they feel that this lot of fall pigs marks a big step forward for them. The prices on these Beauty's Model boars is $25 delivered anywhere in Missouri. If you need a boar at this time we would suggest that you drop this firm a postal at once. Kindly refer to this paper.

JERSEY CATTLE

Bulls ready for service. They are sired by the Owls Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

Jerseys-Spotted Polands

March Special—Jerseys: I will offer for March only, six young bulls, ready for service, at lower prices than I have quoted for six years. Also bred heifers.

March Special—Spotted Polands: For March only I am offering 35 fall boars, mostly October farrow, at $20 each. Order now. Also sow pigs and bred gilts for sale. Free circular.

THE ENNIS FARM, HORINE STATION, Mo. (Just south of Saint Louis)

Jersey Cows

I want to sell 20 head of registered cows and heifers that are either fresh or soon will be. Also four young bulls.

J. B. SMITH Platte City, Mo.

HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndyke Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

M. E. Moore & Co., Cameron, Mo.

ELM LAWN HERD IMPROVED CHESTER WHITE SWINE

Choice boars and gilts of September and October farrow for sale at reasonable prices. Everything recorded free.

W.B.Taylor and Sons,Weatherby, Mo.

RAUSCHER'S CHESTER WHITES!

One of the Oldest Herds in the West

A few choice spring gilts bred for early farrow. Several richly bred big spring boars. A fine lot of fall pigs. Size, quality, and bone. Prices reasonable and every pig guaranteed.

H. Rauscher & Son, Kahoka, Mo.

Glenvarloch Large Yorkshires

The prolific, growthy and gentle bacon hog. Closing out entire herd at private sale. Bred sows, boars and pigs either sex. The produce of one Yorkshire sow will keep your family in delicious meat all next winter. Everything at bargain prices. All immune.

Frank Gildow, Mgr., Jamesport, Mo.

25 BIG POLAND CHINA GILTS

The big-type, big-bone, quality kind, BIG ORANGE, A. WONDER and PAWNEE LAD breeding. Bred to MISSOURI KING by IOWA'S KING, for March and April farrow. They are big and priced to sell. Write at once.

Obadiah Prettyman, Fairfax, Mo

Dooley's Spotted Polands

Big bone spotted pigs now ready to ship—$25 single pig, $45 pair, $65 trio. Pairs and trios no relation. Also registry furnished. Send check with first letter.

Edgar Dooley Etterville, Mo.

BIG POLAND CHINA BRED GILTS

Headed by King David 179495 by Long King, and Leader 201105 by Grand Leader, a pair of great boars that are siring the right kind. A fine lot of spring gilts bred for early farrow. Get my prices.

HALLECK BLAND, Rfd. No. 5 CENTRALIA, MO.

"OAKWOOD HERDS" of Shorthorns and Poland Chinas

Young stock of all ages for sale. Special prices on my big-type Poland Chinas. Quality and breeding the best. Satisfaction guaranteed or your money back.

H. S. Williamson Rfd. 6, Centralia, Mo.

SUPERIOR HERD BIG-TYPE POLANDS

We have at all times anything you want in strictly big-type Polands. Special prices on spring boars and gilts in pairs or more—not related. Write us your wants.

Freeman & Russ Kearney, Mo.

LOCKRIDGE'S GIANT POLAND CHINAS

In my recent sale gilts bred to my great young boar THE GIANT 72083 averaged $57. THE GIANT is conceded to be one of the greatest boars of the breed. You will want some of his blood. Booking orders for spring pigs. Write at once.

WILL G. LOCKRIDGE - - - - - - - Fayette, Mo.

Safeguard YOUR Stock—Rid Them of Disease-Breeding Worms

You can't expect big profits and big prices for your stock unless they are kept in the pink of condition. And you cannot put them in good condition unless they are free from worms. Worms cause 90 per cent of all stock losses—**they keep your animals in a run-down, unthrifty condition**—sap the vitality—consume the food you feed your stock—derange their digestion and make them easy prey to fatal diseases. The best of care and feed will not put fat on a wormy animal, nor prevent disease. In their wild state all animals instinctively sought roots, herbs and barks that kept them healthy. **Domestic animals require a worm destroyer and conditioner to keep them healthy:**

TRADE MARK

SAL-VET

REG. U.S. PAT. OFF.

The Great Worm Destroyer and Live Stock Conditioner

—is a "Safety First" preparation. It's mission is to rid stock of dangerous disease-breeding worms. It cleans out these destructive pests—corrects indigestion—puts new life, vigor and strength into animals, enabling them to throw off disease. In short, it is a wonderful preventive as well as profit producer. No dosing—no drenching—no trouble to feed. SAL-VET is a medicated salt—not a food. Has no food value. It is a remarkable tonic and conditioner. Read the following letters:

"I have been feeding SAL-VET to my hogs, and they passed a lot of worms. When I butchered some of the hogs, I could not find a single worm, nor a sign of a worm in any of them. My neighbors lost all of the hogs they had, but I have not lost a single one."
—John Sauer, Fort Wayne, Indiana

"The seven head of horses to which I have been feeding SAL-VET are now feeling fine, and look as sleek as a bunch of ground moles. Have also feed it to my pigs, and every one on the place has his tail tightly curled and is always ready for his feed."—Samuel Brice, Prop. Walker Stock Yards, Rt. No. 13, Grand Rapid, Michigan.

"SAL-VET did the work. I think it is the best tonic and worm expeller ever. Since feeding it, I have the best bunch of shoats I ever owned. They are larger, seem bigger boned, and are free from worms, although before I fed the remedy they were infested with worms. I never saw hogs do as well as these."
—V. T. Pease, Conway, Iowa.

Feed Your Stock 60 Days at My Risk

In order to prove to you the value of my Great Worm Destroyer and Live Stock Conditioner, I freely make this liberal offer to every farmer and stock raiser, so that all may prove its value. Not only will SAL-VET destroy worms in your farm animals, but it will stimulate the appetite, relieve constipation, and put your hogs, sheep, horses and cattle in condition to better resist dangerous diseases. Thousands of farmers regularly feed SAL-VET to stock for SAFETY; you should not ignore this liberal offer. Here is the **cheapest live stock insurance** you can get.

Send No Money—Just the Coupon

Just fill out the coupon—tell me how many head of stock you have, and I'll ship you enough SAL-VET to last your stock 60 days—you simply pay freight charges when it arrives, feed it as directed. If SAL-VET has not done all I claim, and you report results in 60 days, then I'll cancel the charge, and YOU WON'T OWE ME A PENNY.

SIDNEY R. FEIL, President

THE FEIL MFG. CO., Chemists
Dept. MF&B
CLEVELAND, OHIO

(224)

THE FEIL MFG. CO.
Dept. MF&B 3-15-15
Cleveland, Ohio

Ship me enough SAL-VET to last my stock sixty days. I agree to pay the freight, feed it as directed, and will then pay for it if it does what you claim. If it fails and I so report in 60 days you are to cancel the charge and I will owe you nothing.

I have.....hogs.....sheep.....horses.....cattle.

Name.....

P. O......

Ship to.....*State*.....

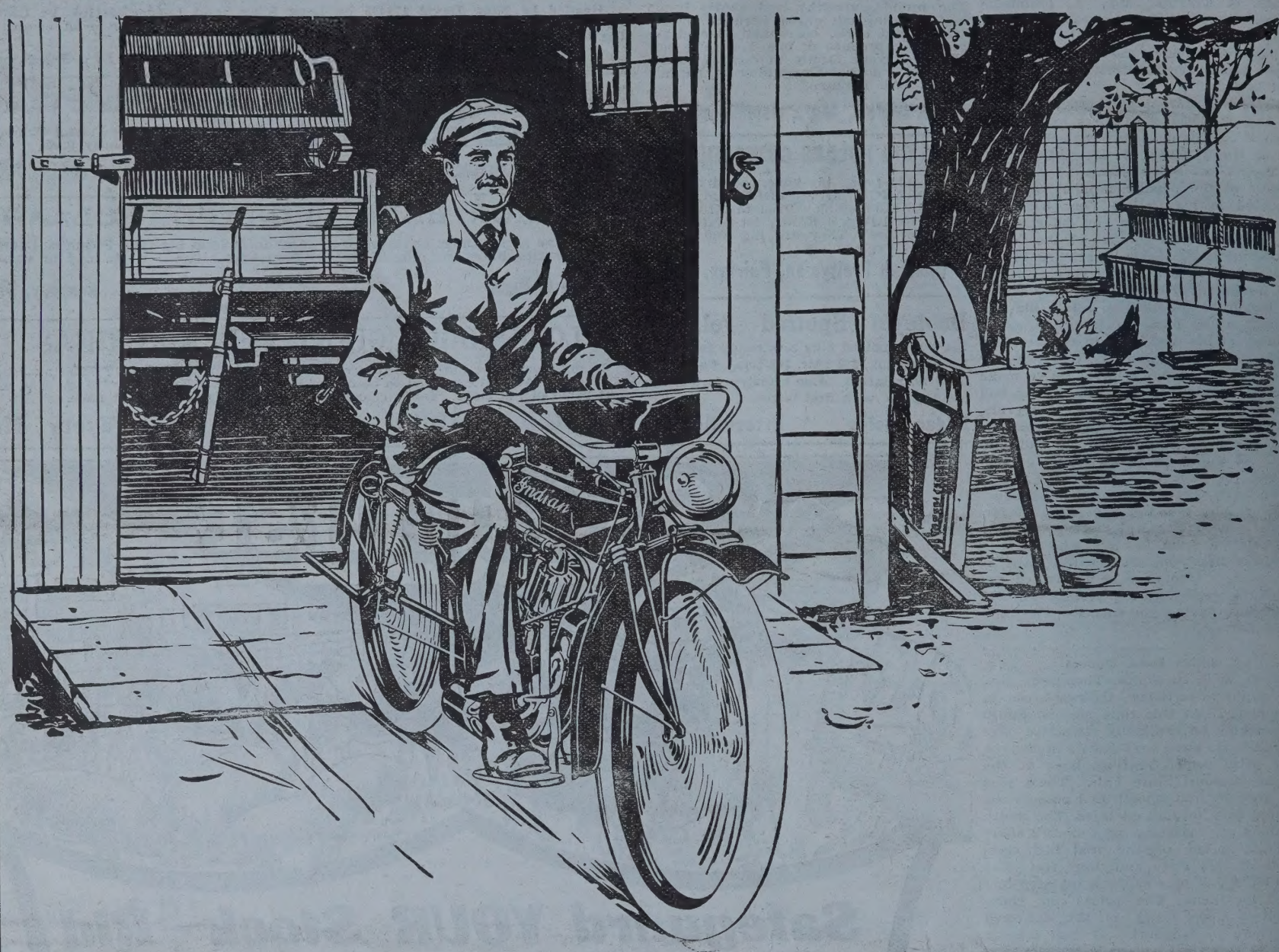
LOOK for THIS LABEL on all SAL-VET packages. Don't be deceived by imitations. Don't buy "Sal" this or "Sal" that. Get original genuine Sal-Vet.

"SAL-VET is the best worm destroyer for horses that I have ever used. It certainly does all you claim. My horses have kept in better condition than in any previous season, and with a less grain ration. at that."—E. W. Steffen, Troy, Mo

PRICES

40 lbs...	$ 2.25
100 lbs...	5.00
200 lbs...	9.00
300 lbs...	13.00
500 lbs...	21.12

No orders filled for less than 40 lbs. on this 60 day trial offer. Never sold by peddlers nor in bulk; only in Trade-Marked SAL-VET packages. Shipments for 60 days' trial are based on 1 lb. of SAL-VET for each sheep or hog, and 4 lbs. for each horse or head of cattle, as near as we can come without breaking regular sized packages.



A Vital Factor in Modern Farm Equipment

Quick and comfortable transportation to and from town at small expense, comes with the ownership of an

Indian Motocycle

THE 1915 Indian — as usual — is an epoch-maker. 9 Basic Improvements, adding to the comfort, pleasure, strength, durability, speed, power, economy, and simplicity of operation, enter into its construction—a construction which, since the first Indian was introduced, over 14 years ago, has represented the highest known quality of materials and mechanical genius.

The $225 Indian is particularly well adapted to the many uses required by rural service. Long wheel base, trussed handle bars, high power, Cradle Spring Frame, Folding Footboards, Dual Clutch Control, enabling the rider to control the clutch either by hand or foot.

These and many other 1915 improvement features are fully described in the new Indian Catalog. But a personal inspection of the Indians themselves will give you a better and more convincing appreciation of Indian supremacy.

The Indian is made in the largest motorcycle factory in the world by a company that has established an unchallenged reputation for the honest high quality of its product. Standing squarely back of every motorcycle it makes, the Hendee Manufacturing Company has made the Indian a machine that typifies the best that manufacturing methods, mechanical mastery, money, and master minds can produce.

A chain of Indian branch factories, large distributors, and 2,800 dealers assure over-night service for Indian riders — *anywhere.*

Ask for your copy of the 1915 Catalog

HENDEE MANUFACTURING CO., 787 State St., Springfield, Mass.

(Largest Motorcycle Manufacturers in the World)

BRANCHES AND SERVICE STATIONS: Chicago, Dallas, Kansas City, Minneapolis, San Francisco, Atlanta, Toronto, Melbourne, London

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE MISSOURI FARMER

COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE AND THE MISSOURI EXPERIMENTAL STATION

The Old Farm

Just a word with you, my boy, about the old farm and farm life in general. I know you get mighty tired once in a while—that you get "sore on the job" and make a mental resolve to break away from it all some day in the dim and distant future when you have grown up and when you are your own master. You see I was a farmer boy just like you once upon a time—and as I write these lines the old scenes and the old days come flooding back to me. It seems but yesterday when they turned me loose with a twelve inch plow and told me to plow a "straight furrow." And my, how hard I tried!—and when, once in a while, the plow would run out of the ground in spite of anything I could do and old "Kate" wouldn't keep in the furrow, I don't mind telling you that I cried bitterly—back yonder years ago when I was just a "slip of a boy" on the farm.

But, after all, there are two sides to it, my boy. I know the road of the farmer boy is rough and hard—but it's the road that makes big, fearless, robust, manly men! Back yonder in those harsh days I, too, longed for the city just as perchance you are longing for it today but I understand a lot of things now that I didn't understand then. Viewed from the distance the bright lights look enchanting enough—but once familiarized with them the enchantment soon dies away. Cities annually kill thousands of boys and girls while the country builds them into splendid men and women and paints upon their cheeks the rose-hued flush of health. Today, every city in the land is crowded with erstwhile farmer boys whose muscle and vitality is being fed into the maws of its giant industries—farmer boys who stoke its fiery furnaces, who run its heartless machinery, its street cars or who perch upon high chairs up in some tall skyscraper and who, when the day's weary grind is at an end, betake themselves to some dark, cramped tenement abode where vile smells and poverty are ever companions—boys who have learned that the bright lights and the music are only for those who have idle time and the money to pay for them.

As I write these lines there comes into my ears the roar of Broadway in the mighty metropolis of New York. So, too, I see the thousands who jostle each other on State Street, Chicago—an endless procession of rich and poor, good and bad, rogue and christian—a procession which, like some dark river, flows on and on, day and night—it knows not whither. And as I contemplate these scenes the thought comes to me that I would a thousand times rather be an humble farmer boy trudging over a newly plowed field or wielding an axe in some sweet scented woodland than to be a mere atom in this mad human whirlpool which grinds and crushes out the hearts of men and women and makes them unmindful of the finer things of life. After all, boy, your chief aim should be to become a useful citizen—to do your part in the World's work—to become the owner of a home in which you are your own master—where you are more than a mere human machine at the beck and call of a harsh overseer—and such a destiny is within reach of every thrifty farmer boy. Remember that never before has American Agriculture been upon such a firm basis as now. Never before has the farmer been so universally recognized as the "first citizen" of the land as today—and improved machinery, the telephone and the automobile are fast eliminating the old-time drudgery. If, therefore, you would take the advice of one who has seen "both sides of the picture" I would say, stay by "the old farm." Learn the secrets of the soil and growing things in order that you may master and co-operate with them intelligently. In other words, determine to be a real farmer. As for the city's bright lights, I wouldn't trade one night's communion with the harvest moon for all the man illumined things in the Universe. As for its music, I wouldn't exchange the melody of the quail's call and the symphony of sweet throated birds for all the instrumental harmonies in Christendom. In short, my boy, there are mighty few places in this World—if any—that compare with "the old farm."

—The Author of After-Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VII APRIL 1, 1915 NO. 7

WILLIAM HIRTH
PUBLISHER

My 1915 Book Free
Here It Is-Read! Act!

My better than ever, bigger than ever, book of bargains for 1915 and price-reducing, sliding-scale schedules on gasoline engines and cream separators printed in four colors with special gasoline engine, manure spreader, cream separator, auto truck, elevator, carpet and rugs and vehicle color work; hundreds of illustrations of farm and household necessities. This great book will save you money. You are sure to buy something within the next few weeks on which we can save you money. Get my prices and learn all about my 1915 price-reducing, sliding-scale schedule before you spend another dollar for anything for the farm or household. A postal addressed to me now will bring this big book to you by the next mail, postpaid.

Galloway's Sanitary Separator

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SOME SWEET CLOVER TALK

"Sweet Clover Failed," in Missouri Farmer, March 1, is the experience of hundreds all over the country, and the one success, reported in that article, where the seed was sown upon hard soil, the experience of thousands.

Now I have no seed to sell and never will have, nor do I grow much sweet clover, as my farm is managed practically upon a four-year rotation plan and is all tillable, yet If I had rough land, strong land, badly worn land, gullied land, or land unfit for profitable tillage, I would not rest until it was all bearing a heavy crop of sweet clover.

The Editor of Missouri Farmer knows the writer of this, and he also knows that few men not living in the state have a better knowledge of the agricultural conditions of Missouri than I have, and I say to the farmers there, that you have tens of thousands of acres of clover in the state, now almost wholly unproductive of any farm crop, which would bring you hundreds of thousands of dollars income if only they were set in sweet clover. I have in mind when writing this, principally the value of the plant as a soil builder, having seen the results derived from its along this line from Lake Erie in the north to near the Gulf of Mexico on the south, notably in Southwestern Ohio, Northern Kentucky and North Central Mississippi.

If there was any section of the country more wornout, gullied and washed off, than the Licking hills of Pendleton county, Kentucky, twenty years ago, it was the one some few miles from Holly Springs, Mississippi, and both of these sections have been restored, to the state of good farm lands by sweet clover, for I have seen them—before and after taking.

The same may be said of some lands in this and in Clermont county, Ohio, both these lands lie in small tracts instead of in vast areas as in the other states. In four years after sweet clover was sown upon bare clay knobs, these same knobs grew 1000 pounds of tobacco or sixty bushels of corn per acre, good crops of small grain and good stands of grass being secured. Don't ask me to tell you how to succeed in growing it, but I will say that it is more apt to "take" upon a thoroughly compacted soil, than upon one that is loose and mellow. It seems to need, inoculation, lime, and a hard soil, and the finest stands I have ever seen came from a few accidentally sown seed, a plant every rod or two and then a solid stand from the seed, self sown, from these plants. One man who introduced it to his farm by a few seeds among his real clover, sown in April, says that sweet clover has been worth $1,000 to his 90 acre farm in six years.

C. D. Lyon.

SILAGE FOR HORSES AND MULES

I have delayed complying with your request for my experience with ensilage for the reason I wanted more time to enable me to know the results of feeding silage this winter. I began feeding ensilage December 14 and have fed it daily since to stallions, jacks, brood mares in foal, jennets in foal, yearling horses and mules, weanling horses, mules and jacks, brood sows, Angora goats and Jersey cows. I find all eat it heartily and keep in fine flesh. I feed about half the hay fed heretofore with corn. I give stallions, jacks, mares and weanlings a little corn but others get nothing but ensilage and hay. I have not had a sick animal this winter.

The youngsters that have come already are strong and healthy and get plenty of milk. I have had no udder trouble. I hesitated sometime on building a silo, doubtful of the results on the kind of stock I handle.

I am convinced now it is fine for all stock if put up properly. Corn should be nearly ready to cut and had better be too ripe than too green. A little water makes the ripe all right. The green gets too sour.

The silage must be well tramped in silo, which must be perfectly airtight. Moulded ensilage will kill horses. I feed stallions, jacks and mares in foal about 12 pounds per day, others all they will eat.

Does a silo pay? Yes, two ways. It pays because stock that eat it keep healthy and in good flesh. No colic, constipation, nor corn stalk trouble. It pays because an acre of corn will go at least twice as far in feed if in silo. This year, here, I think it was worth considerably more than double. The dry weather and chinch bugs nearly ruined the corn, and it made about 20 bushels of worm eaten corn to the acre. The stalks were small and many killed by chinch bugs. It rained about corn cutting time and ruined much of the fodder. I think my silo has paid for itself this one season.

My advice to every farmer, big or little, is build one or more silos. Build the kind you like, concrete, tile or stave. They are all good. But build one and do it this year.

Four of us bought a 50-ton per day cutter and we run it with a seven-horsepower gasoline engine. We swap work and it don't cost much to fill our silos. Two good hands with half a day's start and four teams and low wagons and two extra good men in silo. One man to run engine and see after the cutter. We put our corn in silo cheaper than we can cut, shuck, crib and haul out fodder. And we get more than double the feed and better, healthier feed besides. I would prefer two 100-ton silos to one 200-ton silo. Don't get in a hurry when filling silo. Take it easy and do it well. H. B. Chilton,

Chilton's Stock Farm, Pike County.

CORN FOR SILAGE

I don't know whether a man ought to venture an opinion from just two or three experiments, when the opposite view is held by a vast majority of silo owners. I believe the best corn should be put in the silo. Or take it this way: If you have corn that yields 40 bushels and some that would barely make 10 or maybe 5 bushels, as it was last year, put the 40 bushel corn in your silo. Generally corn has a stalk poportionate to the grain, i. e., 10 bushels of grain will have practically the same weight of stalk whether it be 5 bushel corn or 40 bushel corn. In 1913 I filled a small silo (75 tons) from 14 acres—200 bushels of corn. In 1914 I filled same silo from 7 acres—200 bushels corn. So it takes no more grain to fill from one kind than the other.

Every one who has fed corn fodder knows that fodder of good yield of corn is much superior to that of poor yield. When it takes the same in either case why not have the better?

One year I filled my silo part of good corn and not having enough of that to finish I used some of very inferior quality and poor yield. In feeding it there was as much difference as would have been had it been fed dry. Leaving the grain out of the consideration, the feeding value of good fodder (from good corn) in silage is proportionately greater than light fodder (from light corn) and costs just the same to put up. P. P. Grinstead,

Pettis County.

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The Missouri Farmer

VOLUME VII APRIL 1, 1915 NUMBER 7

Farmers Should Organize to Improve Social Conditions

By Geo. B. Ellis, Managing Editor

Profit is essential to both prosperity and pleasure but it is what the dollar represents that should claim our chief attention rather than the dollar itself. I have tried to show in previous articles in The Missouri Farmer what a great disadvantage the farmers of this country are laboring under when their interests clash with others because of their lack of organization. It matters not whether it is in the National Congress or the State Legislature, the farmers' just claim for remedial legislation is set at naught. For years the farmers of this country have been struggling under the breaking burden of a five billion dollar debt at twice the interest rate of competing farmers of Europe. All the great political parties of our country have been forced to acknowledge through their national platforms that the farmers' demand for relief from this unjust and unnecessary burden was reasonable and that a remedy ought to be found. But Congress never for a day seriously considered this relief for farmers. Even the president pleads ignorance on the subject of rural credits and begs for more time though he had at his command information gathered by his own commission from all the leading countries of Europe where rural credit societies have been in successful operation for several decades. We have borne this burden of high interest rates on top of a staggering load of debt and must continue to bear it without relief because the money power of this country is so well organized and has its fangs so deep in every industry of the land that without organization the farmers will never be able to shake it loose.

Something Besides Production and Marketing

I have also called attention in previous articles to the economic or business needs of organization among farmers. We must organize to increase production because without large production on high priced land there can be no profit. And after we have learned how to produce high yields it is just as necessary that we find a profitable market. But after all what profiteth it us if we gain all these—necessary legislation, greater production, and better markets for both selling and buying—unless we are prepared to turn our money into the better things of life? What good will more money do us unless it will bring us a greater enjoyment of life by giving us better roads, better schools, better churches, better health, and better homes? And the thought I want to have sink deep into the minds of the readers of The Missouri Farmer is that we can not have the best of these, better social needs, without earnest, well organized co-operative effort.

Good Roads Come First

I have placed first in the enumeration of these better things "good roads" because I believe a system of good roads in any farm community will materially aid in bringing about all these other things. Too many farmers think that all they have to do to get better roads is to vote a levy for that purpose and then go on about their own business and leave the improvement of the roads to the overseers, the highway engineer, the township board and the county court. It may be necessary to leave the actual building of roads to those officers but you may count on it every time that the community that gets behind the road officers with an enthusiastic, well organized sentiment for good roads will get more road work for the dollar and about four times as many dollars as the community without organization. Take as an example the Missouri inter-county-seat road-dragging law. The state out of its road fund pays fifteen dollars a mile for the maintenance of these roads. A fact familiar to all our readers is that between most any two county seat towns there are two or more roads of equal public utility and equally available but only one enjoys the benefit of this fifteen dollars a mile and fifteen dollars a mile is amply sufficient to maintain most any good dirt road after it has been put in condition. But what road gets the state money? Who is it that are enjoying good roads at the expense of the state and without going deep in their own pockets to pay for them? Is it not the people who put forth the best organized effort before the county court to have their road selected. Then take the matter of building bridges. Why is it that in the same county where all pay the same rate of road and bridge tax you will find one crossing with a good bridge and another of equal importance is left without a bridge for years? It is not unusual to see, when traveling through the country, a neighborhood with all the culverts built substantially of stone or cement while an adjoining neighborhood is getting along with the old and unsightly wooden bridges. And why is it? The difference is in organization. The neighborhood that is organized has leadership and team work and both are essential to success.

The Money Value of Education

Farmers as a body have not placed a high enough value on education and by that term here we mean in its narrow sense—school training. Too often we find men who may have succeeded in spite of any school training at all or at least with only the most elementary book knowledge, who think that the only training of economic value to a farmer is that which he gets by the hard, slow way of personal experience out of the fields and the feed lots. But when we examine into the facts we find that even a farmer—whether he be land owner or tenant—will upon the average get a large money value out of an education and the more thorough it is the more valuable it proves to be. A recent survey made by the farm management department of the state university, getting first-hand information by visiting the farmers and taking their own statements, shows that out of 272 farmers who now own their land but who started out as renters, for those having only a rural school education, it required on the average 4.7 years before they became owners of land while those having a high school education became land owners in 2.4 years. The average yearly income the farmers received who had obtained only a rural school education, after all expenses and interest on investment was allowed, amounted to only $218. Here the value of extra time spent in school stands out very strikingly because those who had high school or college education received an average labor income of $808, which is $590 a year the high school man is able to get out of his labor above what the man receives who has only a rural school education. Among tenant farmers, upon the above basis those who had a high school training had a yearly net labor income of $265 more than those who had received only the training of the district school.

A High School Possible in Every Neighborhood

I need not stop here to discuss the value of a high school or college education for increasing a man's usefulness to society, his power of leadership in church or state and his capacity for greater enjoyment obtained from books and other literature as well as from social intercourse with his fellowmen. But may be all this mention of the value of education is unnecessary in this article. Possibly all our readers will agree at once to this contention and want to know how we are to make it possible for every boy or girl living on a farm in the state of Missouri to have the opportunity to get a high school education? My answer is by organized co-operation. Under the law of Missouri giving state aid to high schools it is possible to build and maintain a good rural high school in any fairly good agricultural section of the state if the people want it. No individual can do this alone but if he has the leadership it is easily possible for him to bring about an organization of the community that can do it successfully.

The first step is to talk it over among the neighbors—the fathers, the mothers, the children—and if it is found there is a wholesome desire for a better school then a letter addressed to your county school superintendent will, in all probability, bring that official right into the game, and from that on he should direct the organization. If the county superintendent should fail to get enthusiastically into the effort, then the state superintendent of public schools, Jefferson City, the teachers' college of the state university at Columbia, or the state normal school in the district will any or all be ready to furnish the desired information as to what details of organization are necessary. There is not a good farming district in the state—we repeat, not one—but what a territory of four to six miles square can build and maintain a good high school with the direct aid the state will give and with less than one-half the cost now sustained by many of our towns and cities. The question is, do you want a high school for the benefit of your children? Do you want to give them the increased earning power we have shown it will give them? Do you want to give them this increased capacity for enjoyment and usefulness in society? If you want to do this there is a way to do it and only one way and that is by working together—by organization. And perhaps, dear reader, you are the one to lead it. Will you try?

Shall the Rural Church Live?

The welfare of this nation and all other nations rests upon two pillars, the moral and material prosperity of the people. These must both go hand in hand if in the future we are to maintain our position as a nation. Just as the free school is the bulwark of our intellectual and material prosperity, so is the church the chief corner stone of our moral progress. If these propositions are true, then we must look upon the decadent condition of so many rural churches with sorrow and with alarm. I ask my reader to take a mental picture of the condition of the rural churches in the territory of his or her acquaintance. How many of them are growing? How many are standing still? How many are positively on the decline? From information furnished us by Dr. A. W. Taylor, Secretary, Bible College, Columbia, we learn that from a survey of 2,000 rural churches about 45 per cent were dead or losing ground, 23 per cent were standing still and only 32 per cent, fewer than one-third, were growing or making any progress at all. The rural church should be the very embodiment of co-operation in all the work for the social as well as the religious life of the whole community. Dr. Taylor very aptly says, "If the rural church was a community church it could be the common meeting place of the neighborhood for all things good. In it the youth could gather for socials and recreation and these golden means of character building could be utilized by the church for the cultivation of religion. The average rural neighborhood has no adequate meeting place for the social life of its youth. Farmers' clubs, mothers' clubs, domestic science classes, sociables, farmers' institutes and other forms of profitable neighborhood organizations could find common roof under the one place that ought to be the community center."

But no matter how well organized any neighborhood may be with the school or the church, there is yet a broad field left open for the farmers' club, the homemakers' club, the corn club or pig club for boys, the canning club or sewing club for girls, the grange, the farmers' union and various other organizations, all of which are doing a wonderful amount of good wherever they are at work and whenever the right co-operative spirit is manifested. It is only possible to touch this question in a suggestive way in the brief space allotted to this article, but we have said enough to show that the opportunities for social, moral and intellectual betterment are limited only by the breadth of the desire of the people to make progress and by the co-operative spirit of the whole community. No man is too weak or too strong, too small or too great to join hands with his neighbors for the common good.

THE COMMENCEMENT HORSE SHOW

The First Annual Commencement Horse Show was held under the combined auspices of the students of the College of Agriculture and the citizens of Columbia during Commencement Week at the University, June 1 and 2, 1914. It was held on the University Athletic field and was pronounced successful by those who attended.

The idea of the Commencement Horse Show had its origin with the students in the College of Agriculture who were able to see the good which might be derived by all concerned from such an institution. They called to their aid the citizens of Columbia who responded very liberally. In order to finance the show 150 citizens of Boone County guaranteed to pay any sum up to $10 each in case the Horse Show was not a success financially. The Agricultural Club, which is an organization of students furnished some $200 for running expenses prior to the time the show was held. The attendance at the show, which was the only source of revenue, was sufficient to pay all bills involved and premiums awarded.

Commencement week at the University has come to include a number of different entertainments staged by the various schools which compose the institution. The agricultural students took as their part of the program for this week, the Commencement Horse Show which was held on two different afternoons. About 30 classes were exhibited and judged and $1100 in premiums and several hundred dollars in plate were awarded. The students of the University and many citizens of Columbia and Boone County, besides citizens of other parts of the state who were interested in horses attended the show. The object which the students and citizens had in scheduling the Commencement Horse Show was to furnish a means of high class entertainment which would at the same time serve as an educational event and furnish an opportunity for those who attended to become better acquainted with each other and with good horses. It clearly gave those who were not familiar with the ideals and efforts of the students, a close insight into the thoughts and ambitions of students, particularly in the Agricultural College.

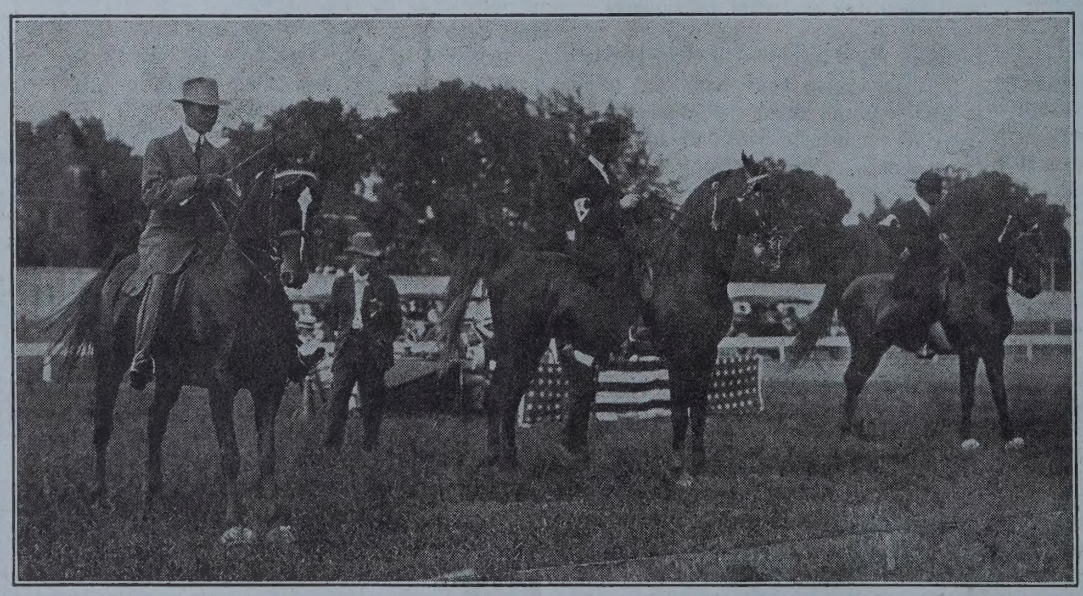
Officers of the Horse Show made every effort to establish one which would be high class in every respect. The exhibition of good horses by reliable and high class people was encouraged. Exhibits from individuals of any other sort were not encouraged and would not have been tolerated. An effort was made to secure an attendance of people whose ideals were high and who would come to the Horse Show for entertainment and instruction. That this object was accomplished is the testimony of all who attended the show or who knew of its character. Students, and their parents who were here for Commencement exercises came in large numbers, some of the business houses of Columbia closed during the time that the show was in session. Automobiles filled with people came from the surrounding county and the various nearby towns. Many horse enthusiasts from other Missouri towns came by train and spent both days. It was a general getting together of 1500 to 2000 people with the horse occupying the center of the stage.

The most important result of the Commencement Horse Show was the spirit of co-operation in the production of the event which had direct bearing upon the ideals of those in attendance. The spirit shown in the attendance at the show, the interest shown in the event, the good will seen among the people toward the student body and the effort made by the students to build up a high class horse show in which there would be a mutual interest, was ever apparent. Over and above this still remained the fact that this event carried with it a healthy moral tone which made for better ideals among all concerned and pointed to the fact that the object of students in the College of Agriculture and people outside that body were one and the same, i. e., the building up of an outdoor event which would be educational and inspiring.

With the results of last year so encouraging it has been decided to schedule the Second Annual Commencement Horse Show. Everything points toward even a greater success than was had last year. People who have horses to exhibit and people who live in the country tributary to Columbia are interested in the show. They want to see it a success because it has proven itself an event worth while. There is a disposition on the part of the majority of people to support the management of this show in every way possible. This spirit was born out of the good feeling which was seen to exist last year. The prime object of the horse show should be to furnish a place where those interested in upbuilding country life can enjoy health inspiring exercise and pastime; a better education in things agricultural; can get together and with common ideals and ambition, enjoy the good which comes from a high class educational entertainment. The horse show should provide a common viewpoint of both city and country people. While the horse is a farm product he is also of city service. While the automobile and motor truck have come to perform part of his tasks yet there still remain many functions for the horse to perform. Above all, the association with good horses is an inspiration and leads to the heightening of ideals and bringing out the good in the character of men and these should be considered of prime importance in studying the results of this particular event.

In conclusion it can be said that the Horse Show has no financial gain as its object. It simply seeks to make its revenue sufficient to pay its expenses. The work of students is given for the inspiration and enthusiasm which it creates among them. It is hoped that the future will see the Commencement Horse Show an annual event looked forward to by all. If it serves this purpose and thereby brings together high class men and women who have taken for their life work some form of agriculture as an occupation and the upbuilding of wholesome ideals, if it contributes to the public good, it will have accomplished the desired results.

E. A. Trowbridge,



At the 1914 Commencement Horse Show, Rollins Athletic Field, University of Missouri. First at reader's left is Mary Dowling, owned by Col. Paul Brown, St. Louis, D. E. Holman, rider. In the center is Kentuck's Best, owned by Miss Lula Long, Kansas City, John T. Hook, rider. At the right is Cason McDonald, owner and rider, Tom Bass, Mexico, Missouri. This ring compares favorably with the best shows of the country.

ONE SEASON NEARLY PAID FOR SILO

In your issue of January 15 I notice you appeal to those readers of The Missouri Farmer who have silos to write something of their experience. I am now feeding from my first silo though I have read all I could about the silo and observed the use of it by others for several years.

In the first place let me say that I believe the time has come when no one who owns and operates a farm can afford to be without a silo any longer if he expects his farming operations to be most profitable and at the same time keep up the fertility of his land. I believe that corn ensilage is the most economical feed that can be produced on the farm and it will enable one to keep and feed more live stock on his farm and make a larger profit than can be done by any other means.

There are several good reasons for this which I think can not be disputed. To begin with it is the very best way to conserve the corn crop because it eliminates waste and the corn is harvested early in the season when the weather is not cold and before the crop has become damaged to any extent by weather conditions or wasted by birds, mice, and many other pests. Furthermore, it will transform an inferior corn crop into a most excellent and economical feed for all kinds of live stock although the better the corn the more food value in the ensilage of course.

In the second place the crop can be removed from the land early in all sorts of weather conditions and land sowed to wheat, rye, or other forage crop which will get a good growth before cold weather and greatly reduce the cost of the winter's feed. If you should wish to have a corn crop on the same land the next year this wheat or rye after providing green forage during the fall and early spring months and preventing the erosion of the soil, can then be plowed under and the land will be in better condition for another crop of corn.

Furthermore, if your silo is properly located your corn crop is right where you want to feed it and where a large number of live stock can be fed with the least amount of labor and where weather conditions do not interfere.

Now as to the particular kind of silo you should build I do not consider that so important provided it is air tight and keeps the ensilage well. Mine is a stave silo made of Oregon fir and it has been very satisfactory so far, as my ensilage has kept well and all my stock seem to be very fond of it and thrive on it. I believe if a good stave silo is well anchored into a deep concrete base and is kept painted on the outside and tightened during the summer months it will be of good service for many years.

As to the size of silo one should build, I should say that will depend upon the acreage of corn you wish to plant for that purpose each year and the amount of live stock you may wish to feed daily after the silo is opened. An estimate should be made of what your acreage will yield in a season of short crops so that you will always have enough corn to fill the silo. I think about the surest way to estimte the amount of ensilage per acre is to figure one ton for each foot in height of stalks per acre for checked corn. For instance, if the stalks will average 8 or 10 feet in height and are evenly distributed over the field you may expect to have about 8 or 10 tons of ensilage per acre. After the silo is opened it is important that from 2 to 4 inches of the surface be fed each day, especially if any of it is fed to horses, so that it will always be fresh and free from mould. I have been told by a competent graduate veterinarian that there is no danger whatever in feeding ensilage to horses and mules if it is free from mould and my experience so far verifies that statement. This alone should be an inducement to anyone to put his corn into the silo because so many horses have died from the effects of fodder poisoning during the past few years.

In order that you may have good ensilage I think it is very important that you put plenty of water into it while filling. I used an inch hose attached to a 10-bbl. tank of water and kept it running into the blower all the time. My corn had become pretty dry and I believe a little more water would have made it a little better. The water helps to exclude the air and some say you can not put in too much water, but I am not prepared to say about that, if your corn should happen to be put in too green.

Another important factor in producing good ensilage is to keep it well tramped while filling. I am sure you can not do too much of that because the tighter it is packed the better the air is excluded.

As to the value of ensilage as a feed, I believe it is by far the cheapest that can be produced on the farm. I think it is always best to mix other feed with it to get best results, but cattle will winter well on ensilage only. I am feeding a bunch of calves this winter and they eat about 25 or 30 lbs. each of ensilage daily. During the past two months of December and January they made an average gain in weight of 115 pounds. They were fed nothing but ensilage and the weather was very cold nearly all the time. My horse stock were not fed so much ensilage but a little timothy with it and they have wintered well.

In conclusion let me say that considering the present high price of grain and hay my silo will I believe almost save me its cost this season.

E. R. Hamilton,
Boone County.

OUTLOOK FOR PUREBRED CATTLE

Some time ago I received a letter from you asking what I thought of the outlook for the farmer raising pure bred cattle? I believe that now is the time to make a start and will give my reasons for believeing this: The fact that some of the states that have been the biggest producers of cattle for breeding purposes, have suffered by reason of the foot and mouth disease until, even where their herds have not been infected, the very fact that these states or even parts of these states, have been under quarantine so long that to mention that an animal is from this territory will "throw a scare" into the prospective purchaser. If Missouri can continue to ride through the storm without getting the infection, the buying public will pay a premium for Missouri-bred breeding cattle. Right now the west is watching us and if the Missouri breeder was in a position to make shipment, you would see our state drained of pure bred bulls in thirty days. But unfortunately the western states are quarantined so that we can not ship to them. I recently made a trip to the Shorthorn herd of W. A. Forsythe of Greenwood, Missouri, where I bought a very fine young white bull to head my herd. I also bought some good young Roan females of C. S. Parker. I find the heifer market (especially roans) high but the bull market is very low. I think Mr Forsythe sums up this situation pretty well and will quote him in this matter A friend and I had written him for prices on two good young white bulls of Scotch breeding and he priced one at $300 and one at $250 We went to look at them at these prices and after looking at them asked what would buy the two bulls. Mr. Forsythe's reply was: "Now before I quote you as low a price as I am going to on this pair of bulls, I am going to tell you why I am doing it. I remember the price I quoted you gentlemen on these bulls and it seems silly for me to make you the low price I am going to and I don't want you to think that I am doing it because I feel like I had priced them too high, for I consider them worth the price I made you. But I have about 60 bulls here that need to go; I have calves in every pig shed on the farm; I am simply loaded with cattle; and while my commission man at Kansas City told me yesterday that he could give me an order for 200 bulls if I could ship them, I have no assurance when this quarantine will be raised so I can ship—it may be in time for the western breeder to get these bulls for spring service and it may not—and while I am waiting to see what may be done, I can do nothing but take care of these bulls. I need my time to be doing something else and my winter and spring calves are beginning to come, so if any of my Missouri friends are in the market for bulls and will come to me they are going to get them; and if you gentlemen are in a position to buy, I am going to make you a low price." We informed him that was our business there, so he said: "I am going to make you a price of $400 on these two bulls." We bought the bulls without asking for any more reduction for we felt that he had stated the facts, and that he had quoted us a better price than he would if conditions had been normal.

Now the small breeder who depends on his local trade to take his bulls, does not feel this loss. Any breeder can sell ten or twelve bulls at home and not be hurt and get good prices. But the big breeder who has built up a car lot trade to western men is the one that is hit hard. He has to hunt new territory for his surplus, and to sell the quantity they have takes some rustling to sell one at a time. At my annual sale of Berkshire hogs in January, I sold 3 registered bull calves and 3 grades, all were sired by the same bull and grades averaged a little older than pure breds and were from equally as good dams. All were too young to sell, yet my pure breds brought $50 each and my grades $27; this leaves quite a nice balance in favor of the pure breds, as all fared alike. If my bull calves had been three months older, so they would have been old enough for Spring service, I am sure the average would have been much better. No farmer should miss the chance to buy a good bull now, and he should buy RIGHT NOW, for if this quarantine should be lifted it will be "good bye bulls," for the western breeder knows where these bulls are and if conditions are so they can get them, I believe the State of Missouri will be drained of good bulls in thirty days, or less time.

Then the commission man has orders for them and he is in touch with every big breeder in the state; his future business depends on his western friends getting bulls, and he will order them out as soon as possible. Now it seems to me that Mr. Farmer should lose no time in getting in touch with these big breeders and "BUY A BULL NOW." These big herds have not been culled and you can select just what you want and, believe me, the owner will make you a good price. Why should Missouri act as the breeding ground for the good bulls for the west, and the Missouri breeders use culls? If there is any one line of stock that the farmer needs a good "shaking up" about, it is cattle and hogs.

We are simply breeding to what ever kind of a bull and boar that our neighbors happen to have, regardless of breeding or quality. This is bad business policy. We can not afford to put 75c corn and $18 hay into old canners, neither can we afford to breed to the scrub bull and sell the calf at his value, when a few more dollars invested in a good pure bred sire will double the price obtained for the calf. You can't go wrong in buying a good bull right now. If you do not feel like letting loose of $100 for a good calf, just talk it over with your neighbors, and two or more buy one; you will be making money for yourself and your neighborhood.

Ben T. Prigmore, Saline County.

CORN

wants what it wants — when it wants it.

THE "Breeder's Gazette", January 21st, says,—"There are times when quick action is a straight road to profits. If there ever was a time in our agricultural history when bumper yields should be assiduously sought it is in this year of 1915.

No matter how rich your soil,—no matter how much plant food you may have in it, for this year's crop, you need this year's plant food,—the quickly available kind, all ready to nourish the corn and wheat, to mature the bumper crop in time for the bumper price.

Empire Heavycrop

Supplies this kind of available plant food,—available phosphorus, available nitrogen and available potash. According to soil experts, all these are needed in most soils, and in this brand we furnish them in an available form. Remember, wheat and corn do their principal feeding in 60 days and they "want what they want when they want it."

TRY-A-BAG. Cover an acre for $1.50 to $3.00. See for yourself the value of available plant food. Make every acre worth two. Get the best results from your cultivation and rotation. Get our price on any quantity you want, from one bag upwards, shipped to your own freight station. Get our agency proposition and carload inducement. Write for our interesting booklets "King Corn" and "Better Crops",—both are free. Write today and have it off your mind.

EMPIRE CARBON WORKS LOCUST STREET, ST. LOUIS, MO.

Sweeping The Field

FRIENDS, here is the New Galloway Sanitary Cream Separator! Its clean skimming, its perfect mechanical design, its smooth oval, sanitary surfaces and years of built-in satisfactory service are winning us customers by the thousands. It is made so good in our factories that I will send it anywhere in the U. S. without an expert to set it up, to any inexperienced user for a 90-day test against any make or kind that sells for even twice as much and let you be the judge. It's the most modern, the most sanitary, the most scientific, the cleanest skimmer, the most beautiful in design of any cream separator on the market today and I have seen them all. Get my new 1915 price-reducing, sliding-scale proposition before you buy a cream separator of any make or kind at any price. Just drop me a postal today. Address

WM. GALLOWAY COMPANY
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Shipped from Chicago, Waterloo, Kansas City, Council Bluffs or Minneapolis.

CARE OF THE NEW LAMBS

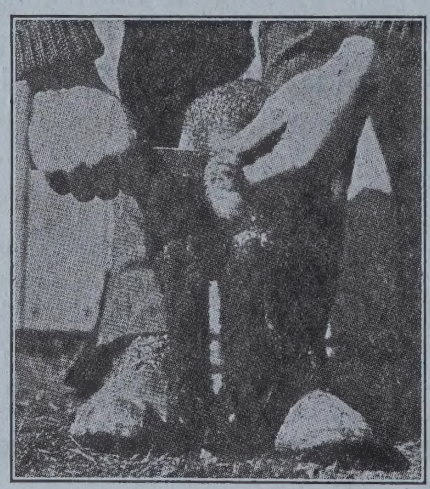
The present price of lambs makes it highly important that they receive all the attention that they need. The flock has been the "mortgage lifter" for the farmer this season. The high price of mutton and lambs and good prospective price for wool has set many farmers to thinking more seriously about his flock.

Many of the early lambs have arrived and the lambing season is about half over. The docking and castrating of the lambs should not be neglected longer. Docking is a very simple operation and can be accomplished with practically no danger. Market men state that docked lambs are worth from 25 to 50 cents more per 100 pounds—primarily because they present a more attractive uniform appearance which is of much value. Lambs usually scour a little when first turned on grass and the dung collects on the tail, making a very bad appearance and an excellent place for maggots to grow and cause trouble.

If the lambs are young the tails can be taken off with a knife about one inch from the body. Lambs up to two weeks of age can be successfully docked with a knife. This method has the advantage of requiring less labor and the wound heals more quickly than a lamb docked with hot pinchers. The hot pinchers are used more successfully on older lambs because by this method there is practically no danger from bleeding. The pinchers are nothing more than large iron shears which are heated to a good red heat in a portable forge or more conveniently in the flame from the tinsmith's gasoline blow torch. These shears can be purchased from any of the sheep supply houses for $1.25 to $1.50 per pair.

When docking lambs with hot pinchers care should be taken not to be too quick nor have the irons too hot. The ends of the blood vessels must be thoroughly seared to prevent bleeding. In order to prevent burning the body of the lamb it is advisable to put the lamb's tail through an inch board nailed to some convenient post—one man holding the lamb while another operates the hot pinchers.

Castrating is not so important as docking if the lambs are to be sold in June or early July. However, if they are to be kept over the summer it becomes very necessary to castrate the ram lambs. It should be done at the same time as the docking is done.



One man docking with a sharp knife

One should select a warm, bright day for docking and castrating to prevent cold and other attendant difficulties in case the lambs bleed badly and become weak in condition. It is also preferable to dock and castrate the lambs as soon as they become good and strong—from two days to three weeks of age, depending upon the condition of the lambs. However, if the farm work does not permit the docking and castrating at this time, it can be successfully done at an older age.

Newly castrated lambs should not be disturbed for 12 to 24 hours. That is, they should not be driven any distance.

If one is careful and clean there is practically no danger from docked and castrated lambs.

Howard Hackedorn,
Missouri Experiment Station.

Docking with red-hot pinchers takes two men

THE FARMER SHOULD BE A BETTER BUSINESS MAN

Why doesn't the average farmer make more money? The Scriptures say, "the love of money is the root of all evil," and if he respects this teaching he does not make money his god. But "Godliness with contentment is great gain. For we brought nothing into this world and it is certain we can carry nothing out. And having food and raiment, let us be therewith content." We do not believe there are many of this class, but we think most farmers, just like other people, are trying to make all the money they can, but do not make money so fast and easily as they would like to. There are various reasons why they are not making more money—perhaps many more reasons than I can give.

First, the farmers are paying more than their share towards the support of the government. The middle men—business men, so called—absorb more than one-half the money which the consumer pays for farm products—that is too much considering the service they render. Another reason why the farmer is not more prosperous is that he is not as a rule a good business man. The farm papers should help the farmers along this line so that he will become a better business man and he can then buy and sell to better advantage and greater profit.

The merchants of my town have long since called me a "poor customer" because they say I don't buy enough and that I am always trying to sell something and that I want a price that don't allow them to double their money. Perhaps this will cut me out of the class of the average farmer but I am asked to answer this question from the point of view of the "average" farmer.

I admit we (our family) are poor customers for the groceryman because we grow a great variety of the very things the groceryman has to sell and of course we eat what we need of our home-grown produce at the fifty-cent cost instead of buying at the store as so many farmers do at the dollar price. Here we save fifty cents and that is profit to us. The "average" farmer buys many things which we produce and which he could and should produce. We have better, fresher produce on our table, full weight every time—free from paper sack and tin can flavor.

We are also poor customers for the doctor for we eat apples instead of pills and we drink good clean milk from our own cows instead of we-know-not-what out of a bottle. The average farmer uses tobacco but as we do not we can add that to our profit account. Tobacco is used at a great cost to both body and mind and the user can't perform the best service—tobacco causes many to be "therewith content" even without sufficient food

Why Disk Cultivating Brings a Better Crop

As you see in the illustration above, the disks leave the roots intact, down in the soil. The shovel cultivator cuts them off and lifts them toward the surface. Here, roots cannot get moisture—the plant is robbed of nourishment. The shovel turns the hard baked soil down to the roots and throws the moist, life giving soil up to the sun. The disk cultivator rarely goes deep enough to cut the roots. Should the disks touch the roots, they leave them deep down in the moist soil. The disk rolls over the soil. Its pressure is always downward. The disk blade keeps mulching the surface and killing the weeds, in any kind of soil, no matter what variety or in what quantity the weeds may be; when the field gets full of clods, the shovels knock them about and break the corn. The disks cut and crumble the clods to form a surface mulch and conserve the moisture below.

JANESVILLE Disk Cultivator

Manufacturers of Farm Implements

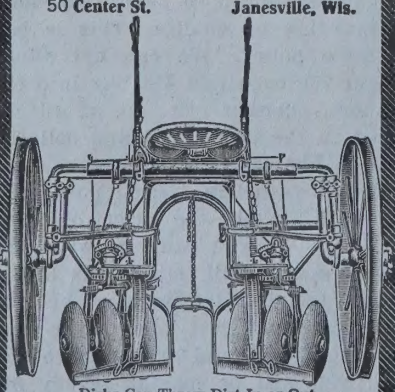
Corn cultivators have been our hobby for half a century. Here is a cultivator that we consider as near perfect as can be made. You can tilt the disks to any angle—in or out. Disks cut deep or shallow and do a good job of hilling or level cultivation. Following the disks we have a surface blade. The blade is sharpened and its action on the spring steel holder practically gives you two cultivations with one trip. This surface leveler is found on Janesville cultivators only.

Cultivate your corn this year with the Janesville Disk Cultivator. Increased corn yield usually pays back its cost with the first crop on 40 acres or more. It's easier on the horses, too. A rolling, springy motion of a disk is a much lighter pull than the dead drag of a buried shovel. You can cultivate more acres per day and do the work better.

Write for Literature

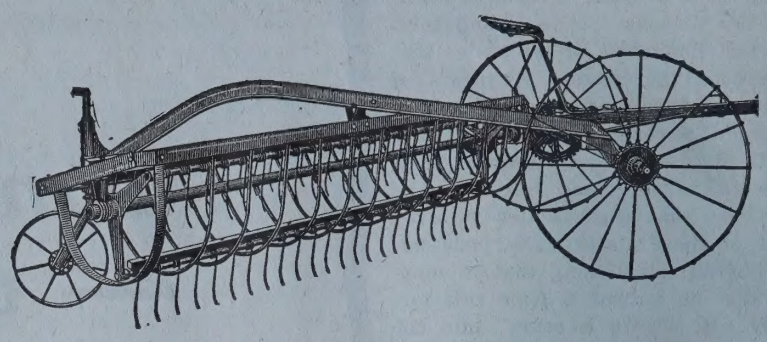
and read more about the advantages of cultivating your corn and potato crop with this disk cultivator.

JANESVILLE MACHINE CO.
50 Center St. Janesville, Wis.



Disks Can Throw Dirt In or Out

International Harvester Haying Machines



YOUR haying tools must be strong and steady in frame; they must work easily and smoothly; they must get all the hay and put it into the best shape possible. That is why you must consider **International Harvester** hay machines, for **I H C** hay machines have never been beaten for good work in the field or for durability, at any time or place.

I H C local dealers sell these machines. It is to their interest to see that your hay is put into the barn, stack or bale, in the best condition, regardless of the weather or accident. When they sell you an **International Harvester** tedder, side delivery rake, self or hand dump rake, stacker, sweep rake, loader, combined sweep rake and stacker, or hay press, they sell you a machine that you can depend upon; that will give you perfectly satisfactory service.

Drop us a line, and we will direct you to the nearest dealer handling our machines, and will also send you interesting catalogues on any one of these machines you may be interested in.

SEE THE INTERNATIONAL HARVESTER EXHIBITS SAN FRANCISCO SAN DIEGO 1915

International Harvester Company of America
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or raiment for themselves or families. Useful industry and true economy which includes the economy of health furnish the only true basis of real prosperity. Those who practice anything else will ultimately fail to hold the place of even an "average farmer."

Many farmers buy too much machinery and then fail to take good care of it—to put it under shelter when not in use. Too many depend on buying feed for stock that should be raised on the farm. Some women want a house larger and better furnished than the farmer can afford and they seem to think that clothes are made for other people to look at instead of for their own comfort and convenience and so they spend too much trying to keep up with the latest styles of dress.

Many farmers are handicapped by lack of help. It is hard to get sufficient hired help that is reliable. We solved that problem by training up three sons and three daughters of our own which we think is a family of about the right size, yet the "average" person seems to think it a disgrace to have such a large family.

Through industry, but not over-work and by economy, but not stinginess we have lived well and can give each of the children 100 acres of land and we owe no one anything.

While we have been grandparents several years, we are only as old as we feel which is about the same as when we were married thirty-five years ago. It is not so much the amount of money people make as it is the use they make of it that decides whether they shall be poor, average or about the average.

You ask for a photograph of myself and home but I think I am more modest than the "average" farmer and as I am little and old and my hair is turning gray I don't believe my photograph would be considered an ornament. Our house is two story with basement, has ten rooms, bath, gas lights, but is without ornaments, not even lightning rods nor plastered with a mortgage.

B. F. Wampler, Jasper County.

[One fine thought in the above article is that "It is not so much the amount of money people make as it is the use they make of it" that makes the difference between a poor and a good farmer. The farmer has an advantage over others in that he can enjoy many of the finest things of life without anything save his own industry but after all there are many other things if we enjoy we must pay the price and therefore farming should return him a profit.—The Editor.]

Firestone

Has Done Better Than Meet Popular Prices

HERE, is one example: a small size, 30x3, plain tread, shown actual size. The same relative values apply in all sizes. Note the detailed specifications of the section opposite. Then ask any neutral repair man which manufacturer gives the most in quality. He cuts into all makes of tires. He knows.

You want that extra layer of fabric in the Firestones—4 plies instead of 3 in this small size—7 plies in the 5-inch Firestone, for instance, instead of only 6 in the ordinary.

You want that cushion stock in the Firestone. There is none of it in ordinary tires. Yet it is impossible to build a full service tire without a cushion layer under the breaker strip. You must have it to prevent bruising and overstraining the fabric.

Firestone Tires have never been built down to a price. You will find everything in a Firestone that ought to be there. Firestone Tires are vulcanized by the "two-cure" process. This is more expensive than the "one-cure," but it allows rigid inspection in the making and eliminates fabric buckles and other defects.

The Sections Show These Things—the Wear, the Mileage, Prove Them

Take the word of the specialists of the industry—take the record of the Firestone Tires for 15 years—as your authority that these extras of quality are necessary for real service and economy. The Firestone organization, the largest in the world specializing on tires, can make and market tires and tubes at the lowest possible cost to you, the user. The tires and prices prove it beyond argument.

Firestone Tube Prices Give Added Proof of Firestone Savings to You

Firestone is below them all on tubes. WHY? A tube is good or bad to the eye and the touch. Quality can and does vary, weight can be and is skimped, but not so radically as in tires. The buyer won't have it. Having to come near meeting Firestone quality in tubes others must go above Firestone in price.

Because, as stated, Firestone manufactures and markets at minimum cost to you. But we are no more proud of giving you the best tube below the others than we are of giving you the best tire for so little more. And the proof of appreciation among car-owners lies in the fact that their demand for Firestones last year established 50 per cent more dealers for us and increased our output 78 per cent.

So compare the tires inside. Compare the prices. Compare the service records among your acquaintances—then get Firestones from your dealer and enjoy—

Firestone Net Price List to Car-Owners

	Case Round Tread	Case Non-Skid	Grey Tube	Red Tube
30 x 3	$ 9.40	$10.55	$2.20	$2.50
30 x 3½	11.90	13.35	2.60	2.90
32 x 3½	13.75	15.40	2.70	3.05
34 x 4	19.90	22.30	3.90	4.40
34 x 4½	27.30	30.55	4.80	5.40
36 x 4½	28.70	32.15	5.00	5.65
37 x 5	35.55	39.80	5.95	6.70

"Most Miles per Dollar"

FREE—A waterproof bag for Inner Tubes if you tell us the make of tires you use and the dealer you buy from. Also ask for book No. 41.

Firestone Tire & Rubber Company, Akron, Ohio—Branches and Dealers Everywhere

"America's Largest Exclusive Tire and Rim Makers"

THE CRIMSON TRAIL OF A NEW IDEA

"The wise in heart will receive commandments; but a prating fool shall fall."

"For wisdom is better than rubies."

"A wise man will hear and increase in learning."

"Wisdom crieth without; she uttereth her voice in the streets." "How long, ye simple ones, will ye love simplicity? and the scorners delight in their scorning, and fools hate knowledge?"—Proverbs.

A new idea has always been a dangerous possession. In the older days men were killed and tortured for maintaining a new idea, but in our modern days he becomes an object of the scorner. He is despised by those who "hate knowledge." The mob do not crucify him for fear of the law. All the law allows now is to say nasty things about him, and make "smart remarks."

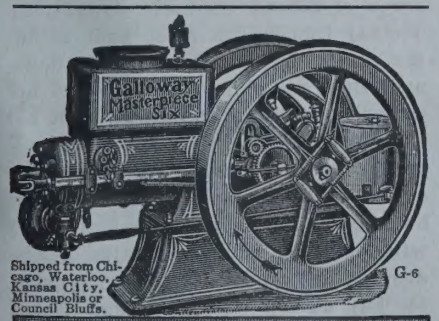
The martyrs of Bible history were men with new ideas, and who had manhood enough to announce them and defend them, and many such went down to death at the hands of a howling mob.

It seems evident that the real discoverer of the circulation of the blood, dared not make his discovery known lest he would be put to death. Gallileo wrote out his discoveries but dared not allow them to be published until after his death, lest those who "hate knowledge" would kill him.

Columbus had an idea that the earth is not flat, and he was called a heretic and a fool. Some thought him insane, but one woman thought it a good "bet," so outfitted him and sent him to sea. Result—branded as an imposter and "faker," put in prison and died in neglect, poverty, and disgrace. So much for living ahead of his time.

Had Alexander Graham Bell lived in Salem, Mass., only three centuries ago, and had been caught talking into a tin can with a wire to it, the wire reaching to another room and a man listening at another can, and could hear each other, they might not have killed Bell for discovering the principle of the telephone, but they would have been sure that he was bewitched like the cream in the churn, or the horse that went lame, and it would have looked like some poor, wrinkled old woman had bewitched him as she had the cows, and the lame horse and many other things. Bell was surely blaspheming the Almighty because the Almighty never intended people to talk along a wire, but the fault could not have been Bell's but that old woman had bewitched him. Suspicion would have grown more and more intense, until finally the mob insisted that she be tried in the name of the law for "bewitching a good man." She is ar-

(Continued on page 9)



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We give you MORE POWER for LESS MONEY because QUALITY is our WATCHWORD and VOLUME our MOTTO. We are the largest manufacturers in the world making gasoline engines selling direct to the consumer. All we charge you for is ACTUAL COST of MATERIAL, ACTUAL COST of LABOR and one very small profit based on the most tremendous output. The Galloway Masterpiece BIG SIX and other sizes are made in our own factory in enormous quantities. All parts standardized and alike, made by the thousands on automatic machinery.

Sold to you direct for less money than engines no better, and in many cases not nearly as good, can be bought by dealers in carload lots for spot cash.

Orders are pouring in for the New Masterpiece Six in a perfect stream. WHY? Because we give

More Power For Less Money

than anybody in the engine business today. Remember our engines are not overrated nor high speeded, which means short life, but are rated by time-tried experts, not impractical college professors; have long stroke, large bore; heavy, and built for heavy, continuous, hard, satisfactory service.

When you buy a horse you don't want a Shetland pony. You want power and plenty of it so that it won't lay down on the job.

Don't Get Fooled

By the kind of talk intended to sell you a light weight, small bore and short stroke, high speeded engine that will not stand up under the power strain demanded.

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Wheels Under the Load

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100 SPECIAL SALT FISH lbs. ASSORTMENT $6.50

50 lbs. herring, 35 lbs. trout, 15 lbs. whitefish. Just think —6½c per lb. for fine select fish—**"Cheaper than meat" and every fish guaranteed.** Notice keg in which "Satisfaction Brand" fish are shipped. Trade mark on keg is your protection for good fish. Send us P. O. Money Order for special assortment and write for our prices on other fish. Remember, we guarantee every shipment of fish to be perfectly satisfactory or money refunded.

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Geo. B. Ellis - - Managing Editor

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Agents Wanted. We want some one to represent us in every community and make up clubs for which we will pay liberal commissions. Write us for terms and sample copies.

We solicit communications from farmers and members of the family on timely and practical subjects. Photographs illustrating farm life or plans for buildings, live stock, etc., are appreciated.

To render service is our aim and we will endeavor to answer all pertinent questions or have them answered by competent authority. When answer is desired direct, always inclose stamp.

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MERIT WILL WIN

A man is sometimes engaged in a good cause and for a time fails to get much support or following, but if his cause is just and he has enough tenacity of purpose to hold on he will finally win. Any change from established usage will always meet with opposition because we can not all see even a good thing at the same time. When the agricultural colleges were first established they were bitterly opposed and denounced as impractical by ten farmers to one who could see any good in them. And after many years of development and betterment there are a great many farmers who will not admit there is any good in an agricultural college. It is not surprising then that so many farmers can be found who oppose the recent move to help farmers—that of putting on a county farm agent. Of all the counties in Missouri employing a farm agent or farm adviser Pettis county secured the man best qualified by experience to fill such a position. But after nearly three years of efficient, earnest labor among the farmers of Pettis County there is still much antagonism among the farmers toward the employment of a farm agent. Sam Jordan, well known to most of our readers and one of the best known agricultural leaders in the state, is the county agent in Pettis County and during the nearly three years in that capacity he has held public meetings in nearly every school district in the county, has sent out thousands of circulars, has written many columns of information for the county papers and has visited hundreds of farms and given personal assistance, and yet recently a remonstrance was sent to the county court protesting again Jordan's re-employment and this remonstrance was signed by 585 persons. When these names, however, were compared with the tax lists it was found that 144 of them had not payed one cent of tax for any purpose.

At the same time a petition was filed asking for Jordan's re-employment which was signed by nearly 1700 names, about 1000 of whom were farmers, the others business men, professional men and others. This is a fine endorsement for Mr. Jordan's work in the county. When the petitioners are three to one as against the remonstrators and when these represent largely the men who pay the taxes of the county, it is good evidence that his work has been profitable.

We have always maintained that the farm adviser or farm agent as now called must show by trial that he is worth the money, otherwise his job was doomed and Pettis County farmers have decided by a large majority that the county agent is earning his money and that they are going to keep him.

PROFITABLE USE OF FERTILIZERS

The Missouri Farmer has always maintained that any farm practice to be permanent must be profitable and if any method or system can show a profit under ordinary conditions there need be no anxiety about its permanency. We have at all times taken the position that a proper use of commercial fertilizers was profitable and furthermore that under the conditions found in Missouri that the use of mineral fertilizers is essential on most farms for the maintenance and improvement of the fertility of the land. Having maintained this position at all times we are at a loss to know why any reader who has carefully read The Missouri Farmer for any considerable length of time should misunderstand our position. But here is a reader who has surely read something between the lines we had not intended within them. He says: "I am considerably surprised at the stand you take, editorially, against fertilizers on page 8 of your March 15 issue. . . I also note an article on page 4 that takes practically the same position. I will be glad to know what has occasioned your change of heart?"

It is impossible in a short editorial to consider thoroughly every phase of any single question and as we referred to fertilizers in the editorial only in an incidental way in our discussion of the question of the relative value of strictly grain farming as compared with a combined system of grain and live stock farming it is possible our questioner if he was looking for information about the correct use of fertilizers may have failed to get our viewpoint in that article. That it is possible to maintain the fertility of land in a high state of production in a proper rotation of grain farming no one will deny. But to do so we must lose a frequent crop and turn it under to keep up the humus supply and must either supply animal manure or commercial fertilizers to replace the plant food taken off with the crops. To make such a system profitable, and without profit there can be no permanency, we think it is generally agreed by our best agricultural leaders and farmers that we must have lands not subject to loss from erosion, or must be near enough to a good market so that we can sell high priced crops and possibly have the advantage of buying cheap manures from city stables, stock yards, etc. This system calls for a large use of mineral fertilizers but under the conditions mentioned is entirely practicable as we have always maintained. The man who is acquainted with Missouri farms intimately, however, must admit that only a very small part of our farm land will come under these conditions. We have today probably as many acres in grass lands as we have of plowed lands but the best farmers will tell you we plow too many acres and that unless we grow more permanent pastures and stop the great loss of soil fertility by erosion that it will not be many more years until we will face a difficult problem of finding a way to farm these uplands with profit.

It is a generally accepted truth proved by statistics based on the experiences of hundreds of our most successful farmers that live stock farming, that is a system of growing crops and feeding to animals, is more profitable as a rule than strictly direct grain farming. Some years there is no direct profit on the grain and forage fed to live stock, in fact, it sometimes happens that there is a direct loss. If it were possible for a farmer to quit live stock raising quickly without loss and to take it up again at once when conditions changed it might be advisable for him to change from live stock to grain farming at any time grain would bring more on the market than when fed to live stock. But it takes time to get established in the live stock business and often if the farmer should force the sale of unfinished animals he might lose more than his loss will be in feeding them. The only safe plan to follow is to make a regular business of whatever branch of the live stock business he is in and stick to it through both low and high prices.

Another advantage of live stock farming is that the farmer can utilize his coarse feeds—the straw, corn stover, summer grasses—in a profitable way while if he was strictly a grain farmer and lived a few miles from the city about the only use the crops would have would be for turning under for manure. The intelligent farmer can readily understand that when he can get fifty cents a bushel for corn fed to cattle and hogs and by that system can keep his land up so it will yield fifty bushels of corn per acre that he is making more money than if he were to sell the corn direct at the same price, but by the grain system he should only get thirty or forty bushels per acre. Farmers know that the actual cost of marketing the grain fed to live stock is often no more than is the cost of marketing the grain direct, and if he is many miles from a railroad it may even be actually less. It takes but two or three hours to drive a bunch of cattle to the station while it would take a number of days to haul the corn and hay they had eaten.

But under the most careful system of growing and feeding live stock there is considerable loss if fertility is going off the farm with the animals sold and loss of manure before it gets back on to the land. There is no other way to make up for this loss except to haul it back on to the farm in the form of fertilizer. Farmers are learning these facts as shown by the increasing amount of fertilizers bought during recent years. According to reports of the Missouri Experiment Station fifty-four thousand tons of commercial fertilizer were sold in Missouri in 1912, fifty-eight thousand tons in 1913 and seventy-one thousand tons in 1914. We favor the use of commercial fertilizer to increase our crop yields but we think the best way to use it is in combination with all the animal manure that can be produced on the farm.

No experiment station has done better work to determine the correct and profitable use of commercial fertilizers than the station at Woocester, Ohio, under the able direction of Dr. C. E. Thorne. Based upon experiments running for many years, Dr. Thorne finds that a man farming 160 acres of fairly good land and after allowing for interest on the land and equipment, depreciation, cost of hired help and other expenses that he would have as his net profit or rather for his pay for his own time, $180 if the land is farmed in the ordinary way in a five year rotation of corn, oats, wheat, clover and timothy, and without the use of any fertilizer. This is the average of 18 years' results from 1894 to 1911. On the same kind of land and for the same time—18 years—an application of 320 pounds of acid phosphate per acre, 160 pounds on the wheat and 80 pounds on the corn and oats—at a cost of $15 per ton the amount the farmer received above the cost of running the farm was $560 or more than three times what the man had who did not fertilize.

In the above the farmer added only one elemnet, phosphorus. When potassium was added in the form of muriate of potash at the rate of 80 pounds per acre on the corn and oats and 100 pounds on the wheat at an increased cost of $1.78 a year the farmer, after paying all expenses, would have $600 for his year's labor—$420 more clear money than the man who did not use fertilizer.

Under the same conditions and covering the 18 years' trials, but when a complete fertilizer was used by adding 480 pounds of nitrate of soda, the cost for fertilizer was increased, but after paying the increased cost the farmer has a net yearly balance for his own labor of $642. Thus it will be seen that the use of fertilizer pays a good profit on its cost, but if it is used in combination with barnyard manure the amount of fertilizer necessary to be bought is reduced and the profits largely increased. With sufficient manure produced to apply eight tons an acre every five years and the manure then reinforced by 40 pounds of acid phosphate for a ton of manure the net income of the farmer was brought up to $1820. There is no longer any question about the profitable use of commercial fertilizers but the question is the proper use and this is what we are trying to keep before the minds of our readers.

ARE YOU BUYING FEED?

When a man can buy feed for growing or fattening live stock and get a profit on the transaction he is doing a good business because in addition to his direct profits he has the extra fertility the manure will add to his land. But when a farmer must buy high priced feed to feed ordinary work animals or merely to maintain young animals through the winter without gain hoping to get a profit on cheaper feeds in the future he is to say the least doing a hazardous business. During the three drouth years 1911, 1913 and 1914 millions of dollars have gone out of Missouri for Western alfalfa that could have been practically all saved if farmers had sown a few acres of alfalfa on their own farms. We say this with a clear understanding of the fact that there are thousands of acres of land in Missouri not suited to growing alfalfa, at least not in its present condition. But there are few farms in the state where at least a small field can not be found that can be made to grow alfalfa abundantly and with only ten acres of alfalfa on the average farm most of the money spent for hay during the last four years could have been saved to Missouri farmers.

There is another chance to save this enormous and unnecessary loss. There was enough corn stalks which went to waste on nine out of ten Missouri farms last year that had it been put in the silo would have taken the place of this high priced hay. The Missouri Farmer has published many letters and we have others awaiting publication from farmers who say that the drouth stricken fodder put into the silo doubles its value. You can almost tell where silos are by the condition of the cattle. A few men find fault with the silo but they are the ones usually who do not have silos.

Let's have it "a silo at every barn and alfalfa on every farm in Missouri."

CRIMSON TRAIL OF A NEW IDEA

(Continued from page 7)

rested and as a test she is taken to a pond and her hands tied behind her, and she is thrown into the water, for test of gilt. "If she sinks she is guilty: if she does not sink she is possessed of a witch." What could be clearer than that? If she was a witch she was tied to a stake in the market place and stoned to death. You think now such things never happened? Well, history records more unreasonable things, and done, no doubt, by well meaning folks, but just such has been the "crimson trail of a new idea."

Less than one hundred years ago some folks in Boston had a "new idea." It was that the state should pay for schooling the children, our modern free public school, if you please.

A meeting was called to start the movement, but the big taxpayers said "No, this is not fair; let those who get the benefits pay," (and some are still saying it are they not?) as a result officers were sent to the meeting, broke it up, arrested the leaders and put them in jail." Many a hard fought struggle marks the bloody trail of that "new idea." And some seem to make it clear that the war is not over yet.

Just a word and this chapter ends. This one is brand new just off the griddle. It is "Cheaper money for the farmer." It is having hard sledding. Many wise ones are now heard from with many dire and ill forebodings. Hear now, "It may be a dangerous thing for the farmer." It may mean woe to him." "He borrows too much money now." "He does not use wisely what he does have." Now, is not that mighty wise? Who but a "spring" Solomon could announce so great wisdom? Listen, let's make a diagnosis, and find the "nigger in the wood pile," the "bug under the chip" as it were. You see some have money to loan on farms, and you see why they might be prompted to utter such wisdom. Then it is contemplated taking all taxation off farm mortgages. "Ah, there's the rub." You see when farm mortgages are taxed the farmer who owed it pays tax on the land also on the mortgage or a double tax. Many mortgages escape taxation by strategy any way but to take the tax from them would have the effect of raising the tax a small amount on land but it would make land not mortgaged pay the same as land that is mortgaged, which ought to look fair to all except the wise ones. Then who else could object except the man who does not have any mortgage on his farm? or the man who would rather than pay his fair share, ask the man "blessed" with a mortgage to pay double? See that "bug under the chip?" The man who has money would not want his interest rates lowered, and the man with no mortgage on his farm would rather have the man who has, pay double tax rather than pay his fair share himself. See why the wise ones are giving us such great wisdom? Catch on? Oh! "The crimson trail of a new idea!"

S. M. Jordan.

BUCKSHOT BY THE PROFESSOR

Look up the advertisements in this issue. They contain a fund of valuable information which is worth while to every thinking farmer.

Nearly every spring I lose what little religion I've got left trying to scour the old plow. Guess I'll have to quit being a "hound dog" farmer.

One reason why I haven't got much use for the average politician is because he is so much harder on the seat of his pants than any other part of his clothes.

If old Saint Peter was as careless in selecting angels as a lot of farmers are in selecting seed corn there would be a pile of "misunderstandings" between Paradise and the realm of forked tails.

We had a mighty sensible Legislature this time. What did it do, you ask? Nothing of any consequence of course—but it had sense enough to adjourn, didn't it? That's what I liked about it.

If President Wilson will go off on a little vacation me and the Anti Horse Thief Association in my county will slip down to old Mexico and put that fellow Villa and Old Whiskers Carranzy out of business.

Suppose you give your boys a patch of ground this year and give them all they can make from it? If you don't want them to be street car conductors or soda fountain clerks in the years to come, now is the time to get them interested in the farm.

Why not hitch up your belt a notch or two, spit on your hands and try to land a "whale" of a crop this year? You've heard that old saying that the Lord helps those who help themselves? Well, get busy then. Put a little heart and soul in your work.

I am not very long on this fighting stuff but I'd just about as soon go up against those 42 centimeter contraptions over in Europe as to look into the long, sour face of a banker and ask him to loan me a hundred dollars for feed. From now on I am going to join the silo bunch.

It took sixteen janitors to keep the state senate clean during the recent session of the Legislature, Well, all I've got to say is that it must have been a mighty "mussy" place. Furthermore, my private opinion is that these janitors would have served their country better if they had been at home cleaning out the barn.

I am not very strong on this woman's suffrage business—but it gets my goat to hear a lot of old skin flints who put in most of their time whittling dry goods boxes and who can spit at a crack sixteen feet away and hit it two times out of three, saying that "wimmin ain't got sense enuff to vote."

Have you sent in that dollar to renew your paper yet—or are you going to let it get lost in the shuffle of oat sowing and plowing for corn? Honest, it seems to me that every farmer in Missouri ought to want to stand by The Missouri Farmer. In the first place, it's our "home farm paper." In the next place, it's as clean as a hound's tooth from beginning to end—and there is enough good stuff in every issue to make it worth a year's subscription.

Old "Josh" Simpson got "hoppin'" mad the other day. In fact, he was so mad he offered to "lick the whole durned outfit." Old "Josh" was busy telling a crowd of fellows down at the livery stable about a cat fish he caught back in the "spring of 61" that weighed over a hundred pounds and while he wasn't watching somebody took a bottle of "pizen" out of his overcoat pocket and substituted a bottle of harness oil for it. A little bit later old "Josh" got into a dark stall and "downed" about half of it before he discovered the difference.

Water Systems for Farms

Every farmer who is interested in a better water system should drop a postal card to the Aermotor Co., 1146 South Campbell Ave., Chicago, and ask them to send their literature. A postal card will bring it to you.

GRAIN COSTS TOO MUCH

To be wasted, but the average thresher wastes far more than many suppose.

The investment and labor which a farmer puts into his wheat crop is more than is usually conceded. His money investment in value of the land, cost of seed and implements brings the cost of his grain to a point where he cannot afford to waste it.

THE HIGH PRICE OF WHEAT

suggests saving it from wastage.

All this appeals to the thresherman the same as it does to the farmer.

THE RED RIVER SPECIAL

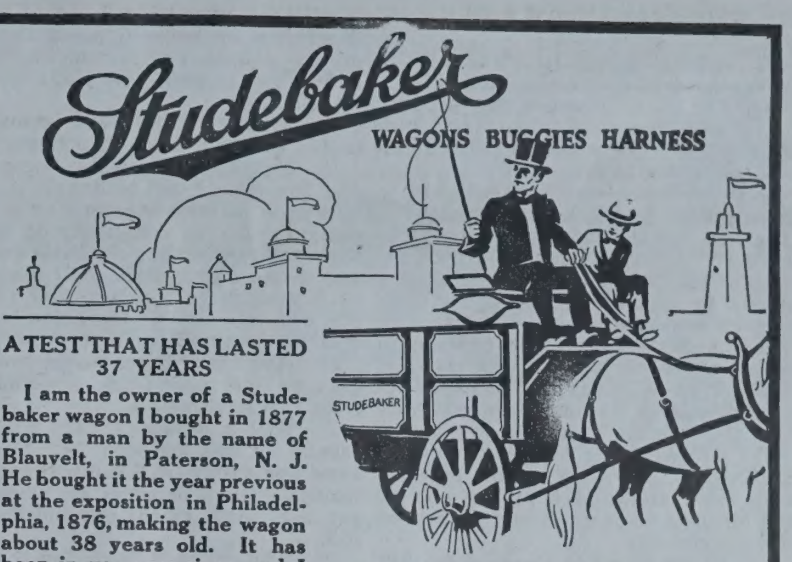
will save this wastage, making more money for both the thresherman and farmer. It beats out all the grain and puts it in the farmer's granary instead of into the straw stack.

BUY OR HIRE A RED RIVER SPECIAL

And SAVE the Farmer's Thresh Bill

Send for new Red River Special Paper, FREE

NICHOLS & SHEPARD CO.
(In continuous business since 1848)
Builders of Red River Special Threshers, Wind Stackers, Feeders, Steam Traction Engines and Oil-Gas Tractors
6) BATTLE CREEK, MICH.



A TEST THAT HAS LASTED 37 YEARS

I am the owner of a Studebaker wagon I bought in 1877 from a man by the name of Blauvelt, in Paterson, N. J. He bought it the year previous at the exposition in Philadelphia, 1876, making the wagon about 38 years old. It has been in use ever since and I am using it now.

Henry DeRonde, Spring Valley, N. Y.

His Studebaker came from the "Centennial," at Philadelphia in 1876

AWAY back in 1876—the year of the "Centennial" in Philadelphia—Dealer Blauvelt of Paterson, N. J., bought a Studebaker Farm Wagon there and sold it, a year later, to Henry DeRonde of Spring Valley, N. Y.

The wagon has been in constant use ever since, and is in use now—a long term of service for a wagon.

But Mr. DeRonde's wagon is a Studebaker, and long-lived Studebaker Wagons are found all over the United States.

Built for lasting service

You see, it is the way the Studebaker is built that makes it last so long. Air-dried wood, tested iron and steel, good paint and varnish, all count.

But the main fact is that Studebaker has been building wagons for 63 years and knows how.

Studebaker could not afford to build a cheap wagon. The motto of the house for six decades has been: *build not the cheapest, but the best.*

Any wagon salesman will tell you that a Studebaker wagon is built to last. And long after an ordinary wagon has been sent to the scrap heap a Studebaker keeps right on doing its work and earning money for its owner.

Suppose it does cost a few dollars more, isn't the increased life of a Studebaker worth it?

Studebaker Buggies and Harness are also built to outlast others.

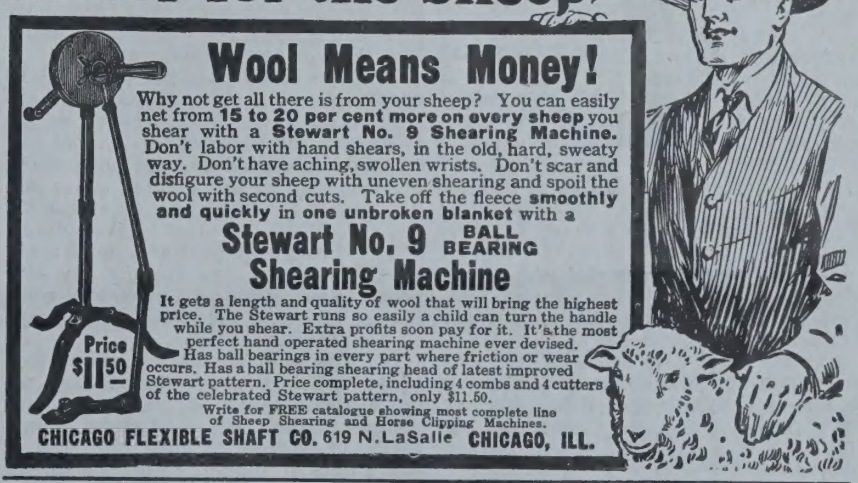
STUDEBAKER, South Bend, Ind.

NEW YORK CHICAGO DALLAS KANSAS CITY DENVER
MINNEAPOLIS SALT LAKE CITY SAN FRANCISCO PORTLAND, ORE.

Adv. 2035

Studebakers last a lifetime

Easier for the Shearer and better for the Sheep



Wool Means Money!

Why not get all there is from your sheep? You can easily net from **15 to 20 per cent more on every sheep** you shear with a **Stewart No. 9 Shearing Machine.** Don't labor with hand shears, in the old, hard, sweaty way. Don't have aching, swollen wrists. Don't scar and disfigure your sheep with uneven shearing and spoil the wool with second cuts. Take off the fleece **smoothly and quickly** in **one unbroken blanket** with a

Stewart No. 9 BALL BEARING Shearing Machine

It gets a length and quality of wool that will bring the highest price. The Stewart runs so easily a child can turn the handle while you shear. Extra profits soon pay for it. It's the most perfect hand operated shearing machine ever devised. Has ball bearings in every part where friction or wear occurs. Has a ball bearing shearing head of latest improved Stewart pattern. Price complete, including 4 combs and 4 cutters of the celebrated Stewart pattern, only $11.50.

Write for FREE catalogue showing most complete line of Sheep Shearing and Horse Clipping Machines.

Price $11.50

CHICAGO FLEXIBLE SHAFT CO. 619 N. LaSalle **CHICAGO, ILL.**

Easy to own an Engine Now

Direct from Factory to User

2 H-P, $34.95
4 H-P, 69.75
6 H-P, 97.75
8 H-P, 139.65
12 H-P, 197.00
16 H-P, 308.80
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Portable Engines Proportionally Low.

WITTE Engines

Kerosene, Gasoline and Gas

Stationary, (skidded or on iron base), and Mounted Styles. Long-wearing, separable, semi-steel cylinders and 4-ring pistons; automobile ignition; spark shift; vertical valves; variable speed; and other merits without which no engine is now high-grade.

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Cash or Easy Terms. Why pay double price for any good engine, or take a poor one, for any price, when the WITTE costs so little and saves you all the risk?

New Book Free. Tells you the "inside of engine *selling* as well as *manufacturing.* Get the facts whether you buy from me or not.

THIS BOOK FREE HOW TO JUDGE ENGINES WITTE

H. Witte, Witte Engine Works,
1848 Oakland Ave., Kansas City, Mo.

SOYBEANS FROM A TO B

Q. Who should grow soybeans? A. Every general farmer in Missouri.

Q. Why? A. Because they produce well, and are among the very best feeds. They are wonderful soil builders, and they can be grown so many ways and in so many places, and in most all types of soil.

Q. In what ways may they be grown? A. They may be grown for seed or for hay or both. They may be grown in corn for silage, or for feeding off with sheep, lambs or pigs. They may be grown for pasture in many parts of the country after a wheat crop or an oat crop has been removed. Many Missouri farmers practice this. Sometimes they are grown to be plowed under for green manure. Sometimes they are sown between corn rows at the last cultivation, for the purpose of pasture, or for fertilizing the ground.

Q. When grown in the corn do they injure the corn crop? A. The average farmer will say no. The answer will depend on circumstances. They may do damage if planted too thickly. The number of seeds per hill should not be more than the number of grains of corn in the hill with them. If the soybeans do not gather nitrogen they would doubtless affect the corn the same as a weed.

Q. What is the advantage of having them in corn? A. They add nitrogen and vegetable matter to the soil, add to the amount of feed grown, also add to the quality of the feed.

Q. How do they add to the quality of the feed? A. Corn you know is not a very well balanced ration, and it is low in protein, the most expensive food element. Soybeans are rich in protein hence the two combined make a most excellent feed, and a well balanced one.

Q. What do you mean by a well balanced feed? A. You are really out of order on the query, but since it is you, I will tell you that a balanced ration is one that feeds or nourishes all the body in the right proportion.

Q. How do you plant them in corn? A. The best way I know of is with an attachment to your corn planter. There are attachments made for this purpose.

Q. How many per hill and how deeply should they be planted? A. Not more than as many soybeans per hill as you plant grains of corn. You must not plant very deep, as they may not come up. Many farmers have gotten poor stands by too deep planting. Two inches is deep for them, from one to one and a half inches will be better.

Q. How many soybeans per acre will be needed? A. That depends on the variety you plant. Seeds of some varieties such as the Peking are so small that by putting 3 per hill 3½ x 3½ feet a bushel will plant about 30 acres. A bushel of Mammoth Yellow, one of the largest, will plant from 12 to 14 acres.

Q. What do the seed commonly cost? A. From $2 to $3 a bushel.

Q. If you plant between rows, when and how should that be done? A. You will need to lay your corn by a little earlier than you commonly do or the soybeans may make very little growth, and a one horse grain drill made for such a purpose is the best way I know of. Stop up some of the holes leaving open as many as you want rows.

Q. How many holes would you suggest be left open? A. I would say from two to three.

Q. Will a person always get good results by this method? A. No, perhaps 3 or 4 times in 5 you will get good results. Much depends on when you get them sown, on the soil and the season.

Q. You spoke of pasturing the soybeans in the corn. Tell me about that? A. You may turn lambs or pigs into the corn and soybeans when the corn is about ready to cut for fodder, and the soybeans are ripening. They will not eat any corn except a down ear. Pigs up to 60 pounds may be used. Lambs and sheep will also eat the corn blades as high as they can reach and this is why they should not be put into the field while the blades are very green as this may result in soft corn. Old sheep will eat some of the corn but they do not waste any, and how they do lay on the fat! It is a fine plan to let your fattening hogs and sheep right in the ripened corn and soybeans and allow them to harvest the entire crop. They save you hauling the manure back to the field, they get fat faster by doing their own feeding. They do not charge you 4 or 5 cents a bushel for husking your corn, they have more time for it than you do, and no doubt like the job better than you do.

Soybeans on farm of J. R. White & Son, Lawrence County, Missouri. A crop profitable for seed, for hay and for green manuring

Q. How many head per acre may be used? A. Oh, that depends on the size of the crop, but of sheep a fair average might be from 8 to 10, and half as many more lambs, and hogs about the same. You know some times you like to get the pasturing done quickly and this of course must be considered.

Q. Would you feed the hogs tankage when they are feeding on soybeans? A. Why, no, soybeans come almost as near the value of tankage as does tankage itself.

Q. You said something about soybeans in the corn for silage. Tell me more about that? A. Suppose your ground under fair conditions should make 30 bushels of corn per acre or say 5 tons of silage. In a crop of this size you can get from 1 to 3 tons per acre of the soybeans silage in addition or a total of from 6 to 8 tons per acre instead of only the 5 tons of corn silage. The combination should have a feed value of perhaps from 10 to 25 cents per ton more than the straight corn. This is considerably more than the seed will cost, and this is the only cost, and I have not here considered the extra nitrogen put into the ground by the soybeans.

Q. What variety of soybeans would you recommend? A. Oh, that depends a lot on what use you mean to make of the crop. For the silo I like the Jet, the Medium Yellow, and the Mammoth Yellow. The Mammoth Yellow often will not mature seed as far north as central Missouri, but the other two will. These sorts grow tall and are also best for hay or pasture. Mongol is the heaviest seed producer that I have tried, and the Mikado comes next, Medium Green is a fair seeder, matures rather early, but the plants are short. This is a good one for the pigs. The Ito-San is the earliest I know of and it is a very good sort. The Peking is very good also, and is said to do better in poor soil than most others.

Q. Are there other any other varieties? A. Oh, my, yes, there are dozens of them. Among the best are the Wilson, Holly Brook, Early Black, Auburn, Morse, etc.

Q. How should they be planted to grow seed? A. Best on medium soil, well drained and drilled about 28 or 30 inches apart and one or two inches apart in the row. If the rows are closer the plants do not do so well as they can not stand crowding too much. Planting the rows closer requires more seed but does not produce more of either seed or hay. For hay they may be drilled solid with a grain drill at the rate of one bushel to the acre.

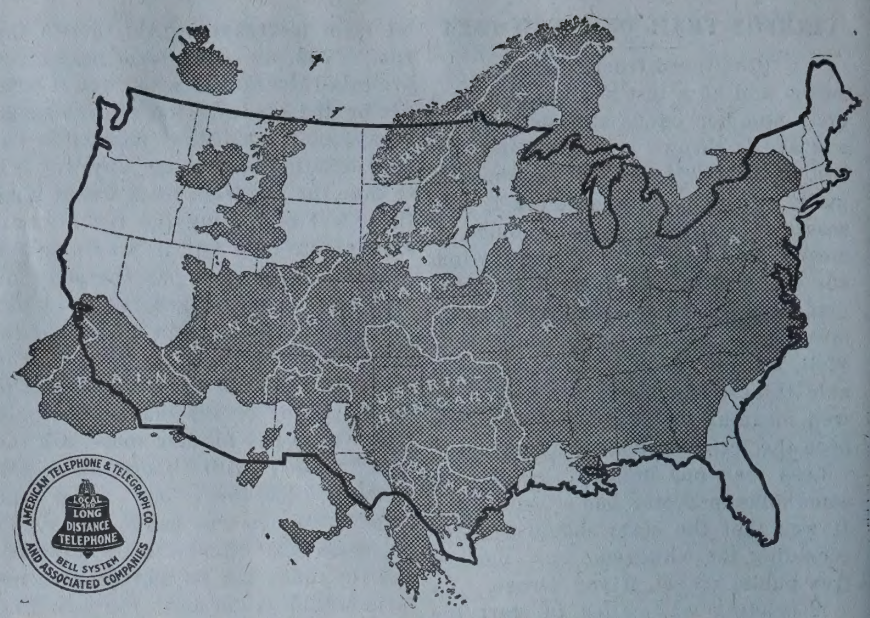
Q. Do they need to be cultivated? A. Yes, but it can usually be done with a harrow. The beans are deep rooted and do not pull up easily after they are 4 or 5 inches high. Harrowing about three times is usually enough. This of course will depend on the season, the soil, and how foul of weeds the land may be. Always slant the harrow teeth back well, and keep them clean, and be sure not to go into the bean field to work them when the ground is wet, or when the plants are even damp with rain or dew. WAIT TILL THEY ARE ENTIRELY DRIED OFF.

Q. When and how should they be harvested other than pasturing? A. If hay only is the object a good time is when the pods begin to turn yellow or the lower leaves begin to fall. For seed, the pods should be further matured, but not fully ripe if they can be allowed to ripen after cutting. If allowed to be fully ripe the beans shatter badly sometimes. Some varieties are worse for shattering than others. The season also has something to do with this. Some machinery that will bunch them is best. They may also be cut with a binder and fed in the sheaf.

A clover buncher on a mower is good, sometimes a binder is used, sometimes binding them and sometimes not. The old time self-rake is finer for harvesting soybeans. When they are cut with the mower and left in the swath for a few days the stems settle among the stiff stubbles, and many beans will shatter and much of the hay will not be taken up with the rake.

Q. Does frost kill the green soybeans? A. Yes. They should always be harvested before frost. Watch the weather some, too. They are rather hard to cure. Too early planting in the spring often causes failure also.

Q. How much hay will they produce per acre? A. That depends on many



The Agency of a United People

A striking comparison between a homogeneous country and a heterogeneous group of countries is obtained by placing over the map of the United States the map of Europe. These represent the same area—about 3,000,000 square miles—if a few of the remote provinces of Russia are omitted.

Europe has the advantage in population, with more than four times as many people as the United States; in the number of large cities, with two and a half times as many cities of over 100,000 population.

Yet the United States, a comparatively young country, has outstripped Europe in the diffusion of civilization, because of its wonderfully greater means of communication between all parts of its area. The United States not only excels in transportation facilities, but it has nearly three times as many telephones as Europe, or about eleven times as many in relation to population.

By the completion of the Transcontinental Line we now talk from one end of this country to the other, while in Europe the longest conversation is no farther than from New York to Atlanta, and even that depends on the imperfect co-operation of unrelated systems.

Europe, with twenty-five countries and many different languages, serves as an illuminating contrast to the United States, with one language and a homogeneous people, despite the fact that our population has been derived from all parts of the world.

During the last forty years the steadily extending lines of the Bell System have contributed in no small measure to this amalgamating of different races.

The latest achievement—the linking of coast to coast—has given greater force to the national motto, "E Pluribus Unum."

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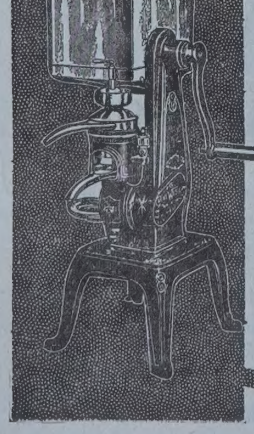

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conditions but perhaps from ½ ton to 4 tons.

Q. How many seed per acre may be expected? A. That too depends on the soil, season, and variety. Field yields often run from 8 to 25 bushels.

Q. How does a bean crop compare with our oat or corn crop? A. Well, let's figure a minute. When corn is worth 60 cents for feed, soys are worth at least 90 cents. Soil that will grow 40 bushels of corn per acre, should grow 16 bushels of soys per acre. Suppose the growing of the two costs the same, while in fact to grow the acre of corn will cost more.

40 bushels of corn at 60 would give us 24.00
16 bushels of soys at 90 would give us 14.40
and we should get at least 1 ton of hay at 10.00
and the corn stalk field at ..... .50
would give us 10 cents in favor of the 40 bushels of husked corn. But wait a minute. I was about to forget to tell you that the beans should leave from $3 to $5 worth of fertility in the acre of your soil.

Q. Will the beans always put nitrogen into the ground the same as clover? A. No, your ground may not be inoculated.

Q. How can I tell when they may be doing my soil any good? A. Dig some of the plants up carefully and if they are gathering nitrogen for you, you will find little nodules on the roots much like those on clover roots only considerably larger. Examine them for nodules when the crop seems to be about half grown.

Q. How can the soil be inoculated? A. By sowing soil from a field that has been inoculated or by inoculating the seed with bacterial cultures.

Q. Will it pay to inoculate? A. If the ground is not inoculated, beans can not gather nitrogen from the air, and the ground is not benefited, and usually you get smaller yields of both hay and grain.

Q. Is soybean hay good feed? A. Almost as good as alfalfa.

Q. Oh, yes, I forgot to ask how many seed per acre are required for seeding for hay or seed? A. A bushel should plant from 3 to 5 acres, if drilled in rows. If drilled solid about one bushel to the acre is needed.

Sam Jordan.

PRACTICAL FARM PAPERS

Brethren, I can have no better text for this discourse than the issue of Missouri Farmer of March 1, '15. Last week I drove past three tenant houses on the old Lyon farm—my greatgrandfather' land—1000 acres. At every stable barn I saw the remains of what had once been fine manure piles, in some cases manure three to ten years old, part of it over the creek bank.

I also saw fields on that farm, where the best known system of cultivation would not produce twenty bushels of corn or ten bushels of wheat per acre—tenant system. Then I passed on to a ten acre field that I remember as being called worn out fifty years ago, and where the owner said he had 75 bushels of corn per acre in dry 1914. This part of my text from Hap-Hazard-Methods.

"Farmers need organization," now, says Mr. Ellis, the editor, and going back some seven years I can recall the labors of a few score of men, who within a year's time, succeeded in bringing the price of tobacco from 7 cents per pound, a dead loss to the grower, to 14 cents a pound or a neat profit. Then I remember how the organization was allowed to go down, and how the 1914 crop sold at less than 7 cents per pound, and the question came to my mind, "If organization would secure profitable prices on tobacco, not a food product, what could it do with wheat, and hogs, and corn and beef?

I have been a member of the Grange since 1874, of the Farmers Union and the Society of Equity for a short time and I see grand results from the work of all of these, but the farmer needs an organization that is closer than any of these. It is not enough to know how to produce a maximum crop, we must learn how to sell this crop at a profit, and only through close organization can we do this. Co-operation between producer and consumer must be secured, and the middle man eliminated, only in so far as he practices extortion in prices that he establishes. A year or two ago I had the chance to follow a plain old Plymouth Rock hen, from my wife's hen house to a city table, as I know the commission man, the poultry dealer and the man who bought the hen for his Sunday dinner. She was one of the coop of twenty fowls, averaging five pounds each. The railroad charged at the rate of 3 cents each for hauling the coop forty-two miles, the commission man charged 4 cents each for selling and delivering to the dealer. My wife got 60 cents each, and the man who ate the hen paid 95 cents for her, for he told me so. It would be just as easy to locate other cases of extortion as this one, if producer and consumer get together.

Our county paper will re-publish "What Shall We Teach Our Boys and Girls; and suggest that our schools take up the "Johnson County Idea."

Writing from a section where there has been no hog cholera since 1862, I will not comment on Dr. Connaway's article, but will again state very briefly, that a complete "cut out" of all hog raising in infected districts, said cut out lasting two full years, is a plan worthy of a trial.

Clover and Fertility, by my good friend Krusekopf, is an excellent presentation of the merits of clover. We will sow our clover seed in early April, and will harrow it in, laying the harrow nearly flat to avoid injuring the wheat. The clover seed sown on oats will be sown after the oats are drilled, and lightly harrowed in.

Take up Missouri Farmer March 1, and read all of the editorial page again. Remember, that if our law makers meet and adjourn, without ever hearing from us, we can expect little from them. You know your member, and if you and fifty others from your county will write him personal letters, it will be a great help in securing needed legislation. But, my space is full, and I have only touched on a few things given our readers in one copy.

Can a Missourian afford not to take such a paper, one that can be had three years for one dollar, or a little less than 1¼ cents per copy? Get up a club old friends, for I know that I am writing to hundreds of men whom I have met.

C. D. Lyon.

THE SUMMER VACATION

This term has several meanings when applied to the rural schools. So far as the school plant is concerned it means a period of rest and decay. Rest from the tramp of feet, the noise and activities which characterize these schools. Decay, in the sense that there is general neglect which gives the impression of abandonment. The yard is usually covered with weeds, the well is left uncovered, the window screens are off or hang by one hinge, the door stands open and the house becomes the home of birds, bats and hoboes. So much from a material standpoint.

To some parents, vacation means a period when boys and girls will take a larger part in the daily duties of the farm and home. In communities where labor is scarce, the vacation is a very important economical matter. In other homes where help is not such a problem vacation means a period of more home worries and responsibilities. During the school term the teacher divides these honors with the home, but during vacation it is centered in one place. Some homes look forward to the opening of the school as a time of temporary relief, while others regret that it comes so soon.

To the teacher vacation may have several meanings. It may mean a final adieu to school work. Marriage or something else will take its place. It may mean several weeks spent at home,at a summer resort or elsewhere, simply resting. It may mean close, intense application in a summer school making larger and better preparation for school work.

Finally, what does vacation mean to the average pupil? Freedom. Whatever may have been the love for the teacher, however interesting and successful may have been the school, still, the average child counts the days until the close and looks forward to that time with a feeling of peculiar delight.

The reason for this feeling on the part of the child is not difficult to understand. During the fall and winter months, he has spent most of the day in the school room. As much as it may be regretted to make the statement, still it is true that the average school plant is not an attractive place for the normal child. The poor heating, lighting and ventilating, the uncomfortable desks, the lack of good sanitary conditions, of suitable decorations, well selected library books, of organized games and plays and last, but very important, the lack of a room or place for some form of manual work, all these conditions do not cause the average, normal minded child to fall desperately in love with the school house. There is little wonder then that he looks forward to vacation as a time when he will be free to roam in the open air, to climb trees, wade in brooks, tramp through the woods and thus to commune with nature.

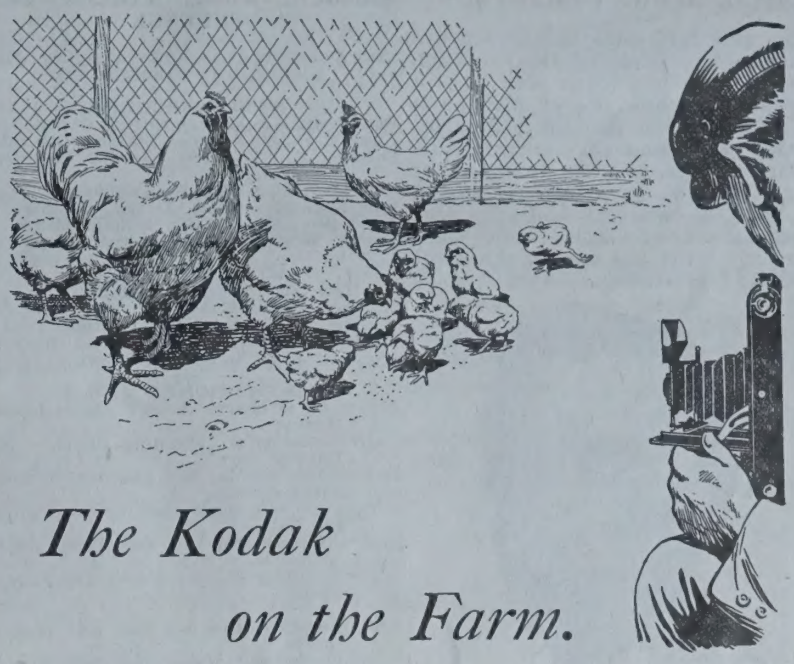
We have all noticed that when pupils return to school in the fall, they seem to have forgotten everything that they had learned the year before. A new teacher can easily escape from the difficulty by placing the blame on her predecessor, but for the one who holds over and who is sincere in the work, it becomes a matter of some little surprise and humiliation.

The truth is the child has been living in close touch with nature and has neglected his books. He has dealt with things and in some way there seems to be no relation between these things and his text books.

This brings us to several important questions. Why should there be any seeming break in the child's education during the entire year? Why should not the experiences and activities of the summer vacation correlate with the school work during the fall and winter? Why should not the regular school work prepare the child for a larger, keener and better appreciation of his environments during the summer vacation? Why should not one period naturally supplement the other, making it richer, more interesting and full of meaning? Why should there not be in reality a rural school extension course, for which due preparation will be made in the schools during the fall and winter and worked out during the summer vacation?

The writer believes this is possible. Not only is it possible but it could be easily done. It might cause some of us to change our notions, but what of that? It might cause some changes in the course of study, some changes in the program, some changes in the preparation of the teaching force, but these things would be easily adjusted when once we began the solution of the problem. For one, the writer would welcome the change.

R. H. Emberson, Columbia.



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Ed. H. Witte

His catalogs and circulars, together with the prices he makes, show he is a master at his business. The Witte factory is one of three of the first gasoline engine factories in America, and is now the oldest and largest exclusive engine business, selling only direct to the user. Mr. Witte has just brought out his new handsome catalog in three-color printing, the title of which is "How to Judge Engines." The text matter with the many pictures and drawings shows in a convincing manner that a WITTE engine, using either kerosene, gasoline, gas, naphtha or distillate, is a competent "hand," suitable for any work that can be harnessed to a belt. The striking part of this showing is the really low prices that are made on all sizes of these engines, from 2 to 22 horsepower, stationary, portable skidded or saw-rig styles. These factory prices mean a saving to purchaser of anywhere from $25 to $250, according to the size and style of engine selected—a 6 horse power stationary engine, for instance, selling at $97.75 for the complete outfit, all ready to run as soon as unloaded at destination. The 60 days' free trial plan is also explained in connection with the liberal 5-year guaranty, which Mr. Witte makes very definite and broad. Your name and address, sent to Mr. Witte at his factory address, 1840 Oakland Ave., Kansas City, Mo., will bring to you one of these new catalogs, free, together with his new Easy Payment Sales Plan. (Adv.)

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OLD-FASHIONED THINGS

There is a charm about old-fashioned things;
Grandmother's spinning-wheel, her Paisley shawl,
Her candle molds, her quaint, old-fashioned rings,
The tall old clock that used to guard the hall,
The andirons and the old blue willow ware,
The highboy and the old carved rocking chair.

And grandma, too, we feel was part of these,
As charming, quaint, and yes, as antiquate;
Forgetting 'mid our new facilities,
That grandma, in her day, was up to date,
And used her candle-molds and goose-quill pen
In lieu of better tools undreamed of then.

And we forget our own grandchildren may
Smile in superior fashion at the sight
Of many things of which we're proud today;
Our telephone, steam heat and Tungsten light,
And sigh a bit and wonder as they laugh
At our dear, quaint old-fashioned phonograph.

—Walter G. Doty in Farm Journal.

HOME MAKERS' CLUB OF CAMP BRANCH SCHOOL 51

Miss Bab Bell, during one of her visits to this district, enthused us with the idea of forming a Home Makers' Club. After some favorable discussion we organized with the following officers:

Mrs. R. V. Denny, President.
Mrs. M. J. Clifort, Vice-President.
Miss Ona Upston, Secretary.

The Camp Branch School, of which Miss Julia C. Sullivan is the teacher, was the first school in Pettis County to install the domestic science department.

They hold their meetings on the third Wednesday of each month at the home of the various members—alphabetically arranged. At each meeting we take up two topics outlined for Home Makers' Clubs—which are sent out from Columbia on request.

Though we have been organized only a year, the district feels that many benefits have been derived from these meetings and that much of the success can be given to the untiring efforts of the President and her able assistants. The club now has twenty-four members but they do not intend resting until all the ladies of the Camp Branch School District have united their efforts and interest with them and thus the true spirit of progression will be encouraged and results will show the closer tie between the rural home and school.

How I Won My Trip to Columbia for Farmers' Week

Last spring our Farm Advisor, Mr. C. M. Long, suggested and urged that each township in our county send a boy and girl to Farmer's Week. He also suggested that the girl who made and exhibited the best middy blouse in the township in which she lived should win the trip offered to the girls in that township. Jackson township, in which I live, responded to Mr. Long's suggestion.

Our township holds an annual fair, and it was decided that the girl exhibiting the best middy at that fair should be awarded the trip. I determined to put forth my utmost efforts to win that trip. I purchased some white linen and trimming for a middy, which I cut and made by myself and then exhibited it at the fair. My joy was made complete when the blue ribbon was placed on my middy and I knew that the trip to Columbia offered to a Jackson township girl was mine. As I was a member of the Jackson Township Improvement Club, which furnished the money for my trip, I was also asked to act as their delegate to the Home Makers' Conference.

A lady of our immediate neighborhood intended to attend Farmer's Week, and I planned to go under her care but on account of illness she was detained at home, however, my mother asked Mrs. Redford, one of our Johnson County women, whom we had met at the "Round Up" to chaperon me. Mrs. Redford kindly chaperoned all the Johnson County girls—at Mr. Long's request, and we certainly did appreciate her care and thoughtfulness of us.

It is hard to give a true conception of what it means to a girl to attend Farmer's Week, as well as to the women. We were shown how to arrange the furniture and utensils in the kitchen to the best advantage to save steps and time; how to select the food and cook it properly, also how to judge clothing material and sew after the material is purchased. The contests held for girls at Columbia are most helpful and I am sure that we learned much from them; really the ones that did not win learned the most, for the others were putting into practice what they really knew and the rest gaining the instructions.

Tomato raising by girls was proven to be a money making proposition—one girl in Jackson Township won a silver trophy at Columbia besides having cleared over forty-five dollars off one-tenth of an acre of land planted to tomatoes. We also heard discussed two most interesting and important subjects, "The raising of pure bred poultry and why better than a mixed flock," and "Beautifying of the Farm Home." The first topic is always interesting to most women and girls, for most of them are poultry raisers to some degree, though many of them are satisfied if they obtain enough eggs for cooking purposes together with a few dozens to sell each month from a large flock of mongrel hens.

At Columbia the girl is encouraged to start right by securing some pure blooded fowls. The motto given her was "Only the Best is Good Enough for Me," and to help build up the greatest of all Missouri industries—the Missouri Hen.

It was a great pleasure to meet and converse with people from all over the state and get acquainted with our University at Columbia. We were impressed with the fact of how much more people can accomplish through organization for both social and financial reasons, and surely Farmer's Week should inspire all to organize from securing the results of others. This organization is just as vital for the girls and boys, for in a few years they will be the burden bearers and now is the time to prepare for their future responsibilities.

I hope that many more girls may have the pleasure and benefits from attending Farmer's Week in 1916 for in my opinion, no woman or girl could better invest ten or fifteen dollars—according to the distance she may live from Columbia—than to attend Farmer's Week and we shall be interested in hearing of the successful contestants that will be there next year.

Ruth Ballard, Johnston County.

Johnston County to the front again—let us hear from Jackson County next.

PURE-BRED POULTRY

(Written for Home Makers' Conference)

Why not pure-bred poultry on the farm? This is a question that every up-to-date farmer should ask. In many city lots we see a flock of pure-bred poultry. If they are profitable there they should be doubly so on the farm.

It is true enough that there are many flocks of pure-bred poultry on Missouri farms, but on the other hand there are many farms where you see only a mottled lot of mixed birds.

If pure-breeds are profitable in other lines of live stock, why not in poultry? Not so many years ago a large majority of our farmers raised scrub or grade cattle, hogs and sheep. There are comparatively few farmers today but will point with pride if only a trace of pure blood runs in the veins of their animals. Many are using pure-bred sires or parent stock and consequently have better quality which adds greatly to the appearance of stock and all surroundings.

Statistics show that the products of the Missouri hen have outstripped the Missouri mule, that the poultry products of Missouri are twice those of the annual wheat crop and half as much as the annual corn crop. The Missouri hen produces $10,000,000 more wealth annually than all the cattle sold in Missouri. Then does it not pay to have the best quality of stock and to devote a little more time in caring for it?

The reason all Missouri farmers do not have pure-bred poultry is no doubt because the matter has not been given proper consideration.

You have seen beautiful country homes where the owners tolerate a bunch of scrub chickens. Picture to yourself how much a flock of pure-bred birds would add to the surroundings. It is not beneath the dignity of any man or woman, no matter how well stationed in life to at least supervise the management of a flock of pure-bred poultry, even if they do not care to do the work. Aside from this why shouldn't the busy farmer's wife have the very best to be had in the poultry line? Busy as she is, the work would be easier for her if she had something to be proud of. Not only this—she is usually working for a profit out of the flock as well as plenty for home consumption. One takes more pride in a pure-bred flock and therefore gives it more care, and of course that means more profit. Pure-bred stock are easier to get in shape for market and usually lay a greater number of eggs and eggs which are of a uniform color.

Not long ago while I was talking to a friend, trying to induce her to dispose of her scrubs and raise pure-bred stock, she replied, "Why, I haven't time to go to the shows." Raising pure-bred stock by no means necessitates going to the shows. I would not urge any woman to go into the business making a specialty of show stock, unless she had a special

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The most educational work on rose culture ever published. Not a catalog, but the lifetime experience of the oldest rose-growing house in America. Profusely illustrated in natural colors. Describes over 1000 varieties of roses and other flowers and tells how to grow them. Write today for this guide before issue is all gone. *It's free.* No other rose house has our reputation. Established 1850. 70 greenhouses.

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With each order we also include a copy of **GOOD POULTRY** a quarterly magazine, devoted to special crops and intensive farming, with special attention to the care and handling of poultry. Tells how to make $200 per acre per year on any farm from 5 to 100 acres. Good Poultry alone, 10c a copy; 25c a year, including a copy of new book, Intensive Farming. Write tonight.

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is ready. It shows what to choose from nearly 400 roses—the very cream of the world's best. Free. 85 beautiful illustrations—19 in color. Gives Free Delivery Offer. Our own root roses are hardy, beautiful, and guaranteed to bloom—make rose culture a real delight. Write for your Guide and 9 Art Rose Poster Stamps—today. Free.

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Wanted—Farmers!

Mayes County, Oklahoma, wants more farmers; good farmers to take advantage of her splendid opportunities.

Located in Northeastern Oklahoma, Mayes County produces corn, wheat, oats; dairy products; live stock. Has 40 inch rainfall. Good plow land, $20.00 to $50.00 per acre; pasture and hay land $2.00 up. Good schools. Trunk line railroad; low taxes. Write for up-to-date booklet, descriptive of the square deal proposition of the Mayes County Farm Bureau.

Special homeseeker's fares to Oklahoma on First & Third Tuesdays of each month.

Colonization Dept, M. K. & T. Ry.,
1551 Railway Exchange Bldg, St. Louis, Mo.

liking for the work. However, I do urge you to take up pure-bred stock from a business standpoint, to say nothing of the pleasure you will get out of it.

It has been shown in egg-laying contests that it pays to breed for egg production, and we know this can be done and not lose sight of the beauty of the particular variety you are breeding. On the other hand it is not necessary to breed for beauty alone.

One woman said, "I want my chickens mixed. I can tell old 'Spec' every time she goes on the nest to lay and if I had all one kind I wouldn't know which one was laying." It is often counted by one when you have a mixed flock—not that some mixed flocks do not lay any eggs, for some seem to produce a large number of eggs, but there are more pure-bred that are heavy producers. It is easy enough to distinguish the best specimens if one is at all familiar with his flock—even if they are all one kind.

A number of farmers, whom I know of, are purchasing pure bred males each year. They have no definite aim in view, other than to cross breed. This is a better way than just "swapping" roosters—the system that was used in an earlier day. They will buy, say three Wyandottes, two Langshans, perhaps two or three reds or some other variety. We feel they are almost wasting their money when they pay any great amount. How much better if they would decide on one variety and buy all of that kind! There are a great many breeders who are making a specialty of pure-bred stock. Eggs for hatching may be had for from $5 to $10 a hundred from range flocks? In this way one can get a nice start of pullets. This is an easy way. However, you should always study the catalogue for just what quality you think will suit you best and always buy the very best you can afford. A quicker way is to buy a pen of birds—say four females and one male. You can get them for $10 or as much higher as you wish to go. It all depends on the quality you want.

Last year a woman, who had formerly had Langshans but had mixed them with other varieties, came to me for a breeding male. She still had some pretty fair hens. She penned the male with eight or ten of the best females she had. The other day she called me and wanted another male to go with the best pullets from that mating. She said she had one hundred fine pullets and had sold about eighty chickens from the mating. She felt it had paid her. I give this as an illustration to show how quickly you can get a start. We ought to have on every farm in Missouri a flock of pure-bred poultry. Missouri is now poultry queen and we want her to keep this high rank. If this message turns only one person's attention to pure-bred poultry, I will feel repaid for having given it, for if one person in a neighborhood has pure-bred poultry, others will soon follow.

Summing up the advantages of pure-breeds: you get pleasure, profit and beauty. Then why not pure-bred poultry on every Missouri farm?

Mrs. Jas. A. Staples,
LaMonte, Mo.

Prizes for Canned Vegetables

Mr. and Mrs. J. Ed Hall of Lamonte, Mo., are offering through the Missouri Homemakers' Conference, a $10 trophy or cash, to the young woman in the state who will most successfully can six jars of different vegetables in pint jars, these cans to be exhibited and scored at the January, 1916, Conference. This is the most liberal offer for culinary product that we have ever seen and fortunate is the young woman who wins it. This offer seems especially to appeal to those young people who have passed beyond the school club—and while the dream home of every normal woman is still in the future—why not improve the present, which is ever full of time and opportunity, to get the proper training while near mother? We shall be glad to hear from all who are interested and wish to enter this contest; it is full time to start your seeds.

The following vegetables are possible to have on your table the year 'round and yet not have to purchase them from the grocer: Peas, Beans, Spinach, Swiss Chard, or any wild green, Asparagus, Corn, Tomatoes, Summer Squash, Egg Plant, Lima Beans, Okra, Beets, Cauliflower and Carrots.

The Farm Home Beautiful

The front yard of the average farm home could be made much more beautiful if more attention was paid to planting a few rose bushes here and there and The Missouri Farmer wants to appeal to every housewife in whose home it is a visitor to make this spring the occasion for beautifying the home premises in this respect. Few people realize what a dollar or two will do in the purchase of roses—and once planted they are a joy forever—growing more luxuriant and beautiful each year. At the present writing there are more than one thousand varieties of roses being grown in the United States—and hundreds of them are perfectly hardy and will withstand the coldest winters. To begin with, there are the beautiful rambler roses which in two or three years will cover your entire front porch—or, if you prefer, arbors can be built for them in the front yard. Among the hardy varieties is the Crimson Rambler, famous throughout the Country. Then there are the American Beauty and Paul Neyron ramblers—some of the later varieties which bear a world of gorgeous roses—many of which are three inches in diameter. Then there are dozens of beautiful bush roses which bloom the whole summer long—furnishing a world of beautiful flowers from early spring until frost in autumn. Elsewhere in this issue will be found the advertisements of several rose growers and we hope you will drop them a postal card and ask them to send you their catalog. Why not make your front yard a thing of beauty? Why be content with a few indifferent roses for only a week or two in the spring? Why not have a lot of gorgeous roses which will grace your table and fill the house with perfume the whole summer long? Look up the rose ads.

Farmer Girls, Attention!

Would you like to earn a beautiful diamond ring, a lavalliere or a handsome wrist band watch? If so, we shall be glad to tell you how you can do it during your spare time. Write us at once for full particulars. Address, William Hirth, Columbia, Mo.

Something New in Silos

The W. S. Dickey Co., 202 New York Life Bldg., Kansas City, Mo., is putting out a new tile silo which is attracting a great deal of attention. A postal card will bring you full information.

Motorcycles on the Farm

On the last page of this issue will be found the advertisement of the Indian Motorcycle—undoubtedly the greatest motorcycle on the market. Hundreds of these machines are being purchased by farmers these days both for pleasure and utility for they are the greatest destroyers of distance ever invented. When you need to make a quick trip to town on some errand—or when you want to take a long spin for pleasure—the motorcycle is the thing. If you are interested drop the company a line and mention The Missouri Farmer.

Interested in Automobiles?

If you are interested in automobiles you should drop a postal card to the Studebaker Automobile Co., Detroit, Mich., and ask them for their big catalogue. They are putting out two of the finest moderate priced cars on the market—and they are big, roomy dependable cars built expressly for farmer families and built to last. Every farmer in the Country is familiar with the Studebaker farm wagon which has been the standard for years. The Studebaker automobile is manufactured by the same people. Write them for their big handsome catalogue if you are interested. Be sure to mention The Missouri Farmer.

Believes in Our Plan for Farm Organization.

I have been reading your plan of farm organization and I will say that I am in full sympathy with the move. The world has to depend solely on the farmer but some people don't want to give him a bread and butter living for his work and investment. The commission men and most everybody else told us last fall that fat cattle and hogs would be higher than a tree in the spring. But now they are very cheap, and there must be a nigger in the wood pile. I will say the time has come when Mr. Farmer will have to awaken to the fact that unless something is done that it will not be long until he will be no more than a slave in bondage! Keep pushing this good move along and see what can be done. Yours for universal peace.

C. H. Scruggs.

Think of a splendid, clean paper like The Missouri Farmer for three years for one dollar—or only 33⅓ cents per year? Doesn't it seem that every thinking farmer in the state would want it at that price?

Better look over our classified columns and then send for a setting of purebred eggs to get a start of better stock.

Classified Advertising

White Wyandotte Cockerels, extra good, $5. If not as represented, return bird and get your money. Eggs for hatching $3 for 15. Isham Boulware, Centralia, Mo. 216

Barred Plymouth Rocks, Black Langshan. Better than ever. Cockerels, $1.50 to $3 each. Eggs from pens, $2.50 for 15. Range flocks, $1 for 15. Harry L. Brown, Stephens, Mo. Mutual Phone. 316

S. C. Rhode Island Reds. Eggs, 15, $1.50; 50, $2.75; 100, $5. Mrs. C. B. McClanahan, R 4, Kirksville, Mo. 316

Barred Rocks, Utility and Exhibition Matings. Indian Runners, Fawn and White—Persistent layers. Mrs. F. A. Daniels, Vandalia, Mo. 314

Superior, heavy laying, Single Comb White Leghorns. Eggs, Chickens. Armstrong Bros., Arthur, Mo. 314

Buff Rocks. First Prize Winners, Columbia, Mo. American Poultry Association diploma for best Buff Rock cockerels in show. Eggs from prize winning stock $1.50 per 15. H. D. Wilkinson, Route 7, Columbia, Mo. 316

White Wyandottes—Winter layers. Eggs $1.50 per 15; $2.50 for 30. Richard Bloom, Fulton, Mo. 314

Single Comb White Orpington Eggs for hatching, from my famous English strain. Best pens $2 for 15 eggs; utility stock, $1.50 for 15 eggs. Fertility guaranteed. Order from this ad. E. L. Andrews, Maryville, Mo. tf.

S. C. White Leghorn Eggs, 15, $1.00; 100, $4.50. Yesterlaid strain. Mrs. J. W. Ezell, Houstonia, Mo. 412

Yesterlaid—Vannoy Single Comb White Leghorn Eggs, postpaid, 15, $1; 30, $1.50. 224 eggs from 20 hens in February. W. C. Carver, Vandalia, Mo. 2156

Pure Bred Buff Rocks. My pure bred Buff Rocks beat the Leghorns, try a setting. 18 eggs, $1.50. Sarah Houston, Mercer, Mo.

Barred Rock Eggs from extra choice, high-class stock. Deep, clear barring. Large and vigorous. $1 per 15; $5 per 100. M. D. Porter, Vandalia, Mo. 314

White Wyandotte Eggs for hatching, $2 for 15; utility eggs, $1.50 for 15, or $5 per hundred. Postpaid. Mrs. L. L. Spencer, Centralia, Mo.

Barred Rocks. Eggs for hatching from Second pullet bred cockerel at Chicago, $5 per 15. Utility pens, $3 per 50, $5 per 100. F. M. Creamer, Louisiana, Mo. 3152

Thoroughbred S. C. Reds, bred for heavy egg production and standard points. Deep red. Healthy flock. Eggs: 15, 75c; 105, $4. Mrs. Geo. Gerhart, Glensted, Mo. 3154

Eggs. Rose Comb Reds, S. C. W. Leghorns, 65c for 15, $3.65 for 100. G. Kitterer, Emma, Mo. 315

Barred Rocks of Quality. Eggs: Settings, $1.50; 100, $5. Stark Farm, Arcadia, Mo. 3153

Golden and Silver Campines (Kennedy Strain), Eggs $5 for 15. Barred Plymouth Rock Eggs $2 for 15. Geo. Boettler, St. Peters, Mo. 2154

Barred Plymouth Rocks, Thompson's Ringlet Strain. Pen eggs, $2 for 15; Utility flock eggs $5 for 100, $1 for 15. Circulars free. A. F. Skiefer, Defiance, Mo. 1156

Barred Rock Eggs; big, quality kind. $1.50 for 15. Obadiah Prettyman, Fairfax, Mo. 41tf

For Sale, Two Guernsey Bulls. Registered, good individuals, excellent breeding. Two-year-old and six months calf. Come and see or write D. P. Daniels & Son, Vandalia, Mo. 314

Four Varieties Home Grown Soy Beans for sale. F. L. Read, Rt. 6, Sedalia, Mo. 411

Strawberry PLANTS FREE To introduce our Pedigreed Everbearing strawberries we will send 25 fine plants free. PEDIGREED NURSERY CO., St. Louis, Mo.

Mammoth Bronze Turkeys

I am offering eggs for setting from my famous flock of Bronze Turkeys. Also from my ribbon winning Buff Orpingtons. My turkeys are known throughout the United States.

STONE "The Mammoth Bronze Turkey Man, Rfd 6, Columbia, Mo.

Fine Seed Corn

Yellow Corn: Reid's Yellow Dent, Shenandoah and Gold Mine mixed, White Cap 90-Day. White Corn: Boone County, Johnson County, St. Charles, Iowa Silver Mine, and Davenport and Boone County mixed or crossed. Prices per bushel, F. O. B. Skidmore: Butted and tipped by hand, graded and tested, $2.40; over 10 bu., $2.30. Same corn, shelled, butted and tipped by hand, tested, but not graded, $2, over 10 bu., $1.90. Sacks free. Order early. My supply will not last long.

A. F. HOWDEN, Skidmore, Missouri

Cow Peas-Soy Beans

Car lot receivers and shippers of

CLAYS, BLACKS and NEW ERA

Cowpeas, and most varieties of Soy Beans, consisting of

BLACK and MAMMOTH YELLOW

in the late varieties, and

EARLY YELLOW, MEDIUM YELLOW, MONGOL,

etc., in the early varieties. Samples and prices on request.

W. B. Nowell, Jr.,
COLUMBIA, MO.

Johnson County White SEED CORN

The greatest drouth resistant and heaviest yielding variety of corn grown. My seed was from the originator's prize winning stock; cost me $10 a bushel, and what I offer was all in the crib before freezing weather.

Price extra select crated ears, $5 per bu. No. 1 Shelled Seed. $3 per bu. $5.50 per two bushel bag.

Only my own growing and selection. Better order early.

C. D. LYON, Georgetown, Ohio

SEEDS AND PEAS

Buy them now. Will be 20 per cent higher when the sowing season opens. Write at once to

St. Louis Commission Co.
Dept. S. St. Louis, Mo.

SEED CORN

Reid's Yellow Dent, Gold Coin, Silver Mine, and Boone County White. All hand picked, butted, tipped, shelled and graded. Germination 96% and better. Any variety, $2 per bushel F. O. B. Marshall, Mo. Bags free. Also seed oats, clover, timothy, alsike, millet, cane, alfalfa, cowpeas, etc.

LEONARD SEED CO., Marshall, Mo

Soy Beans and Cow Peas

Ebony and Mammoth Yellow Soy Beans, price $2.60 per bu. Sample on request. Write for prices on cowpeas. All stock shipped on approval.

G. H. Morthland, Molino, Mo.

SUDAN GRASS SEED

OFFICIALLY INSPECTED. Guaranteed free from Johnson grass. Greatest of all grass and forage crops. Price 20c lb. up, depending on quantity. Write for book "How to Grow." Hyde Seed Farms, 110D Hyde Ave., Pattonsburg, Mo.

REID'S YELLOW DENT

Shelled and graded, $2.50 per bu. Pure bred and carefully selected. Quality and germinating power guaranteed. Hold your money till you see the corn and know that it is good.

B. P. SMOOT, R. 5, Centralia, Missouri

OFFICIAL DENIAL

NO WAR TAX on HOMESTEAD LAND in CANADA

The report that a war tax is to be placed on Homestead lands in Western Canada having been given considerable circulation in the States, this is to advise all enquirers that no such tax has been placed, and there is no intention to place a war tax of any nature on such lands.

(Signed) W. D. SCOTT,
Supt. of Immigration
Ottawa, Can., Mar 15, 1915.

Lightning Can't Strike if Illustrated Book on Lightning free. Explains cause and tells what kind of rods will protect your building. W. C. SHINN, 141 No. 16th Street, Lincoln, Nebr.
Shinn Gets There First

THOMAS. E. DEEM
AUCTIONEER

Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased.
Dependable service at a reasonable charge. Address, Cameron. Mo.

Harry W. Graham
AUCTIONEER
PURE BRED LIVE STOCK
Seventeen years experience with America's best breeders.
Chillicothe, Missouri

W. D. ROSS
Auctioneer
Pure bred live stock. Sales made anywhere on reasonable terms. Write for dates.
Otterville Missouri

GALLOWAY CATTLE
Young stock for sale at all times. Herd established 25 years
J. & W. R. CLELLAND, New Hampton, Mo.

ChoiceAberdeen-Angus
Established 30 years. 100 head in herd. I am offering good useful Bulls. and Heifers of excellent individual merit and breeding. Prices reasonable. Our customers make them popular.
D. L. Sutherland & Sons Windsor, Mo.

Aberdeen-Angus
I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.
J. D. Blackwell Fayette, Mo.

ANGUS CATTLE
HERD FOUNDED 1904
Seven early calves—3 BULLS and 4 HEIFERS, sired by Dean's Eric 139686 Every one the right kind, and priced to sell.
V. E. LAWRENCE, SALISBURY, MO.

Angus Bargains
Registered bulls and heifers. The market topping kind. Leading families represented. Priced worth the money and satisfaction guaranteed.
Also Poland China hogs.
J. M. JONES, R. F. D. 3 Everton, Mo.

Aberdeen Angus Cattle
I am offering one aged bull, 8 coming yearling bulls of exceptional merit, weight 700 to 800 lbs. Also coming yearling heifers and cows. Sell on reasonable terms.
ROBT. D. TURPIN, R 2, Carrollton, Mo

IDLEWILD SHORTHORN CATTLE
Milk and Beef Type. Dual purpose in name and in fact. Herd 50 years old. In one family, on one farm. The type is fixed. I have a strain that I believe rivals the famous Duchesses. Fine beef cattle that are heavy milkers. And deep milkers of fine beef type. Call, or this blood is safe by order
W. P. Harned, Vermont, Mo.

Shorthorn Bulls and Heifers
PEABODY FARM now offers 12 choice young bulls and 20 heifers. Good individuals; reds and roans. Priced to sell. Also 20 open BERKSHIRE gilts. Get our prices.
June K. King & Son Marshall, Mo.

BAKER'S REAL BIG-TYPE POLANDS
Our winnings at the State Fair prove that we "have the goods." Spring boars and gilts of excellent breeding and individuality at very reasonable prices. Also a number of fall boars, big, stretchy fellows.
W. A. Baker & Sons, Butler, Mo.

Dooley's Spotted Polands
Big bone spotted pigs now ready to ship—$25 single pig, $45 pair, $65 trio. Pairs and trios no relation. Also registry furnished. Send check with first letter.
Edgar Dooley Etterville, Mo.

LIVE STOCK NOTES

By R. P. Royce, Fieldman

Yorkshires—the Bacon Hog

Readers will find it to their interest to look up the advertisement of Frank Gildow, of Jamesport, Mo., in which he announces that he is closing out his entire herd of large Yorkshires—the acknowledged bacon breed.

It will be recalled that the firm of Dr. John Gildow & Sons recently held a dispersion sale of Poland Chinas. Messrs. Gildow also maintain a small but select herd of Yorkshires. Several years ago they purchased a Yorkshire sow just to furnish their own supply of bacon. The experiment proved so satisfactory that they added several other sows and a boar, and have since built up a nice trade among those who wanted to improve their bacon supply. The foundation stock was secured from the leading herds in the United States and the young things now offered are of the same breeding. In a recent letter Mr. Gildow has the following to say: "Our initial purchases were made from the three most prominent herds of the breed. The offering includes the grand champion boar and sow of the 1913 Missouri State Fair, and practically all of the older animals are State Fair prize winners. For the benefit of those who are not familiar with this wonderful breed, I will say that the Yorkshire is by odds the greatest bacon breed in the world. They grow very large and are noted for their prolificacy."

J. D. Blackwell, of Fayette, Mo., offers well bred registered Aberdeen-Angus young cows with calves at foot, also two-year-old heifers due to calf in early spring and summer, yearling heifers and good yearling bulls ready for service, at farmer's prices.

Clelland's Galloways

J. and W. R. Clelland, New Hampton, Mo., who advertise Galloway cattle in this paper, are among the oldest breeders of the state and the herd they maintain is first-class in every particular. This firm is now offering a nice lot of young bulls and heifers as well as a number of good sows—some with calves at foot and others due to calve soon. Most of the young stuff is sired by one or the other of the two herd bulls, Flagstaff by The Chief 2nd, or Sallie's Othello. If any of our readers are interested they will find it to their interest to write Messrs Clelland.

D. L. Sutherland & Sons advise us that their cattle have come through the winter in good shape and that they have a cracking good bunch of young bulls and heifers they can offer the trade at very reasonable prices. The Sutherland herd has been established for over thirty years, and it has been a big factor in the success of the Sutherlands. Now is a very opportune time for any one to get into the pure bred cattle business and there never was a time when the outlook was better. Look up the Sutherland ad and write them for prices.

Report of Chas. L. Taylor's Sale

Chas. L. Taylor held his first public sale of Durocs at his farm near Olean, Mo., Tuesday, February 23, and made an average of $44.50 on fifty head. While Mr. Taylor expressed himself as fairly well pleased we will say that such an average was at least $15 per head under what such an offering should have brought. It was a splendid offering viewed from any standpoint. In the first place everything offered was either sired by a grand champion or bred to a grand champion—and the pedigrees didn't stop with the sire and dam—but contained the blood of many of the most noted boars and sows of the breed. Indeed, we doubt if any sale held this year contained as much champion blood. In the second place, the whole offering was good individually, and had exceptional size. Several spring gilts were sold that would weigh near 400 pounds.

The top of the sale was Miss Crimson Col. I Am, by B. & C's Col II, out of Belle of Crimson by Crimson Wonder Again. This young sow is easily one of the most valuable sows that has been sold this year and she was knocked off to W. H. & Geo. E. Thomson, of Columbia, Mo., for $270. A White Jr. of Palmyra, was the contending bidder on this sow as he was on all the choicer lots. Mr. White secured Lady Olean, a daughter of Miss Crimson Col I Am, for $140. A spring gilt by Professor's Col. and bred to Col. Wonder topped the gilt di-

15 Registered Shorthorn Bulls--FOR SALE
From 8 to 18 months of age. They are red, white and roans, Scotch and Scotch topped. Sired by the State Fair winner, Sultan's Heir 368468. The best lot we have ever raised, nicely grown out, under average farm conditions, and priced so farmers with small herds can afford to buy. Write us, or better, come to see us. We will be glad to show you our herd whether you buy or not.
W. C. PREWITT & SONS - - - - Clarksville, Mo.

CLYDESDALE HORSES FOR SALE
MISSOURI FARMERS, DO YOU RECOGNIZE THE OPPORTUNITY?
The war in Europe means that the United States will furnish the Draft Horses and Draft Breeding Stock for the world for years to come. There was never a better time for you to get into the game and Missouri farmers should take advantage of the opportunity. I have Prize Winning Stallions and Mares of all ages for sale at lowest prices.
F. L. CROSBY, Highview Farm - - - - - - - Mexico, Mo

$25 DUROC JERSEY BOARS DELIVERED $25
We will deliver fall boars anywhere in the State at $25 per head. They are sired by our first prize senior yearling boar, Beauty's Model 152503, and individually are right. We can please you.
W. O. & B. A. SMITH - - - - - Thompson, Mo.

DUROC SOWS BRED TO CHAMPION
CRIMSON COL I AM for March and April farrow. Bred gilts sired by him, stretchy, good bone and color. Choice fall or spring boars $25 each. Guaranteed as described. Come see them.
A. WHITE, JR. Box 422 PALMYRA, MO.

ADENHILL DUROCS--BRED GILTS and SOWS
Sired by Champions Tatarrax Again, Crimson Col. I Am and Col. Wonder II. Priced reasonably. Also a few serviceable spring boars of same breeding. Priced to sell. A fine lot of fall pigs sired by Col. Wonder II.
R. L. HILL - - - - - - - - Adenhill Farm, Columbia, Missouri

THOMSONS' BOAR BARGAINS
Duroc Jersey spring boars. Splendid individuals from a $1500 sire and $100 dams. Satisfaction guaranteed or no sale.
W. H. and GEO. E. THOMSON, Columbia, Mo.

CHAMPION DUROC BOARS AND BRED GILTS
I still have a number of big, stretchy, quality spring boars that I am pricing very low. I am also offering a very desirable lot of bred gilts. Everything I offer is rich in the blood of champions. COL. WONDER sires my champions—he will sire champions for you. Write or come.
CHAS. L. TAYLOR - - OLEAN, MO.

WELLER'S IMMUNE DUROCS
I am offering a choice lot of boars, bred sows and gilts. Priced reasonable. Customers in 48 Missouri counties.
J. E. WELLER, FAUCETT, MO.

15 DUROC SPRING BOARS & GILTS
We still have 15 boars and a number of open gilts which we will price to sell quick, and are booking orders now for 25 pigs, farrowed Nov 10th.
J. C. Garrard & Son McBaine, Mo.

ANDREWS' SPOTTED POLAND CHINAS
We now offer 75 summer boars and gilts sired by our great herd boars, SPOTTED KING and SPOTTED JUMBO. We are long on hogs and short on corn. Priced for quick sale.
ANDREWS STOCK FARM — — — — LAWSON, MO.

MEGOWN'S SPOTTED POLANDS
No matured stock for sale but booking orders for pigs to be shipped later. Have length, bone, size and big spots. Sired by two of the biggest boars in the State, for their age.
B. B. MEGOWN - - - - - - - - - - - - - - - New London, Missouri

FOR SALE—MAMMOTH POLAND CHINA SPRING BOARS and BRED SOWS
All safely immuned by double treatment vaccination. The biggest of big type breeding. Spring gilts weighing in moderate flesh 250 lbs. Tried sows bred for early farrow. Mature sows weighing (in flesh) 650 to 750 lbs. All from litters of 7 to 16. Gilts by Mastodon Price and Gritter's Longfellow, bred to Ellerbrock's A Wonder. 25 big, spring boars of serviceable age. See or write CLARENCE DEAN, Weston, Mo.
P. O. Weston, Railroad Station, New Market. Electric line from St. Joseph and Kansas City. Station Dearborn, Mo.

BIG POLAND CHINA BRED GILTS
Headed by King David 179495 by Long King, and Leader 201105 by Grand Leader, a pair of great boars that are siring the right kind. A fine lot of spring gilts bred for early farrow. Get my prices.
HALLECK BLAND, Rfd. No. 5 CENTRALIA, MO.

"OAKWOOD HERDS" of Shorthorns and Poland Chinas
Young stock of all ages for sale. Special prices on my big-type Poland Chinas. Quality and breeding the best. Satisfaction guaranteed or your money back.
H. S. Williamson Rfd. 6, Centralia, Mo.

SUPERIOR HERD BIG-TYPE POLANDS
We have at all times anything you want in strictly big-type Polands. Special prices on spring boars and gilts in pairs or more—not related. Write us your wants.
Freeman & Russ Kearney, Mo.

LOCKRIDGE'S GIANT POLAND CHINAS
In my recent sale gilts bred to my great young boar THE GIANT 72083 averaged $57. THE GIANT is conceded to be one of the greatest boars of the breed. You will want some of his blood. Booking orders for spring pigs. Write at once.
WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

vision at $71, going to Chas. Christenson of Akron, Iowa. J. E. McPherson, of Hallsville, Mo., secured quite a bargain when he got Belle of Chiefs 3rd for $65. Col. H. S. Allen of Russell, Iowa, conducted th· sale. A list of representative sales follows:

1.	W. H. & Geo. E. Thomson, Columbia, Mo.	$270.00
2.	J. E. McPherson, Columbia, Mo.	65.00
3.	E. G. Baldwin, Kennett, Mo.	60.00
4.	Sheley & Clatterbuck, New Bloomfield, Mo.	50.00
5.	J. E. McPherson	32.50
6.	J. K. Aldridge, Stoutsville, Mo.	26.00
7.	P. E. Henley, Henley, Mo.	40.00
8.	A. M. Cheek, Lathrop, Mo.	40.00
9.	Chas. Christensen, Akron, Ia.	66.00
10.	J. E. Johnson, Meadville, Mo.	55.00
11.	W. K. Royce, Crocker, Mo.	30.00
12.	P. E. Henley	26.00
13.	W. G. Reavis & Son, Henley, Mo.	30.00
15.	P. E. Henley	25.00
16.	W. I. Williams & Son, Belton, Mo.	37.00
17.	Chas. Christensen	71.00
18.	A. G. Gettemeyer	36.00
19.	Frank Wright, Fayette, Mo.	28.00
20.	Bertha Hahn, Eugene, Mo.	30.00
21.	A. J. Hahn, Jefferson City	25.00
22.	Frank Wright	33.00
23.	A. H. Jordan, Eldon	21.00
24.	W. I. Williams & Son	58.00
25.	Morris Wheeler, Fayette, Mo.	35.00
26.	W. S. Cooke, Lexington, Mo.	33.00
27.	P. E. Henley	30.00
28.	Geo. Weaver, Russelville, Mo.	30.00
29.	A. White, Jr., Palmyra, Mo.	140.00
30.	O. M. Miller, Jefferson City	55.00
31.	Williams & Son	69.00
32.	E. Y. Galdwin	65.00
33.	E. W. Davis, Glenwood, Mo.	40.00
34.	H. T. Hook, Columbia, Mo.	40.00
35.	J. E. Henley	51.00
36.	W. H. & Geo. E. Thomson	35.00
37.	Morris Wheeler	30.00
38.	A. G. Gettemeyer	30.00
39.	W. K. Royce	34.00
40.	A. H. Jordan	26.00
41.	J. K. Aldridge	35.00
42.	W. T. Revis & Son	26.00
43.	W. F. Cooke	29.00
44.	H. T. Hook, Columbia Mo.	30.00
45.	Ed Magill, High Point	30.00
46.	W. T. Revis & Son	30.00
47.	Ollie Miller, Spring Garden, Mo.	24.00
48.	W. T. Hutchison, Cleveland, Mo.	32.50
49.	W. T. Revis	33.00
50.	A. A. Fisher, Russellville, Mo.	26.00
52.	S. Dunham	32.00

Taylor's Chesters

W. B. Taylor & Sons, Weatherby, Mo., still have a number of exceptionally good fall boars on hand that they are anxious to dispose of before their spring crop arrives and accordingly they have put the price down to a point where any one thinking of buying can hardly afford to overlook their offer. The Taylor herd has been gotten together by select purchases from the leading herds of the Corn Belt and the produce from the herd never fails to please. Better write at once.

Freeman & Russ' Big Polands.

The Superior herd of big type Polands owned by Freeman & Russ, Kearney, Mo., represents one of the good collections of Polands owned in North Missouri. Just at present they are in a position to furnish most anything one wants from fall pigs to mature sows bred to farrow in April. Most of the fall pigs are sired by the good young boar, King Jumbo, and a number of the sows are bred to him. This young boar was one of the most promising boars the writer saw last fall. He was sired by J. B. D. by Miller's Jumbo, who was by Expansion. His dam was Big Lill by John's Boy by Long John. King Jumbo has everything one likes to see in a herd boar, namely, size, bone and quality. Please mention this paper when you write.

Sheley & Clatterbuck's Sale

The sale of Duroc bred gilts held by Sheley & Clatterbuck at New Bloomfield, Mo., Wednesday, February 24, did not come up to the expectations of the sellers, and proved to be a bargain day for the few who came to buy. This was the second sale held by Messrs. Sheley & Clatterbuck this spring and that fact together with the extreme scarcity of feed in their section mitigated against a better average.

The sale offering was a very desirable one from the standpoint of bloodlines and some very excellent individuals were offered, but for the most part the gilts were bred to farrow later than the average buyer likes.

Several breeders from a distance were present and were active bidders on the more desirable lots.

Longview Farm, Lee's Summitt, Mo., secured some eight or ten head and in the lot was the good fall yearling, Coronation. This prize winning daughter of S. & C's Valley Chief topped the sale at $91. Beauty's Perfection, a fall yearling by Beauty's Model Top and out of the old champion sow, Gatton's Perfection, went to R. W. King, Hopkins, Mo., for $59.

P. M. Gross, of Macon, Mo., conducted the sale and never did an auctioneer work harder to get a crowd to appreciate good stock. During the sale Col. Gross took time to analyze the present conditio nof the hog market and ended by predicting that hogs would jump two dollars a hundred just as soon as the federal quarantine is lifted.

Hill Sells Durocs

In a recent letter from R. L. Hill, who advertises Durocs in this paper, he has the following to say:

You will be interested to know that we have sold them all, selling them all in one day. Ten of them went to Thos. Clark of McBaine, Mo., four of them to Keith Bros of Sturgeon, Mo., two to S. W. McReynolds, Carthage, Mo., and two to H. S. Bryan of Redding, Ia.

Now I am offering boars for sale and will give you detailed description of them. Four of these are Sept., 1914 boars, weighing about 150 pounds, all good color, with plenty of bone, stretch and good type and conformation. I will guarantee these to please the purchaser. These four are all by Col. Wonder II., second prize boar at the Missouri State Fair 1913, a litter mate to Belle of Missouri 3d, grand champion at the same fair in 1914.

Also have some fall gilts of Sept. farrow, same breeding as the first mentioned boars."

We take pleasure in urging those of our readers who are in the market for a boar to write Mr. Hill. You will like the kind he sends out.

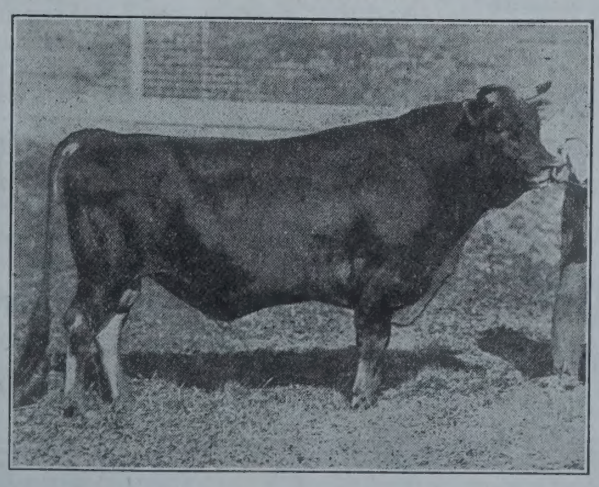
The Ennis Farm Poland and Jersey Offering

The advertisement of the Ennis Farm is again changed this issue. They are now booking orders for Spotted Poland China spring pigs to be shipped in June. The demand for early farrowed spotted pigs is always heavy and those who place their orders early are insured of getting the choicer lots. Mr. Ennis advises us that he has about twenty-five sows bred for spring farrow. These sows are bred to one or another of the five boars doing service in this herd and pairs, trios or more of unrelated pigs can be furnished. Mr. Ennis also owns the Sunset herd of Jersey cattle, consisting of about 115 head, all of which with the exception of five or six have been bred on the farm. From time to time the farm offers young bulls and heifers for sale at very reasonable prices. Those of our readers who are interested are urged to write for further particulars.

Turpin's Angus Offering

Elsewhere in this paper will be found the advertisement of Robt. D. Turpin, Carrollton, Mo., in which he offers one aged bull, eight coming yearling bulls and several yearling heifers. Mr. Turpin has been in the Angus business a number of years and his herd is producing the kind that pleases the careful buyer. You will find his prices extremely reasonable.

Obadiah Prettyman, Fairfax, Mo., is now offering two good big type Poland China yearling sows bred for May farrow —also one fall yearling sow bred for June farrow. Besides the above stock he has an exceptionally good lot of spring gilts bred for May farrow. These spring gilts are dandies and will weigh in good breeding condition a little over 300 pounds. Mr. Prettyman has an excellent herd and we are glad to call our readers' attention to his ad and to recommend his stock.



Stockwell's Champion. Grand Champion Jersey Bull at Misssouri State Fair, 1914. Owned by J. B. Smith.

F. L. Crosby, of Mexico, Mo., is offering a number of choice young Clydesdale stallions and mares sired by Gallant Sturdy. Gallant Sturdy has been a winner wherever show and for the past two years has been made champion Clydesdale stallion at the Missouri State Fair. His get have also been winners at the same show and several of the young things now offered are prize winners.

The war is taking thousands and thousands of horses out of this country and while it is true that they are buying the lighter and cheaper sorts, it means that there will be a marked shortage in this country and when times take a turn there is going to be a tremendous demand for the good kind. The time to get into any business is when the prices are low and we feel sure that Mr. Crosby can make a mighty interesting proposition to those of our readers who may be interested.

Smith's Jersey Offering

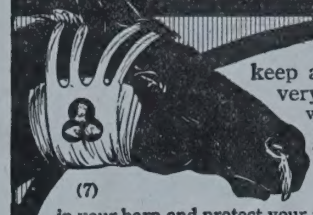
J. B. Smith, Platte City, Mo., is offering about thirty head of choice Jersey cows at very reasonable prices. Many of those offered are bred to Stockwell's Champion, grand champion bull at the Missouri State Fair last year. Mr. Smith has been one of the leading exhibitors for the past few years and his winnings in the show ring are evidence of the quality of this herd.

In addition to the cows and heifers offered Mr. Smith has four young bulls for sale.

Gebhardt Bros., of Palmyra, Mo., are offering several very choice Guernsey bulls for sale. These bulls are right in every respect and our readers will do well to write Messrs. Gebhardt.

IS YOUR HORSE WORTH $1.00?

YOUR MONEY BACK IF IT FAILS



You wouldn't keep a horse or any other animal very long if he wasn't worth a dollar, would you? If an animal is worth keeping at all he is worth keeping in good health. It costs only a dollar to keep a bottle of the old reliable

(7) CRAFTS' DISTEMPER REMEDY

in your barn and protect your animals from disease. For 22 years CRAFTS' has been sold on an absolutely guarantee to cure Distemper, Coughs, Colds, Influenza, Epizootic, Catarrhal Fever, Pink Eye and all similar diseases of the head and throat in horses, sheep and dogs, or your money refunded. CRAFTS' cures quickly, destroys the germs, tones the blood, and restores the victim to perfect health. Buy a bottle today, you take no risk, satisfaction guaranteed. If your druggist does not have CRAFTS', we will send it prepaid on receipt of price. Be sure to get the genuine. Imitations are never so good. 50c for trial size. $1.00 size three times as large. MONEY BACK IF IT FAILS.

Valuable Horse Book Free chock full of "horse sense"—tells how to treat and cure all the common ailments of horses. Send for your copy today—a postal brings it FREE by return mail.

Wells Medicine Co., 33 Second Street Lafayette, Indiana

RAUSCHER'S CHESTER WHITES!

One of the Oldest Herds in the West

A few choice spring gilts bred for early farrow. Several richly bred big spring boars. A fine lot of fall pigs. Size, quality, and bone. Prices reasonable and every pig guaranteed.

H. Rauscher & Son, Kahoka, Mo.

Glenvarloch Large Yorkshires

The prolific, growthy and gentle bacon hog. Closing out entire herd at private sale. Bred sows, boars and pigs either sex. The produce of one Yorkshire sow will keep your family in delicious meat all next winter. Everything at bargain prices. All immune.

Frank Gildow, Mgr., Jamesport, Mo.

POLAND CHINA BRED SOWS

DOUBLE IMMUNE

Two good yearling sows for May farrow. Have raised two litters. One fall yearling for first of June. Had one litter. Spring gilts for May farrow, weight about 300 lbs. These are the big broad-backed kind and prolific.

Obadiah Prettyman, Fairfax, Mo

DUROC BOARS

Extra good fall boars. Plenty of size and bone. Prices right.

C. D. CALDWELL, Milan, Mo.

Guernseys are Champions

of the world over all breeds in butter fat production. If you are looking for something extra in a registered Guernsey bull, write us.

WE CAN SUIT YOU

GEBHARDT BROS., - Palmyra, Mo.

JERSEY CATTLE

Bulls ready for service. They are sired by the Owls Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

Jerseys-Spotted Polands

April Special—Jerseys: I will offer for April only, six young bulls, ready for service, at lower prices than I have quoted for six years. Also bred heifers.

April Special—Spotted Polands: For April only I am offering 35 fall boars, mostly October farrow, at $20 each. Order now. Also sow pigs and bred gilts for sale. Free circular.

THE ENNIS FARM, HORINE STATION, Mo. (Just south of Saint Louis)

Jersey Cows

I want to sell 20 head of registered cows and heifers that are either fresh or soon will be. Also four young bulls.

J. B. SMITH Platte City, Mo.

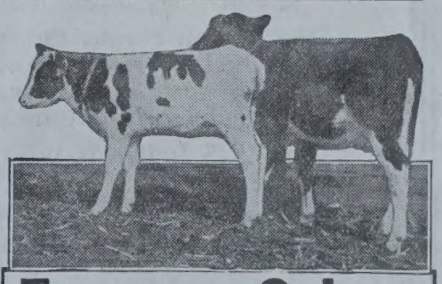
HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndyke Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

M. E. Moore & Co., Cameron, Mo.

ELM LAWN HERD IMPROVED CHESTER WHITE SWINE Choice boars and gilts of September and October farrow for sale at reasonable prices. Everything recorded free.

W.B.Taylor and Sons, Weatherby, Mo.



Economy Calves

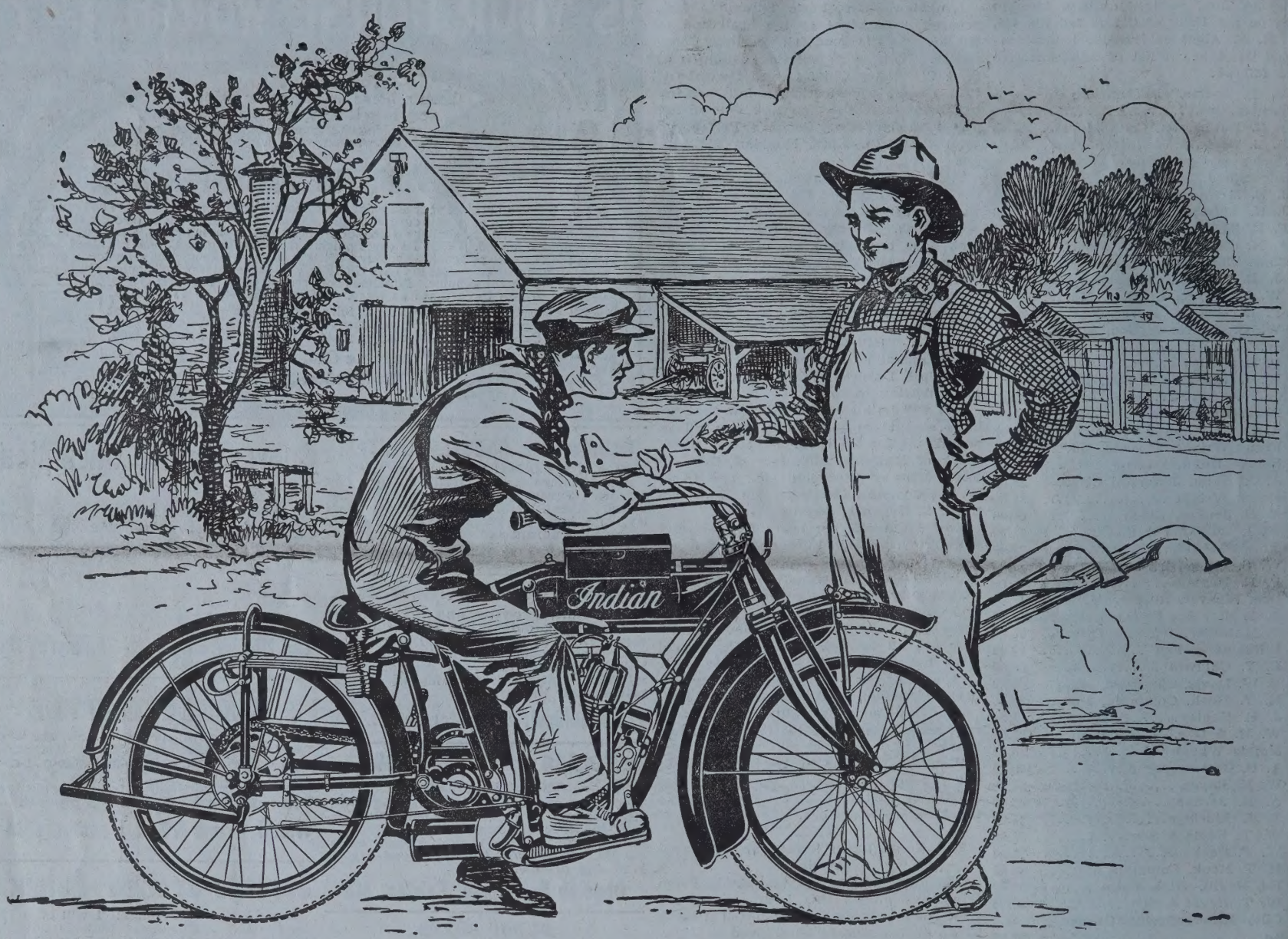
You can now feed a calf for the first five months of his life for less than half the cost of the milk he would consume in the old way. Do this with

Blatchford's Calf Meal

This meal has been known as the complete milk substitute since the year 1800. Very easily prepared. It prevents scouring promotes a strong rapid growth and makes a better cow.

Write for Actual Figures based on results, that show you how to increase your calf profits. The new data will be sent for the asking. Write today.

Blatchford Calf Meal Factory, Dept. 4214, Waukegan, Ill.



A Broken Implement Part—and Town Twelve Miles Away!

BUT distance doesn't bother the modern farmer. When a machine breaks down, he hands the broken part to one of the boys and sends him to town—knowing he'll be back promptly. For 25 miles an hour is easily covered by the 1915

Indian Motocycle

Used to take a good horse a whole day to do the same job—but you had to take him away from the farm work and that delay meant money.

The Indian climbs the long hill as quickly as it skims over the level road. Heavy, rutty roads are made smooth roads by the *Cradle Spring Frame* which absorbs all vibrations and gives the utmost ease and riding comfort.

The 1915 Indian is the finest, fastest, most economical, most powerful, most serviceable machine ever built. It has 9 Big Basic Innovations—every one a mighty important necessity—and 20 refinements that loom up as the biggest values ever put into a motorcycle.

And that great *international* reputation behind the Indian—it means everything to the farmer who buys wisely. It keeps him from wasting hard-earned money on a machine that hasn't a reputation to make it make good.

A chain of Indian factory branches, large distributors and 2,800 dealers assure over-night service for Indian riders—*anywhere.*

Your beautifully illustrated 1915 Indian Catalog is ready. Where shall we send it?

HENDEE MANUFACTURING CO., 787 State St., Springfield, Mass.

(Largest Motorcycle Manufacturers in the World)

BRANCHES AND SERVICE STATIONS: Chicago, Dallas, Kansas City, Minneapolis, San Francisco, Atlanta, Toronto, Melbourne, London

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE MISSOURI FARMER

COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE AND THE MISSOURI EXPERIMENTAL STATION

Get Him Interested

Some years ago, substantially this conversation took place between a stalwart Missouri farmer and his fifteen year old son: Said the Father to the boy: "Neighbor Jones tells me you have rented a couple of acres of ground from him. If you wanted some ground, why didn't you ask me for it? We've got 320 acres of as good farm land as there is in the township." "Well," replied the sturdy little fellow after some hesitation, "I know we've got plenty of good land but if I asked you for any I am afraid you wouldn't let me keep all I raised on it. Neighbor Jones promised to let me pay him one-third of the crop for rent, so if I don't raise anything I wont lose anything except my work—and I thought I'd have enough time to work those two acres when things are not rushing here at home."

Thus matters rested for the time being. The grizzled, hard fisted old farmer was not particularly pleased but offered no further open opposition. The boy, on the other hand, carried out his bargain with the neighbor. He planted his two acres of rich, loamy bottom land in potatoes—hoed them carefully at odd times and raised enough so that when they were all sold he had $40 left for his toil—and he was happy. "Now, what are you going to do with your money?" asked his father one evening at the supper table. After gulping down several half masticated mouthfuls the little fellow answered eagerly, "I want to buy me a nice new saddle with part of it—and then I thought I'd like to buy several of your shoats with the rest if you will let me." "Well," said the old farmer, that proposition about the shoats is sensible—but what do you want to waste a lot of money on a new saddle for? Isn't our old saddle plenty good enough for you?" The boy was too crushed and hurt to reply and, after a moment, with his eyes full of tears and a sob he left the supper table. It was at this stage of the little drama that his mother interfered—mother, who is the "Good Angel" of every boy—and after mildly chiding her husband for his unsympathetic harshness, the old farmer called to his son out in the kitchen and said, "Never mind, boy, you can have that new saddle and I'll let you pick out five of the best gilts in the feed lot."

We recite this tragedy of a little farmer boy's longings and ambitions because we know that it finds its counterpart in hundreds of Missouri farm homes today and because we hope the lesson may strike home to every man who reads it—that it may inspire within his breast a little more heartfelt sympathy and interest in the little fellows who are growing into manhood under his care and guidance and from whom the community, state and Nation expects so much in the future. This farmer was a splendid citizen so far as thrift, sobriety, etc., are concerned, and in the ordinary sense a good father—and yet, because of a lack of broad human sympathy such men often literally trample upon the hearts of their loved ones. He saw the "dollar" side of his boy's hog raising proposal but could not see that a nice new saddle was the "leaven"—the inspiration from which his interest and success in the other things would largely come.

One reason why so many farmer boys drift to the cities is because they were not taught to take a genuine interest in the brighter side of farm life while they were still young and impressionable—because it is too much of a grind from one year's end to another—because there is never an hour for play and amusement and because they are not given a vital, personal interest in the things they do. Boys are miniature men and though we may not realize it, they possess the power of reasoning just as we grown ups do—and every day finds this reasoning process more fixed and settled. First, see that your farm home is made " a good place to live in"—and by this I do not mean that it must be costly in its appointments, etc. See to it that the boy's room has an inspiring picture or two in it—that it looks inviting and cozy, and lastly, give him a pig or two or a few sheep—or an acre or two of land—something of his own. Require him to look after these things personally—and give him every penny he can make out of them. Finally, don't forget that occasional kindly pat on the head and a friendly word of encouragement and praise once in a while. Give him cause to love the farm rather than hate it.

—The Author of After-Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VII APRIL 15. 1915 NO. 8

WILLIAM HIRTH
PUBLISHER

CONCRETE SILOS IN CAPE GIRARDEAU COUNTY

It will probably interest your readers to read an account of concrete silo building in this county. The growth of the dairy industry, the favorable outlook of the beef cattle business and a short corn crop all combined to turn people toward the silo as a means of preserving and making the fullest use of the feed produced.

About 100 silos were constructed in this county the past year. The majority were stave, quite a few were pit silos, one or two of the Gurler type, and seven monolithic concrete silos. All of them are giving good satisfaction and if there is a dissatisfied silo owner in the county I have not heard of him. It is a well known fact that all that is necessary in keeping silage is to have the silo airtight, of such a shape that the silage will pack readily, and to put the corn in at the proper stage, well packed. This article, however, is not intended to be a general discourse on all silos, but rather on the construction and cost of seven concrete silos.

In the first instance four farmers cooperated: forms were built of native lumber according to blueprints furnished by the State Agricultural College. A man thoroughly experienced with the work was also sent to help get things started. The inner forms were covered with tin in order to obtain a smoother inside wall. The first silo completed was 10 by 20; it was constructed at an actual cash outlay of $57.50. This sum represents 100 sacks of cement at 40c per sack, hired labor $12, wire re-enforcing and miscellaneous $5.50. Gravel of good quality was near at hand and the owner hauled it himself. The three neighbors who were also going to build helped with the work and were helped in return.

The next one put up was 10 by 24 feet. In this case there was an actual cash outlay of $65. The next two were each 10 by 28 and in each case $75 was expended. These four silos were the ones where the four men helped each other and conditions were practically the same in each instance. The last three were somewhat smoother than the first one but the silage has kept equally well in all of them.

The next silo is 10 by 36 feet and in this case a complete record of all cost was kept and every legitimate charge that could be made was put down. The forms are of high grade pine flooring and were constructed by an expert carpenter who used blueprints from the College. Both inner and outer forms were covered with metal. The cost of forms was $40. Gravel was hauled four miles and $1 per yard paid for the hauling; a special grade of woven wire re-enforcing was used and all labor was hired and paid current wages, even the board of the workmen and extra visitors was taken into account. The total cost of the silo exclusive of forms was $180. It was not thought proper to include the cost of the forms because rental from them will more than pay first cost.

The next silo is 10 by 34 feet; it was built with the above mentioned forms and $15 paid as rent for their use. Three men were hired regularly, but all hauling and the work of the owner and his two sons was not charged for. This silo complete required a cash outlay of $142.

The seventh and last silo is 12 by 32½ feet. Chats were shipped from the mines at Fredericktown to Allenville in this case because gravel was not close enough to profitably haul it. The carload of chats cost $23 at the station, of this amount $20 was freight. The haul of two and one-half miles to the farm was charged against the silo. The cost of forms and the labor of the owner and his two sons was not taken into account, although all hired labor and materials were. The silo on this basis cost $166.50.

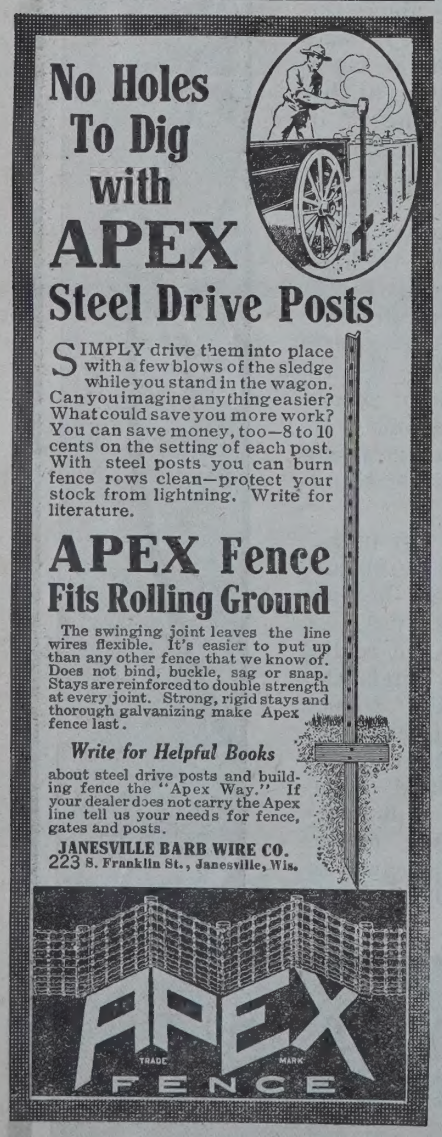
These figures are somewhat lower than the owners themselves counted on before beginning the work. Every one of them is giving full satisfaction and the silage is first class. Without any doubt whatever there will be a considerable number of them put up this coming season; each silo is a convincing demonstration of what can be accomplished by careful construction with good material.

Summarizing, we have:

10 by 20 concrete silo with a cash outlay of $57.50.
10 by 24 concrete silo with a cash outlay of $65.
10 by 28 concrete silo with a cash outlay of $75.
10 by 28 concrete silo with a cash outlay of $75.
10 by 34 concrete silo with a cash outlay of $142.
12 by 32½ concrete silo with a cash outlay of $166.50.
10 by 36 concrete silo, cost complete, everything accounted for, $180.

We believe these figures worthy of careful consideration.

C. M. McWilliams,
Farm Adviser Cape Girardeau.



SHOULD USE PURE BRED BOARS

Missouri ranks third in the number of hogs produced for market in the United States, but much lower than that in value per head. One can readily see from these facts that there is something the matter with the quality of hogs produced in Missouri. When one goes on the markets and watches the car loads from different states, they will notice the great difference in quality of the hogs shipped from different sections. Some sections produce hogs with more quality and of course their hogs command a higher price on the market. One who is familiar with conditions in Missouri and other states knows that conditions are just as good or better in Missouri than in any other state for producing hogs. Our grain and forage crops are produced just as economically. It is not any of these factors that we need to bring about improvement in our hogs, so much as that of using more pure bred sires. It is a recognized fact that the herd boar is fifty per cent of our herd. Therefore every farmer who wants to get more money for his hogs, and bring the value of Missouri hogs up should use a pure bred sire. Purchasing a pure bred sire is not an extra expense, but an investment that will pay big. Grades are sometimes just as good individuals as the pure bred boar, but they have not that ability to transmit those good qualities of their former parents. It is probable that the grade boar's sire or grandsire was a poor individual, and would have as good a chance to transmit to his offspring those poor qualities as the pure bred boar would have to transmit his good qualities, which have come down from good individuals for generations back. So brother farmers, if we will all use more and better pure bred boars, we will get somewhere toward improving Missouri hogs.

Roy Baker, Bates County.
Student in Short Course.

DEFECTS OF THE TWENTIETH CENTURY FARMER

The greatest defect of the farmer today is his limited education. As the country is becoming more populous and competition is becoming keener, the farmer must have more education.

The average farmer seldom knows what kind of fertilizer his land needs. He does not give manure its proper value and does not take care of it in the best way. He does not think that crop rotation is as important as it is, and, of course, does not practice it as much as he should. As more machinery is being introduced on the farm all of the time, he is not as much of a mechanic as he should be.

As a general rule, he does not conduct his work in a business-like, systematic way or plan ahead much, but just works at one thing until he gets tired and then begins on another. He does not keep records enough, and seldom knows whether or not his stock is paying for its board.

A very small per cent of the farmers have scales, and, when selling grain to one another, usually have to guess at the weight or haul it two or three miles out of the way in order to weigh it. They generally think only of the cost of such conveniences and forget about the valuable time it would save them.

Another valuable investment that the farmer generally fails to make is painting. Painting not only increases the selling price of the land above the cost of paint, but also increases the beauty of the place.

Roy Cox,
Moundville, Mo.

[The above theme was written by Roy Cox in answer to the question, "What are some of the most common defects of the farmer today?" It was written in class work in the Moundville, Public Schools, where agriculture is taught successfully by C. A. Smith. The Missouri Farmer is used in the class work in the Moundville school.]

Bears Close Inspection.

The Missouri Farmer came into our family about a year ago and lay on the library table unnoticed for quite a while for we were taking higher priced papers published outside the state.

One day I picked it up more through curiosity than anything else and found it discussing some of the very problems I had been turning over and over in my own mind and in every number I find things that seem to have been put there just for my especial benefit. Now the other papers lie on the table until The Missouri Farmer is read.

I enclose check for one dollar and do not cut me off without fair warning when my time is out as I do not want to miss a number.

J. W. Payne,
Howard County.

[We have many times called attention to our policy of standing on merit and the actual concrete help we can be to our readers. We have received a great many letters recently along the line of the above and of course we are pleased with the sentiment. We believe a paper edited and published by men who are and have been for years identified with Missouri, a paper whose capital is all invested in Missouri and whose profit is—every dollar—spent in the state, ought to have the support of every progressive farmer living within her borders. We are willing to send the paper to any farmer on the basis that if it does not help him more than a dollar's worth we will refund his money.]

Farmer Girls, Attention!

Would you like to earn a beautiful diamond ring, a lavalliere or a handsome wrist band watch? If so, we shall be glad to tell you how you can do it during your spare time. Write us at once for full particulars. Address, William Hirth, Columbia, Mo.

The Missouri Farmer

VOLUME VII APRIL 15, 1915 NUMBER 8

The Profitable Use of Fertilizers for Corn

By C. B. Hutchison, Professor Farm Crops, University of Missouri

The use of commercial fertilizers is becoming more and more common in Missouri each year. This is due to the fact that the lands are gradually being depleted of their fertility by exhaustive systems of grain farming and also to the fact that lands are constantly increasing in price. When the productiveness of land becomes sufficiently low that remunerative crops cannot be secured, the use of fertilizers is ordinarily one of the first things that is adopted to bring better returns. The increasing use of fertilizers, therefore, is an index to decreasing soil fertility and to increasing land values.

In general it may be said that plant food in soils exists in two forms, first, the insoluble or unavailable form, which constitutes by far the greatest part of the total amount present; and second, the soluble or available plant food, which may be absorbed by the plant roots. The latter is found in only small quantities and it is the form upon which crop yields depend. It is the business of the farmer so to manage his soil that there may be a sufficient quantity of plant food available at all times to promote maximum growth and thus permit of maximum yields. The presence of a good amount of organic matter or humus in the soil is a very important factor in keeping the proper amount of plant food available, since the action of its decay in the soil causes the insoluble plant food slowly to dissolve. With excessive grain cropping the organic matter is exhausted and the immediately available plant food depleted. The soil is thus left in such a condition that plant food is made available too slowly for the needs of the plants and crop yields are accordingly decreased. It is at this time, therefore, that the use of commercial fertilizers is usually resorted to for the purpose of supplying soluble plant food.

Commercial fertilizers are simply concentrated forms of one or more of the three plant foods that are commonly lacking in all soils, namely, nitrogen, phosphorus, and potassium. On worn lands the available supply of all three becomes low as explained, although the soil may be fairly well supplied with some of them in an insoluble form. Complete fertilizers contain all three of these plant foods and are most commonly used on these worn lands both with corn and wheat. Such fertilizers are sold on the market under the name of "Grain Growers," "Corn Growers," "Truck Growers."

The Missouri Experiment Station for a number of years has been investigating the fertilizer needs of Missouri soils. These experiments have had to do with the use of various fertilizers, manures and lime with crops in rotations and with direct applications of fertilizers for corn and wheat. The results of these investigationns warrant some definite recommendations regarding the use of fertilizers with corn.

On fields conducted at Carthage and High Hill, fertilizers have been applied in the hill with corn. The results of these treatments are given in the following tables:

FERTILIZERS IN THE HILL FOR CORN—HIGH HILL EXPERIMENT FIELD (1)

Kind of Fertilizer	Cost of treatment per acre	Yield of corn in bushels per acre 1909	1910	1912	Av. 3 yrs. '09-'10-'12	Av. 3 yrs. '10-'12
None		36.4	45.0	26.3	35.9	35.7
Bone meal, 50-lbs.	$ .70	36.9	56.0	31.8	41.6	43.9
Bone meal, 75 lbs.	1.05	39.7	59.0	26.9	41.8	43.0
Bone meal, 100 lbs.	1.40	37.1	57.0	25.1	39.7	41.0
None		32.5	42.0	29.3	34.6	35.7
2-8-2, 50 lbs.	.60	*34.7	46.0	34.7	38.5	40.3
2-8-2, 75 lbs.	.90	*36.7	49.5	27.7	38.0	38.6
2-8-2, 100 lbs.	1.20	*38.3	50.5	28.7	39.2	39.6
None		*34.2	40.5	24.8	33.2	32.7
3-8-6, 50 lbs.	.80		50.0	31.0		40.5
3-8-6, 75 lbs.	1.20		47.0	30.2		38.6
3-8-6, 100 lbs.	1.60		50.0	32.9		41.4
None			39.5	26.6		33.0

* Average of two plots (1) Bulletin 126 Mo. Agr. Exp. Sta.

These small applications of fertilizers in the hill have given profitable returns on the High Hill field. As an average for three years, fifty pounds of steamed bonemeal to the acre have increased the yield of corn 6.3 bushels. Seventy-five pounds have given an increase of 6.6, and one hundred pounds an increase of 4.4 bushels to the acre. The smaller yields from the heavier rates are due to the fact that some times large amounts of fertilizers in the hill are apt to cause the corn to fire badly in seasons of drought. Just why this should be is not very well understood. It is probable that too large an application is not quickly used up, and, hence, tends to keep the feeding roots confined to a small area throughout the season. With the small application on the other hand, the fertilizer is quickly used up and the roots spread through the soil, making it less likely that the drought of late summer will injure the plant.

Complete fertilizers of a composition of 2-8-2 have not given as profitable returns during the same period of time on this land. It should be noted that these experiments were located on soil on which a great deal of manure has been used and cowpeas grown so that the soil is well supplied with organic matter, and consequently not so badly in need of nitrogen as of phosphorus. The heavier application of phosphorus in the bone meal has given better returns than the lighter application in the 2-8-2 fertilizer. It will be seen that the increase from the 2-8-2 fertilizer has been 4.6 bushels, 4.1 bushels, and 6.3 bushels with fifty, seventy-five and one hundred pounds per acre respectively. Again, the lighter application has been most profitable. The increases for the two year average vary somewhat from those of the three year average, but in general demonstrate the same truths.

Similar experiments with fertilizers in the hill for corn were tried at Carthage. The following table is a summary of three years' results. There were some variations in the amounts of fertilizers applied, but in each year heavy and light applications were compared.

FERTILIZER IN THE HILL FOR CORN—CARTHAGE EXPERIMENT FIELD (1)

Kind of Fertilizer	Amt. of application	Yield Bu. per acre	Increase over no treatment bu. per acre	Value of increase	Cost of fertilizer per acre	Net return per acre
2-20 bonemeal	Light	39.0	6.0	$3.30	$1.40	$1.90
2-20 bonemeal	Heavy	41.7	8.7	4.79	2.10	2.69
2-8-2	Light	42.6	9.6	5.28	.80	4.48
2-8-2	Heavy	43.7	10.7	5.89	1.30	4.59
2½-6-2	Light	39.6	7.4	4.06	.75	3.31
2½-6-2	Heavy	40.0	7.8	4.29	1.20	3.09
None		33.0				

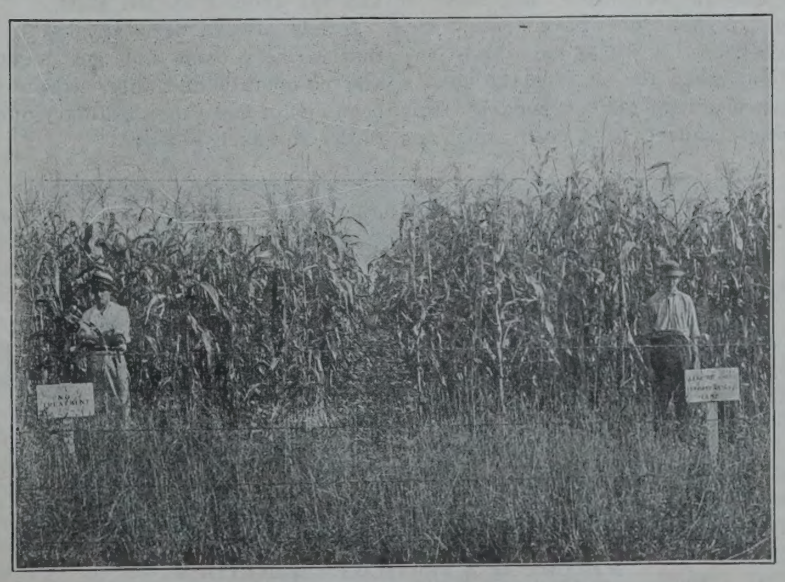
(1) Bulletin 119 Mo. Agr. Exp. Sta.

The results of the experiments at Carthage likewise show that fertilizers may be applied with profit in the hill or drill with corn. In this case, however, the heavier applications have generally been best, and the mixed fertilizers better than bonemeal. Fertilizers are best applied by means of a fertilizer attachment for the planter, which drops the fertilizer near the hill. Best results may be expected, as a rule, on medium to poor lands with 60 to 75 pounds of a complete fertilizer containing 2 to 3 per cent nitrogen, 8 to 12 per cent available phosphoric acid, and 2 to 4 per cent potash. Steamed bonemeal applied at the same rate, especially on land where the nitrogen and humus have been maintained by manure and green manure crops, will give practically the same and in some cases even better returns.

The practice of using fertilizers in the hill with corn should always be combined with careful soil building practices, however, and not be depended upon simply to grow another crop on an exhausted soil. It should be clearly understood that such small applications do not contain enough plant food to make a crop of corn. They simply give it a quick, vigorous start which probably enables the plants better to withstand the attacks of insect enemies and fungous diseases as well as to keep ahead of the weeds.

Another method of using fertilizers on corn is to distribute it with a fertilizer grain drill ahead of the planter. Where applied in this manner, 150 to 200 pounds of a complete fertilizer on the poorer lands will usually give good results, while steamed bonemeal or acid phosphate will be more remunerative on the better lands, since on such lands phosphorus is usually the limiting element.

It should be understood that such a use of fertilizers, except in connection with other soil building practices, is only a temporary expedient for the man who must have immediate re-



FERTILIZERS WITH CORN
University of Missouri, Soil Experiment Field, Christian County

Plot on right received Nitrogen, Phosphorus and Lime treatment and yielded 44.3 bushels of corn to the acre. Plot on left received no soil treatment—yield 34.6 bushels to the acre.

turns. Their use alone will not permanently maintain the fertility of the soil. In fact, their continued use alone for the purpose of growing an immediate crop on an exhausted soil ultimately will injure the soil. The gross returns from the corn crop are not great enough to justify the expense of heavy applications of fertilizers. Profitable returns on this crop must depend chiefly upon the use of plant food from the store within the soil. This supply may be kept at its highest state of efficiency through the proper management of the cropping system, the use of barnyard manure, and green manure crops supplemented by the judicious use of fertilizers. The proper use of fertilizers, then, for the man who owns his land is as a supplement to the best system of crop rotation and manuring that a man can practice in order that the humus content of the soil may be maintained and favorable conditions supplied for making soluble the plant food that exists in the soil.

"THE CRIMSON TRAIL OF A NEW IDEA"

CHAPTER II

Just one more howl has been heard about the move for "Cheaper Money for the Farmer." Here it is: "The methods of the farmer on an average are not so good as they ought to be, and too many farmers actually refuse to make use of the means they have at hand to make any improvement." "He believes he knows all about the farm game, and a man in that attitude is not able to learn much." Comment may not be necessary, but once in awhile word comes from some one that "I don't need any advice about farming. I have farmed all my life, and nobody can show me how to farm," etc., etc.

Usually the person who thinks he cannot be shown anything more about farming, can most always prove his point. Go past his farm and take a look and anyone can get all needed evidence that the fellow is right. I have known many who could not be taught much. One man in Nodaway County said he attended a farmers' short-course for two weeks and did not learn a thing. We often find men like this one and they should not be blamed; they should be pitied, since they cannot help their condition. They are usually harmless and to confine them seems hardly necessary.

If "cheaper money would be a detriment to farmers" as has been argued it would be just as logical to say that dearer money would be the farmers' salvation.

While we are on the subject of funny arguments, I heard a story once about myself. By the time it got back to me the fellow had it that "Jordan said if there were no renters people would not have to lock their smoke houses." If I had said such a thing I would have had to class myself among them for much of my life has been spent on and in rented property, but the person, no doubt, meant to do no harm, but really he must have been harming no one but himself, since the story could not be reasonably believed that a man with just a little gumption would make such a public statement, consequently, the only effect that could logically follow would be to give the teller of such foolish yarns a reputation for most anything except to tell the truth. The same man had no doubt heard me say at least one good thing that might help some one, and don't you think he would have felt better had he repeated the good?

Sam Jones once said "Throw at a bunch of dogs, and the guilty ones will howl, tuck their tails and run." Did you ever know of a person try to create a favorable impression about himself by condemning some one else or by offering in a loud voice a "fervent" prayer? Perhaps distorted statements, and falsehoods with no possible foundation may be what David Harum was troubled with, and from which he got the following consolation, "It is good for a dog to have a few fleas." You see it keeps the dog from getting too lazy. Matters of this sort, I sometimes think, give a man his fighting strength, and makes blood good and red while the "Mrs. Grundy" fellow soon shows up his yellow streak.

Not far from 90 years ago a young man conceived a new idea. His attention to his experiments took all his time and means, until his family was reduced to poverty and want. All the people said "It can't be done." But Charley yet thought it could. He was thought by many to be insane and he was dubbed "The India Rubber Fool," but ignoring his traducers he kept on and finally succeeded and gave to the world the rubber fabric that is now put to hundreds of uses, and that requires thousands to manufacture it to meet the demands. He had many lawsuits to protect himself for as is always the case many were trying to steal his ideas as well as his reputation and name. Where rubber goods are known Charles Goodyear is known, and he is today counted as one of the world's benefactors, but he had to travel the crimson trail.

My father made the first double shovel plow made in Gentry County, Missouri, where he farmed and worked at odd times at his carpenter trade. He used to make the coffins for the burial of people in that community, and I have held the candle many a night while he worked, and he would many times "call me to order," when I would become so sleepy I would almost drop the candle. He would say, "Hold the light so I can see." Many folks would not think of buying anybody's "store" coffin in those days. It must be made of solid walnut, no veneered goods for them, so each coffin had to be made as needed according to measure, and for years sticks showing length and width of the dead person stood in the corner of the shop. The ready-made coffin had hard sledding, and don't you remember how "that two-shovel plow will never do the work?" "Single shovel for mine." Once in awhile he could talk a man into buying one of his double shovel plows.

I have often wondered why he did not see the idea of attaching two of his double shovels to a truck, making the modern cultivator, but then it would perhaps not have done him much good. It would have been simply too much for us to make such a dangerous leap all "so sudden" from a single shovel to a cultivator, and just think what the results would have been had it been made a "riding cultivator?" That would have been too much, the mob would have taken him.

Later he did make riding cultivators for our own use. He made a two row, wheel corn planter, and we rode on that. He also bought the first sulky breaking plow in our neighborhood. The folks all called him lazy, and said he would kill his horses, etc., but he did not kill them. There was no kinder man to his family, and a man who is good to his family is usually good to his horses, too. It seems that I can almost hear him now as he laughed at the remarks made about him over such things. He never lost his temper but always had a kindly remark for the person who might, behind his back, try to do him harm. He was a great reader, well posted on the topics of the day and most folks knew him too well not to tackle him in an argument on most any topic. Oh, yes, he was "for" the church organ too. How were you on that organ business, uncle?

May be those church organs and fine country girls gave me my love for "chin music," and maybe those riding farm machines were the cause of my great laziness. But gee, that organ business did have a tough time getting located. It should be clear that the Lord never intended us to praise him by machinery, and then along came that other new fangled idea, the baptistry. The very idea of a tub right in the church house, too, to baptize folks in. "None of that for me." The Lord intended that all true believers should be baptized in the creek any way and it was cheaper. Then comes along some Alec and suggests that the water in the tank be warmed. That was the last straw, for "I've allus seen it, that if the ice is cut in the creek and that the water is deep and cold, that a feller's religion jest sticks to him a little tighter."

The self-binder made many a bonfire before it established itself, it took thousands of years to transform the reap-hook to the reaper—but this chapter is too long now.

It should just be recalled that modern farm machinery, the church organ, the baptistry, the "store made coffin," all had to fight their way over "The Crimson Trail of a New Idea."

Sam Jordan.

FARMERS SHOULD CO-OPERATE

I have been thinking for sometime I would write you my endorsement of the articles on co-operation among the farmers which have recently appeared in The Missouri Farmer, and especially the articles by Mr. Ellis.

It has always been strange to me that farmers could not get together and co-operate and this season has been one of more than ordinary opportunity for such a move.

Farmers have been compelled to transfer feed from one section of the country to another and a large portion of it has been done through middlemen, but if proper co-operation had existed between the farmers of the different sections of the country, it would have resulted in quite a saving.

It seems to me that if some plan could be inaugurated between the parties, so that an equitable division of middlemen's-profit would be had, it would result in quite a saving to both parties.

A business man of Columbia not long since said to me, "Look what you farmers are getting for your wheat?" But I had only to remind him of the fact that the farmers of Boone County, or a large majority at least, had marketed their wheat crop at 68 to 70 cents per bushel and that the speculators were receiving the difference between that and the present price.

It seems to me that if co-operative creameries, fruit companies and other business, can succeed through co-operation, that the farmers in Missouri could succeed through co-operation in the management of elevators to market wheat and other grain, and to buy feed, and through lamb clubs (which have already been tried to some extent) and clubs for control of hog cholera, and other live stock associations for the protection of the small shippers as well as the large.

About 25 years ago there existed in this county as well as throughout the state a farmers organization known as the Wheel and then a little later as the Alliance, both secret societies organized for the purpose of bettering the farmers financially, morally and educationally but designing politicians brought about the disruption of the organization. At no time did it get farther than the organizing of a few local stores and the establishing of a mail-order house. At one time, however, it almost succeeded in establishing an elevator and mill in this county but failed because no agreement could be made as to where the plant should be located. Such mills were established in other states about that time but it seems that the farmers of Missouri were then and are now afraid to trust each other with any enterprise of that kind. There seems to be no reason why a man with one or more hogs, cattle sheep, or anything else in that line, should not be able to take the same to the local market and receive the market price for it, without having previously sold the same to some dealer. Such might be done by establishing a local market day or days, as the case might be, for each week, and parties having stock to sell delivering on those days. If farmers only realized it they hold in their power the making of the strongest organization that ever existed, the consumation of which would turn the world up side down, and make all other business sit up and take notice.

U. C. Crane, Boone County.

MANURE AS A FERTILIZER WITH CORN
University of Missouri, Soil Experiment Field, Jasper County.

Plot on left received no soil treatment—yield 29.2 bushels to the acre.
Plot on right received 8 tons of manure to the acre—yield 64.7 bushels.

Girls, Attention!

We want the name and address of every bright, ambitious country girl in whose home The Missouri Farmer is a visitor. We have some mighty good news for you—something which will interest you tremendously. The moment we hear from you we will write and explain fully. Just drop us a line, care The Missouri Farmer, and tell us you are interested. Don't delay until a lot of other girls get ahead of you. Write today. We hope that every subscriber in whose home there is a girl who might be interested in this will call her attention to this notice and urge her to get in touch with us at once. We promise you in advance that she will be keenly interested.

CHEAPER FARM LOANS

A great deal of business is done these days on borrowed capital. Approximately only one-third of the farmers of this state own the land they till free from debt; about one-third own the land heavily encumbered with debt and the rest do not own any land at all. Some of those who own their land use borrowed money for improving the land, building barns or houses, buying machinery and live stock and taking farmers altogether there are few who do not use borrowed capital. The amount of capital necessary to buy, improve or stock a farm is double and in many instances more than double what it was twenty years ago. Not only does it take more money to operate a farm now than ever before but farming is done on a closer margin and it takes better business methods now than it did twenty years ago to get any profit at all out of farming. These facts are recognized not only by the farmers themselves but they are seen by our statesmen, bankers, business and professional men, all of whom generally admit the imperative need for cheaper money for productive farm purposes.

Missouri was one of the very first states to recognize this demand and the recent Legislature enacted a law which when put into effect will provide for the farmers of this state money on long time and at a much lower rate of interest than the current rate. Before this law can be put into operation, however, it will be necessary for the people to approve an amendment to the state constitution which it is proposed will be submitted by initiative to be voted on at the general election to be held in 1916.

The law passed by the Legislature is known as the Gardner Land Bank Bill because the plan was first submitted to the Legislature by Col. F. D. Gardner of St. Louis. The measure was introduced in the Senate by Hon. Anderson Craig of Nodaway County, and in the House by Hon. Noah W. Simpson of Lewis County. In speaking of this law recently Senator Craig said: "If the amendment making this law constitutional is adopted by the people I think it will be the greatest legislative achievement in the history of the state. It will bring in an abundance of foreign capital. It will put the farmer on his feet and enable him to meet all competition. It will start the wheels of commerce in every village and city. It will encourage the small farmer and tend to reduce the tenant system. If this system had been adopted 20 or 25 years ago we would not have seen the rural population decreasing and the cities overcrowded with men out of employment." Representative Simpson says, "Our farmers must have relief from these short-time, exorbitant interest rate farm loans, or the next generation will not only have to face an impoverished soil but a complete deterioration in farm life. It is a lamentable commentary upon our state that while loans, secured by Missouri farm mortgages, are as safe as a bond of our National or State Government, yet, in these times of general business depression we see interest on farm loans being boosted up to 8 per cent all over the state."

When this law becomes effective it ought to be a great encouragement to men who have a ltitle money to make the first payment on a farm to become land owners instead of renters. Then to the man who is now hopelessly laboring to pay the high rate of interest he is compelled to pay under our present system it will give hope that by paying no more than he has been paying he can under the Gardner Bill pay off his loan and own his land free in 20 or 25 years. To put this measure before our readers for discussion we print the following summary containing the essential provisions of the law:

The operation of the law is to be supervised by a board composed of the Governor, Attorney General, Secretary of State, State Treasurer and State Auditor. The members of this board get no pay other than their present salary. The business will be managed by the State Bank Commissioner.

The bank will make loans to farmers on notes secured by deeds of trust on farm lands for not more than one-half the value of the land. The time of the loan is not less than 5 nor more than 25 years and the amount not less than $250 nor more than $10,000 but preference will be given to loans of less than $5,000. Loans shall not be made for speculation or otherwise except for the following purposes: (a) To increase the production of the land mortgaged; (b) To make useful improvements thereon; (c) To pay off liens or encumbrances or to make part payment of purchase price where the borrower is paying part of the purchase money; (d) Twenty-five per cent of the amount loaned may be used for the purchase of stock and machinery.

The board may require the interest and partial payment of the principal to be paid annually or semi-annually and the borrower may pay off the entire loan at any interest paying date. The first $500,000 in loans will be made at 4.3 per cent plus one-half of one per cent to create a reserve fund and 1.7 per cent as partial payment on the principal. Upon this basis the man taking a loan for $1000 would have to make the following annual payments to meet the interest and pay off the debt. If the loan is for 5 years the borrower will pay annually $224; for 10 years $124; for 15 years $91; for 20 years $75; for 25 years $65. Thus it is that by paying the annual rate of 6½ per cent without any other commission or expense the borrower will keep up his interest and pay off the debt in 25 years. Counting commissions 6½ per cent is about the current rate farmers are now paying for five-year loans and at the end of the time their debt is just as large as when first made.

The state is to be divided into districts and a land appraiser will be appointed for each district by the bank commissioner subject to the approval of the board. These appraisers will receive a salary of $2000 a year and their business will be to examine and appraise the land and make his report under oath. The title is to be examined by the Prosecuting Attorney of the county and then approved by the Attorney General.

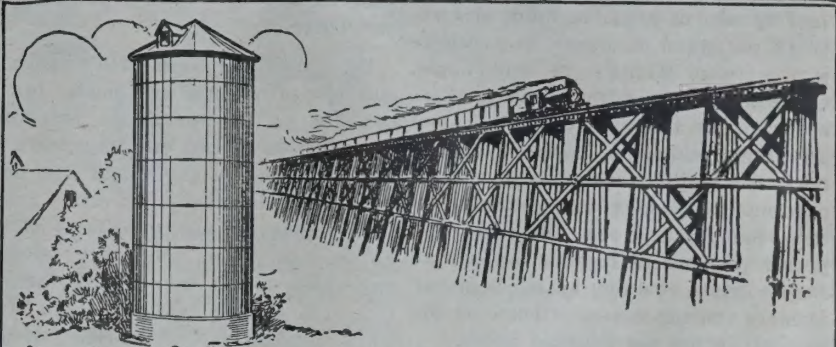
All services rendered by public officers are without further pay than that they now receive. The State Bank Commissioner is named as trustee and in case of foreclosure he acts without commission.

For working capital the Legislature will appropriate out of money in the treasury one million dollars. When the bank shall have loaned five hundred thousand dollars it will sell debenture bonds never to exceed the amount of the notes secured by deeds of trust. Bonds to the amount of forty million dollars based on the original capital may be issued and further issues may be made at a ratio of thirty dollars of bonds to one dollar of reserve. Bonds are exempt from state, county and municipal taxation.

To create a reserve fund the borrower is charged one-half of one per cent annually during the currency of the loan and out of this all expenses and loss if any shall be paid. Whenever this reserve fund becomes sufficiently large the Legislature is authorized to provide for the repayment to the state of the working capital.

The rate of interest fixed for the first $500,000 loaned shall be 4.3 per cent and after that the rate will depend upon the rate for which the bank can sell the bonds. With bonds selling at par drawing 4.3 per cent interest the annual payment the borrower will be required to make on a twenty-five year loan will be 6.5 per cent and on a twenty-year loan it will be 7.5 per cent. A borrower can pay off his debt in twenty to twenty-five years at the same rate he is now paying for in-

(Continued on page 9)



These Two Structures Were Built of Exactly the Same Material.

THIS trestle carries trains weighing hundreds of tons each, day after day, year in and year out. In building it, the engineers used wood they knew, from test and experience, to be strong enough to carry the load, and durable enough to last.

The builder of that silo had to consider strength and durability, just as the bridge builder considered it.

But the silo man also had to be sure that his material would insure the proper fermentation of newly packed silage—that it would make the best silage.

Bridge builder and silo builder—both selected the same material—

Southern Yellow Pine

READ THESE PROOFS—*Here's the Proof of Yellow Pine's Strength*, as shown by comparative tests made by the U. S Forest Service and the figures reproduced in R. S. Kellogg's "Lumber and Its Uses," 1914, a standard work on forest products. The table shows the relative breaking strength and crushing strength of the woods listed, the tests all having been made from selected pieces of perfect wood of the same size.

Woods Tested	Breaking Strength	Crushing Strength
Long Leaf Yellow Pine	*8,630*	*4,280*
White Oak	8,160	3,510
Beech	8,160	3,280
Slippery Elm	7,710	3,180
Post Oak	7,380	3,330
Cypress	7,110	3,960
Douglas Fir	6,340	2,920
Hemlock, Eastern	6,180	3,270
Black Ash	6,000	2,300
Silver Maple	5,820	2,490
Spruce, Red	5,710	2,760
Red Cherry	5,040	2,170

Here's what an unbiased silo expert says in Bulletin No. 70, 1912, Agricultural Experiment Station, Storrs, Connecticut:

"A round, wooden-stave silo, taking all things into consideration, has proved most satisfactory. . . . Silage keeps best against wood and nothing is lost around the edges."

There are the facts. Consider them for yourself. Then consider the low cost of the Southern Yellow Pine silo, its unequaled qualities as a container. Couple that with its strength and durability, and figure out for yourself whether a Southern Yellow Pine silo isn't the silo that is best for your pocket-book, and best for your silage.

We have no silos to sell you—there are a number of first class Southern Yellow Pine silos made, and you'll make no mistake in any of them.

Send for Our Free Silo Book

We have, however, a Silo Book, all about silo building and using, and all *fact*, backed by reports from government and state authorities. That book is absolutely free to you if you will send us your name and address. Also, we have carefully prepared plans for model barns, cattle sheds, poultry houses, feed racks, granaries, and other farm buildings, complete with lumber bills, cost estimates, etc. These, too, are free to you for the asking. Whatever the information you may want concerning lumber, write us personally, and you will receive a prompt personal answer.

Cut Here

Southern Pine Association
619A Interstate Bank Building
New Orleans, La.

Send me FREE your
Silo Book
Plans of Farm Buildings
Table of Lumber Tests
House Plans

Name .....

Town .....

R. F. D. ..... State .....

PROPER PLACE FOR GREEN MANURE

Several weeks past I sent The Missouri Farmer a few lines that were published in the issue of March 15th under the heading "Green Crops for Soil Maintenance" and I note with pleasure the editor's comment on same under the heading "Two Systems of Farming." I do not know where the editor gathered the idea that in my comments I was advocating an absolute system of grain farming and relying on green manures to preserve and increase fertility in our lands. Certainly such a system was furthest from my thoughts when I penned the lines published. What I had in mind was calling attention to the indifference and lack of knowledge of the benefits of green manuring for preserving and increasing fertility as shown by the common practices of our farmers and the general silence on the subject by the agricultural press.

I am adding these few lines commenting on the editor's remarks as called forth by my article not with the idea of entering into a controversy but with an earnest desire to impress upon the readers of The Missouri Farmer a fuller conception of the benefits and profits to be derived from a better understanding and a larger practice of green manuring. I can fully commend the advice to feed more live stock, provided it can be done at a profit, but when conditions are such that there is no profit or when it is impossible to get funds to finance cattle raising, the advice to feed more stock must fall on exceedingly bare ground, and if cattle cannot be had to feed through lack of funds or if the feeding shows no profit on the operation there will be very little incentive to repeat the performance and in either of the above cases where is the manure to come from to maintain and increase fertility? Where the above conditions apply green manures step in and keep out the broken down system of live stock farming advocated.

This matter of financing cattle growing (which I take it to be understood where mention is made of rolling lands which can only be used profitably for pasturing stock) is a vital fact in any system of live stock farming where the farmer is not well-to-do. Any one who has tried during the last two or three years to finance a bunch of this stuff for a time long enough to insure proper returns on the investment knows the hopelessness of the task; where funds are available six months is the limit of time granted, and while this length of time might be sufficient to take a gambler's chance in feeding a bunch of stock, it does not begin to be of any use to the person wanting to grow cattle to use summer pasturage.

Until financial conditions change or suitable provisions are made for financing cattle operations extending over periods of two or three years all the preaching in the world will have little effect in increasing cattle growing because you are up against a fact, not a theory, and too many farmers have been bitten by this six months fact to be caught again with the same trap. Against the difficulties and uncertainties of live stock production at the present time we have an era of high prices for grains and feeds; the natural tendency among farmers being towards producing as much of these crops that can be turned for cash as possible.

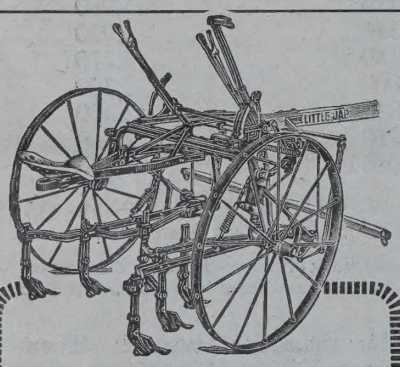
The above seems a long way from advocating the use of green manures, it is recited however to show how especially at the present time the continual reiteration in the farm press of the necessity for keeping more stock for preserving and increasing fertility is going to be a waste of space and ink until financial conditions change for the better or provisions are made so that cattle raising can be financed on long term loans and at better rates than prevail generally throughout the country at the present time.

On well established live stock farms where ample capital is present for carrying on the operations of growing and feeding cattle green manuring can be used to supplement and help out the supply of barnyard manure; crops must be grown to feed the cattle and if through the use of green manures these feed crops can be increased it has the effect of lessening their cost, thus enabling the cattle to be fed more economically, giving a greater chance for making a profit on their handling. The use of all of the barnyard manure that it is possible to get at a fair price is advisable, but even on the best of live stock farms where maximum numbers of stock are kept and the best possible use made of the manures produced the supply is insufficient. If the question was put to the operators "Could you use more manure if you had it?" how many would answer No. I venture to say that without exception the reply would be that they could use more manure. If this is the case on the most heavily stocked farms, how much more is the need of fertility on the average farm where but the work stock and a few head of milk cows are kept and when financial conditions preclude the handling of more stock? The advice to keep more stock to such a farmer is fatuous, generally in the first place financial conditions are against getting the stock, secondly there are no adequate facilities for handling stock such as barns and sheds; thirdly, the farms as a rule are not fenced for stock and very little pasture available, such as there is being principally a weedy growth, and lastly it is taking about everything that can be squeezed out of the soil to satisfy the landlord or pay interest, taxes and running expenses.

My sympathies are with the average man on the average farm. I know from experience what he is up against when he tackles the problem of increasing the production of his acres, that have been systematically robbed for fifty or seventy-five years; having been up against this problem myself and having tackled it with thousands of tons of manure and hundreds of green crops turned under, I think that I am in a position to speak with a little authority as to the most economical method of getting available fertility back into our worn soils; my advice is to use all the stable manure possible, but put your main reliance in green crops turned under.

The time is here when most of our soils must have some of the mineral elements returned to them for best results but this applies whether we use manure or green crops for increasing the humus and nitrogen contents of our soils; the problem is to increase the available fertility of our soils in the cheapest and quickest possible manner and it must be approached in a business-like way taking all factors into consideration. When this is done I have no doubt but that green manuring will come into its own and it was only to be of assistance and encouragement to the average farmer on the average farm that I penned the few lines that the editor was kind enough to publish.

R. F. Tesson.
St. Louis County.



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PAYING OFF THE MORTGAGE

"Why the farmer does not make more money." That is a subject we are all interested in. There are a lot of whys as I view it. In the first place it takes as much capital to improve and stock an up-to-date Missouri farm as it would to buy the land ten or fifteen years ago. There is also a lack of interest in the business by too many farmers. There are men farming a lot of good Missouri land who claim they can not make interest on land valued at from $70 to $100 an acre. I believe that if the farms are looked after closely just as the merchant or banker looks after his business and we will give the land a better crop rotation system, and keep as much live stock as possible, it would help to make the farm pay.

I am operating a farm of 320 acres and I know we have had a lot of ups and downs in the last four years. We have had one good crop year and three failures, two together in 1913-14—with only about one-fourth crop of oats and hay and less than one-half crop of corn but fair yield of wheat each year.

Three years ago I put up an Oregon fir silo 14 by 32 feet with a 4-foot concrete base making it 14 by 36 feet. I found it more than satisfactory. Last fall I put up one of the same kind 16 by 32 feet, including basement. I have wintered 91 head of cattle and horses —most of this stock is two years old and over. The principal feed was silage. My cattle are in fine shape. I have been using a little wheat straw and some cane or fodder as a dry roughage but it takes very little. I have not bought any feed, only 90 barrels (450 bushels) of corn to finish a bunch of hogs. All know who have fed hogs this winter that it goes without profit.

Now I will not only have feed to winter this stock but expect to put them on grass and keep them on the place, if we can have a normal season, until fall, then I will feed 73 cattle. I expect to raise the corn that they will eat with the assistance of one hired man. The only product that will be bought will be cotton seed meal to help finish the cattle. I take this method of handling my stock in order that I can some times meet a bad market yet have some profit. Not only the profit but one has employment for his help all the time in winter same as summer. We feed in the barns in winter for in that way the manure that accumulates will spread over a good patch of land each year.

With the high prices of grain we must produce more feed and buy less. We must grow feed that will put growth on our young stock and cheapen production on all classes—sheep, hogs, cattle, horses and mules. We can do it better by the use of silos than any one thing I know of. In dry seasons like we have just gone through, cowpeas and millet are good but you will find 15 or 20 acres of corn in a silo will feed more stock than the same acreage in anything else. If men who like farming will give close attention to their vocation I believe there is a good living and a fair rate of interest. There is an old axiom that, "He who would by farming thrive must either hold the plow or drive," and the time has come when we farmers had better do both.

R. P. Reid, Boone County.

Editor's Comment: Mr. Reid is another of those farmers who took hold of a farm a few years ago with a mortgage and in spite of drouths and other discouraging things farmers have been contending with, the mortgage has been paid off. Like most of our readers who have expressed themselves on this subject, he has made his money handling live stock. And like others who have written he thinks the secret of success on the farm is close attention to business and a love for the work.

THE COUNTRY CHURCH

We are now hearing a great deal of criticism, both friendly and unfriendly, in regard to the present existing social conditions generally found in the country.

Few, however, are able to offer a reasonable remedy, one that appeals to the farmer folk as being better than those customs and practices which have so firmly attached themselves to us in the past generations. Times have changed and we too must change if we are to keep pace with the progress of our friends in town and city and at the same time so interest our boys and girls in farm life that they will want to stay on the farm. We would not be so narrow minded as to say that all should stay (for square pegs never fit in round holes), but when their natural inclination is for farm life, it is little less than criminal for us to force them to the town or city for congenial social, intellectual or spiritual environment.

The community interest plan will solve the problem. Who better at the head of that work than a live, wide-awake, progressive, resident minister? Where a better community meeting place than the community church? Not the usual 24x36, box building, warmed by one stove in the middle of the room, common the country over, but a modern building, up-to-date, complete in every detail with light and heating plants, class rooms, reading rooms, manual training rooms, gymnasium, etc., second to none to be found in the town. The best is none too good for farmer folk. Provide such a place, open to the public seven days of each week, put a proper person in charge, give it your support and you need not worry about your boys and girls leaving the old homestead to find recrea-

tion and amusement in town or city.

The one-fourth time preaching must go if we are to progress as we should and live up to our possibilities. The time was when it served very well but that time is past. We are paying for one-fourth time work but not getting it, only Sunday sermons when what we need is pastoral work. The common practice of preachers coming into our midst Saturday night, preaching two Sunday sermons and gone again until the following month, is just a little better than none. I am almost persuaded to believe it is worse than none at all for then we would come alive, get busy, and organize a live, up-to-date church. Too many country preachers seem to think that when they have delivered two Sunday sermons that that is all that is required of them. They have done about all they are paid to do I am sorry to say, when in reality that service is only a small part of what they really (as real pastors) should do. Imagine if you can the city pastor after having delivered his Sunday sermons, calmly sitting down and waiting for the next Sunday service, and then two more. How long would he stay? And yet we are up against that very sort of preaching service. Under this one-fourth time non-resident plan the preacher cannot possibly get in touch with his people. He is not of use, does not belong to the community and cannot possibly get our viewpoint. He may be earning all he gets but we certainly are not getting value received.

That old-time fallacy of not being able to support a resident pastor is a delusion and a snare. We can, if we will. We must if we are to advance. What we need is men on the field, every day and on Sunday, resident workers, men who are a part of the community, who can see from our viewpoint and co-operate with us in solving our problems. There is a mission field in the open country, whose possibilities for a golden harvest of men's lives has scarcely been touched. We hear of young preachers leaving for broader fields of usefulness when they haven't even scratched the surface soil in their present field of opportunity.

Would that there were more real, genuine, country pastors, who were willing to cast their lot and stand or fall with us in this our grand work of saving for lives of usefulness and honor that most valuable product, that priceless product, the boys and girls of the farm.

J. H. Smoot,
Thompson, Mo.

SPRING CARE OF WORK HORSES AND MULES

The efficiency of work horses and mules in the spring depends much upon feeding and care. A day's work with a pair of horses or mules is usually worth more during the busy spring season and they are usually less fit to do their best work at this season than at any other time of the year.

For best results, work horses and mules should have been accustomed to the harness, daily work and a reasonable work-horse ration before the beginning of the spring work. A small quantity of feed fed before the season opens means greater efficiency of horses and mules through the early days of the busy season.

Continued heavy work demands nutritious feed. Corn and timothy are in most cases, the available food stuffs. This ration can be greatly improved by the addition of one or two pounds of oil meal per day. Where brood mares are used 2 to 4 pounds of bran per day is a valuable addition. Animals at heavy work should have more grain and less hay than when idle or doing light work. The conditions of animals should be the basis for judging the efficiency of rations. Horses doing hard work will require from 1 to 1⅓ pound of grain and three-fourths to one pound of hay per hundred pounds live weight per day. Mules will require slightly less grain and more hay. Men feeding horses and mules should adapt the ration to the animals so as to produce and maintain the best working condition.

Regularity in feeding and watering make for economy and satisfactory results. Regular grooming to remove heavy winter coats and dry sweat lessens the danger of pneumonia and other sickness besides making the teams more efficient. Clipping should not in most cases be necessary, but is occasionally advisable. Harness properly fitted makes possible greater service, less energy and worry. Well fitted collars are especially important since they prevent collar boils and other shoulder troubles.

The collars used should always have ample bearing surface. Perspiration should never be scraped off the collar with a jack-knife, but should be rubbed off with a moist cloth which will leave the surface perfectly smooth. The use of sweat pads is unnecessary unless the collars fit poorly. Experience at the Missouri Agricultural Experiment Station indicates that horses or mules reasonably hardened for work in reasonable condition, with good coats, with proper fitting harness, with good wholesome food, when used with good judgment on the part of the man in charge should reduce the difficulties of spring work to a minimum.

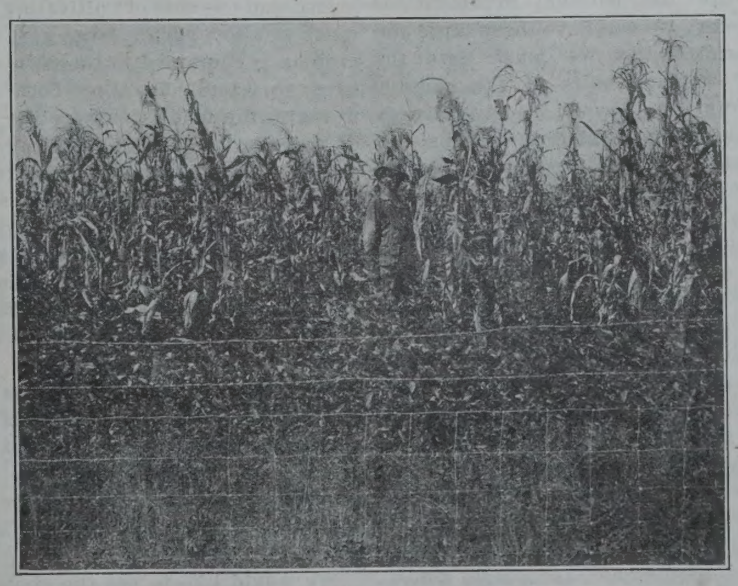
E. H. Hughes,
Instructor in Animal Husbandry.

WHEAT HAY

In the northwest they cut wheat and barley for hay. Last year there was a poor prospect for hay and wheat looked like a good yield and a possible price of seventy-five cents. I thought an acre of hay would be worth as much as an acre of wheat, so I cut some for hay. Cut when it is in the dough or just after blooming it keeps all the blades and hence weighs more. I think it made about three tons per acre. Wheat threshed about 21 bushels per acre which at 70 cents, the price at that time, was $14.70. So my hay cost me less than five dollars per ton and as good as any hay I ever fed. My only regret is I didn't cut more. It should be let lay longer than timothy then raked and put in cocks and let stand awhile. If properly shocked it turns water well. It doesn't cure out quite as well as timothy and clover in the barn, hence the necessity of shocking it for a few days.

Pam R. Grinstead, Pettis County.

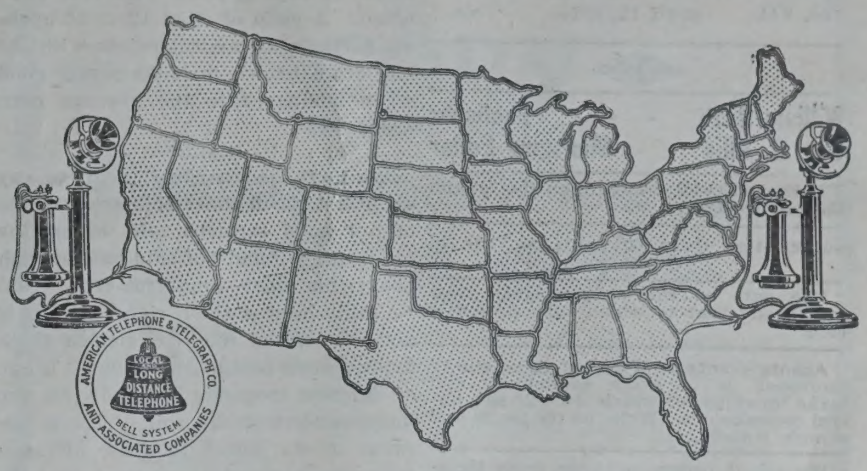
Soybeans planted in the corn may afford protection against chinch bugs and they have many other advantages worthy of your consideration.



COWPEAS DRILLED IN CORN AT THE LAST CULTIVATION FOR GREEN MANURE
University of Missouri, Soil Experiment Field, Audrain County

A bushel of cowpeas planted on three or four acres and cultivated will make more seed than you will need to plant another year.

The Telephone Unites the Nation



AT this time, our country looms large on the world horizon as an example of the popular faith in the underlying principles of the republic.

We are truly one people in all that the forefathers, in their most exalted moments, meant by that phrase.

In making us a homogeneous people, the railroad, the telegraph and the telephone have been important factors. They have facilitated communication and intervisiting, bringing us closer together, giving us a better understanding and promoting more intimate relations.

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Devoted to Better Farming, Better Farm Homes and Better Citizenship.

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Geo. B. Ellis - - Managing Editor

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—o—

Remember that cultivation is fertility boiled down. Corn roots can not extract fertility from a clod and no more from a vacuum. It matters not how much fertility there is in our soil unless we put it in shape so the fine plant roots can use it we might as well lock it up in a box.

—o—

It will not pay to get in such a hurry to plant corn that we neglect the thorough preparation of the seed bed. One of the most profitable workings for spring planted crops is the disking of the land before plowing. This disking cuts up the stalks and other coarse litter and incorporates it with the soil and then by fining the soil that is turned to the bottom of the furrow it is not necessary to work the plowed ground so deep. It pays to thoroughly disk the corn land before and after plowing.

—o—

The most expensive element of plant food is nitrogen and the air above and about us is largely composed of nitrogen we can have without cost if we will accept it. Clover, alfalfa, cowpeas, soybeans and other plants will extract the nitrogen from the air and store it in the soil for the use of other crops if we will occasionally plant these legume crops. As these crops are all profitable to grow and help to balance up the other feeds raised on the farm why not raise more of them and get the use of this free nitrogen to increase the yield of our wheat, oats and corn?

—o—

A few farmers have found it profitable to grow cowpeas and soybeans for seed purposes and there should be a great many more doing the same thing. Just now our seed stores are full of these seeds grown in the south and there is no good reason why every bushel of them should not be grown in Missouri. The retail price is now from $2.25 to $3 a bushel and thousands of dollars will go out of the state this year and does every year that might be kept at home with very little effort. A yield of from 12 to 20 bushels per acre at present prices with the hay crop thrown in looks pretty good when compared to the average corn crop.

—o—

We have had a great deal to say about alfalfa in these columns but one of our good farmers said to us the other day we had not said half enough about this most wonderful crop. And we think he was about right. Alfalfa is not only one of the very richest stock foods among forage plants but it is one of the best crops we can grow for the improvement of the soil. This is because of its power to draw nitrogen from the air and because of its very deep root growth it feeds on the subsoil too deep for other crops to reach. Then when the rains fall and are washing tons of fertility off the hillsides cultivated in corn, the deep spreading roots of alfalfa hold the soil intact and convert the fertility into hay worth more than the average corn crop. Then why not grow alfalfa and stop the hillside wash?

—o—

Few men ever discover a real new idea. Few men have the patience and persistency to dig deep enough to find new ideas and so when we learn of a man who has really discovered something new we like to make note of it. One of the difficulties in getting a stand of sweet clover, a crop just coming into prominence, has been in finding a way to germinate the hard shelled seeds found in so much of the seed stock. For eight years a professor in the Iowa Experiment Station has been patiently working to find some way to break up these hard seed coats so that the seeds would grow when planted. He has at last succeeded in inventing a machine that will scarify the seeds so they will germinate as readily as any other seeds and that will eliminate one of the worst difficulties in growing sweet clover. The man is H. D. Hughes, of the Iowa Experiment Station, formerly with the Missouri Station, who is accorded this honor. When ordering sweet clover seed don't fail to demand scarified seed.

—o—

USE YOUR CLUB

We have been talking a great deal of late about the value of organization among farmers and we think our readers are fully awake to the value of some organized effort in the local communty as well as from the larger territory of the state and the nation. Many of the big questions affecting farmers' interests can be handled only by state and national organizations but before we can have these large and powerful bodies we must have the small working units in the country districts. In Missouri we have already a great many local organizations but too many of them seem to be waiting for the state to be organized as a whole before they get into the game. We think it is unfortunate that the plan of organization is so much divided in this state for it prevents that solid team work so necessary in accomplishing anything worth while. We have the grange, the farmers' union and the improvement clubs all with good men at the head of them and all doing good work in a small way but the farmers of this state will never get the full benefit of their team strength until we have one state wide organization or at least a state federation of all the various organizations working in the interest of farmers.

But while we are waiting for this state-wide organization why not try to get all the good we can out of our local club? And by local club we mean any form of society whether it be grange, farmers' union, co-operative creamery, co-operative grain marketing, or the neighborhood farmers' club. None of these organizations has more than skimmed the surface of the possibilities of what can be done in farm betterment. If these local clubs will take up the work according to the plan recently outlined in The Missouri Farmer a great deal of good will be accomplished locally and the bigger things will come when we are ready for them. The club which has active standing committees who keep informed on all questions relating to production such as the best varieties, adaptability of new crops, best fertilizers to use, deep or shallow plowing and cultivation; and questions of marketing such as where to sell, when to sell, how to standardize and pack the products; and how to buy, where and when to buy to best advantage; the club which takes these and other matters up in this thorough way will get the most out of its organization and will be ready to join hands with a state wide organization when we are ready for it.

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HAY—$20 A TON

Whether it means western alfalfa or northern timothy the above caption, which may be found tacked on the wall of hundreds of warehouses where feed is sold in Missouri, has driven home to thousands of farmers the chill of desperation during the last few weeks. Under such conditions it is not strange that men will complain that there is no money in growing and feeding live stock. In a recent trip across the state we saw thousands of acres of last year's corn fields with the old stalks yet standing and not a hay stack in sight. Here and there might be seen a field bare of stalks and at the barn a silo full of succulent forage which was saving the $20-A-Ton the other fellows were paying for hay.

There are at least two classes of men who have escaped the $20-A-Ton affliction and they are the men who had a silo or a field of alfalfa.

It is none too early now to begin planning for a silo or a field of alfalfa if you have not already both of them on the farm. It is not our policy to recommend any one kind of silo to the exclusion of others but from the abundant information we gain from farmers from time to time and from reliable data from experiment stations the individual farmer should decide according to local conditions what is the best silo to build. Land is too high priced and the cost of cultivating it too much to allow such a large part of the crop as is contained in the corn stalks to go to waste. To allow corn stalks to rot in the field is one prolific cause of "why farming don't pay."

Our reports show that farmers who have secured a good stand of alfalfa have been getting a yield of anywhere from two to six tons per acre yearly according to the fertility of the soil. Few report a yield so low as two tons and the general average will run about three and a half tons obtained from three to four cuttings. Alfalfa is a great drouth resister after it is once well established because of its deep root growth and at least a few acres on every farm would be a pretty good insurance against another hay shortage in Missouri.

We would like to see the above two propositions, that is "a silo at every barn and alfalfa on every farm" taken up as community measures all over the state. Why not at some convenient time in the near future call a meeting and ask the state board of agriculture and the College of Agriculture to co-operate by sending their best speakers to help and have a thorough discussion of both questions. The silo and alfalfa are not only good in drouth years but they are good for the live stock farmer in any year and more of both should be seen in every county in the state.

—o—

NOT A GOOD CUSTOMER

In a recent number of The Missouri Farmer we published an article from a successful Jasper County farmer stating among other things that the grocerymen of his town did not consider him a good customer because most every time he came to town he brought something to sell and that he demanded a fair price for it. Furthermore, this farmer did not buy much of grocerymen for the very good reason that his family table was abundantly supplied from his own garden, orchard, fields and poultry and feed lots. There is no good reason why it should be otherwise with any farmer in Missouri. One acre in a variety of fruits, thoroughly cultivated, will supply the table of the average family with an adequate supply of choice fruits the year around. One acre culticated in potatoes, sweet corn and other vegetables will furnish the table with a better quality and variety than it is possible for any city family to enjoy even at any price. Fortunate indeed is the man who is considered a poor customer for the groceryman just because he is thrifty enough to supply his table from his own soil.

Missouri farmers would be several million dollars ahead every year if they produced all the vegetables and fruits consumed on the farm and this could easily be done with several million dollars to sell city people if every farmer raised a good garden. Most every day we see farmer's wagons loading up from the grocery stores with white potatoes, sweet potatoes, beans, canned goods of all kinds and all these can be produced as abundantly and as cheaply and of as good quality as may be grown any where in the world. It may be that the big farmer with a good bank account can afford to buy the fruits and vegetables for his table if he can content himself to eat from a tin can or of the wilted vegetables found in the stores, but most farmers cannot afford to do that and the only alternative is to raise a good garden of your own.

—o—

CO-OPERATIVE MARKETING

If farmers would co-operate by counties just for the marketing of surplus products which do not find a ready sale as well as for many articles which ordinarily have ready sale, they would find it of advantage to hundreds both as seller and buyer. In those counties having county agents an exchange could be maintained through the county agent's office with very little expense and in counties where there is no agent arrangements could be made to maintain an exchange with one person in charge and the expense paid from comissions on sales. A weekly or monthly list of things for sale and things wanted could be printed and sent to members and the buyer and seller brought together at very little cost. While we are complaining about the high cost of living and the increased expenses of farming why not adopt some of these simple methods and cut out unnecessary expenses?

CHEAPER FARM LOANS

(Continued from page 5)

terest only. This will be a great incentive to land ownership.

By the state mobilizing the farmers' credit the borrower is enabled to get his loan at the lowest possible rate of interest and at the same time it is not costing the state a penny because all expenses are to be paid out of the commission of one-half of one per cent which the borrower pays annually.

Some of the beneficial effects of this law will be to encourage men to own the land they cultivate or in other words to become home builders. It should encourage men who now own land needing drainage or clearing of timber to put it in cultivation. It should encourage men to handle more live stock, improve the fertility of the land and build better houses, barns, silos, fences and other improvements.

In a short time petitions will be circulated asking for the submission of a constitutional amendment permitting the establishing of such a system of rural credits and we trust our readers will thoroughly study this proposition so as to be ready to act on the petition and also to vote on the question when submitted at the next general election in 1916. Let us have a full and complete discussion through the columns of The Missouri Farmer.

BARNYARD GOSSIP

What a great help it would be to the editors of a paper like The Missouri Farmer if they could occasionally have an opportunity to sit around the fireside of the homes of its readers and have a friendly talk with them. True we have a chance to talk "at" our readers every issue and occasionally some of them talk back "at" us through their articles but this is not like it would be if we could meet "face to face" and talk it over "heart to heart" until we understood each other better. Estimating that only three persons read each copy of The Missouri Farmer that means that the editors have an audience of one hundred and fifty thousand good people to talk to twice a month. Among the farmers on our list some own large farms, some small ones, while others are tenant farmers and a few are hired farmers. About one-third of these farmers own their land free from debt, another third is made up of men struggling to pay off a mortgage and the final third is made up of hired managers and renters, many of whom have little hopes of ever owning any land at all. Some of these men are farming land originally prairie, others land originally timber, some cultivate level lands needing drainage, others hillsides where it is necessary to check washing away of the soil. There are hundreds of other things causing one farm to differ from another and these are the things we could have a better understanding about if we could talk to our readers face to face. The editor as a rule must talk in a very general way and the reader must be able to take for himself only the facts which will apply or fit in under his own particular conditions. The man who is able to understand this will get more good out of what he reads and will not as a rule have so much fault to find with what the editor has to say.

—o—

The policy of a paper should be sound, that is it should be such as to serve in the best possible way the interest of its subscribers. But sometimes the interests of subscribers may conflict, then what is the editor to do? No man can serve two masters. In such cases as in all others the editor must be honest and sincere and this must be backed up by knowledge and experience to enable him to point out the best way. The editor of a paper can not afford to advocate a thing just because it is popular—just because for the time being at least he may think it will agree with his readers. The politician does that and the politician is not long in good repute with the people. On the other hand the statesman, in contrast with the politician, tries to be right and would rather be right than to hold office. The politician never hesitates to sacrifice principle for power but the statesman stands for the right regardless of consequences to himself.

—o—

Every day in an office like The Missouri Farmer a great many letters are received. In our office the mail is delivered five times a day and if we fail to get quite a number of letters in every delivery we think something is wrong—that there has been a werck on the railroad or possibly a late train missed connection. With this large number of letters, then, coming from so many different localities and from so many different people each one differing from every other one about something—we repeat that under these conditions the editor must try very hard and very conscientiously to be right rather than to try to please, albeit he is as anxious as any other honest man to please. In methods of farming no man can sit in an office and prescribe rules that will fit in all conditions and yet he may be able to point out certain things to be avoided and others to be followed that will be of great value to his readers.

—o—

We have frequently pointed out the wonderful and varied resources of Missouri and we think it is a fact apparent to any one familiar with our natural resources of soil and climate, forest and mine that all that this state needs to become the richest and foremost in the Union is for all industries to co-operate and for us all in whatever capacity we may work, to show the true Missouri spirit. Good towns make good markets for the products of the farm and without good markets there can be no prosperity for farmers. Hence the farmer is interested in everything that helps to build up the town, whether it be the success of the business men, the manufacturer, the mining or the professional man. The thing to do as I see it for farmers to promote their own interests and at the same time the welfare of the state as a whole is first to get rid of our prejudicies. No man can see or think clearly who is biased by prejudice. But after we get rid of our prejudice against other classes we will find it necessary to get rid of our selfishness as individuals so that we will be ready to join hands with our neighbors in any movement for the betterment of society in any way. When we do this we are ready to work for the public good and when we do that we are working for our own good. No man ever helped his community or himself by opposing a public improvement simply because it will cost something. Comfortable clothing, wholesome food and pure water all cost something, but what would life be worth without them? Good schools and good roads, are the two first and greatest needs for the improvement of farm life but they will cost something—not so much though but what we can afford them and they will be worth all they cost.

CORN

wants what it wants — when it wants it.

THE "Breeder's Gazette", January 21st, says,—"There are times when quick action is a straight road to profits. If there ever was a time in our agricultural history when bumper yields should be assiduously sought it is in this year of 1915."

No matter how rich your soil,—no matter how much phosphorus you may have in it or may have applied in raw rock, for this year's crop, you need this year's plant food,—the quickly available kind, all ready to nourish the corn and wheat, to mature the bumper crop in time for the bumper price.

Empire Heavycrop

Supplies this kind of available plant food,—available phosphorus, available nitrogen and available potash. According to soil experts, all these are needed in most soils, and in this brand we furnish them in an available form. Remember, wheat and corn do their principal feeding in 60 days and they "want what they want when they want it."

TRY-A-BAG. Cover an acre for $1.50 to $3.00. See for yourself the value of available plant food. Make every acre worth two. Get the best results from your cultivation and rotation. Get our price on any quantity you want, from one bag upwards, shipped to your own freight station. Get our agency proposition and carload inducement. Write for our interesting booklets "King Corn" and "Better crops",—both are free. Write today and have it off your mind.

EMPIRE CARBON WORKS LOCUST STREET, ST. LOUIS, MO.

MORE CREAM

More Cream means more cash profits. Great Western Separator is scientifically built to get *more* cream from your milk by following Nature's law.

Original low-tank, high-crank separator. Finest imported ball bearings throughout. Easiest to fill. Easiest to turn. Self-draining bowl. Cleans easiest.

Cream from Top—Milk from Bottom

Practically every globule of butter fat obtained. Try Great Western on *any* milk—warm, cold or stale—and *judge for yours if.* Write for liberal trial offer.

ROCK ISLAND PLOW CO.

Write for Great Free Separator Book

Demonstration of separator shown by pictures photographed from life. A book by experts that will give you valuable pointers. Postal brings it.

557C Second Ave., Rock Island, Ill.

GREAT WESTERN

EVERGREEN BAG WORM

Mr. J. F. Hoffmeister of Barton County sends a sample of the "evergreen bag worm" which he says is infesting his trees and wants to know what it is and how to get rid of it. The following reply is by Professor Leonard Haseman, entomologist, University of Missouri.

The sample which you sent to The Missouri Farmer has been referred to me for examination. These peculiar cacoon-like objects are produced by a caterpillar which we call the "Evergreen Bag Worm." This caterpillar feeds on the foliage of fruit trees, shade trees and shrubs, besides attacking evergreens. A few years ago this pest was a severe scourge in your section of the state but for the last year or two it has not done much damage. It is usually attacked by a number of parasitic insects, which under normal conditions, keep it well under control, but when it breeds in large numbers and threatens to destroy the foliage of trees, a prompt application of a poison spray to the infested trees or shrubs will quickly destroy the young caterpillars before they have done much damage. The pest can also be controlled by simply collecting and destroying all of these bags during the winter when they can easily be seen attached to the limbs and twigs. The pest winters in the egg stage inside a large case and at the approach of spring the eggs hatch and the little caterpillars spread in all directions where they begin to feed on the foliage and at once they manufacture a tiny case which is carried about with them during the summer. While feeding the worm extends its head out of the tip of the case and as soon as disturbed it jerks back inside and closes the end of the case with its legs and mouth. Some of the larger parasitic insects, however, make use of a sharp drill by drilling holes through the case and into the body of the enclosed pest where eggs are laid which on hatching devour the pest.

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The CONARD & Jones Co., Rose Specialists. Over 50 Yr Experience Box E West Grove, Pa.

Exchange Seeds

If you are in need of seed at once, and desire to purchase it direct, do not fail to write the Secretary of the Missouri Farmers' Exchange, Columbia, Mo. The members of the Exchange now have a supply of the following for sale: **Seed Corn, Cowpeas, Soy Beans, Clover, Alfalfa,** and other seeds, as well as livestock, labor, etc.

This is a good year to make every acre count. Plant something in every available place.

Inoculate Clover, Alfalfa

Peas, Beans, Vetch and All Other Legumes. Get a "catch"—bigger yield—greatest feeding value—richer soil. Treat your seed with

THE IMPROVED GERMAN SOIL INOCULATOR NOBBE-HILTNER PROCESS

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THE SIMPLEST SAFEST AND SUREST SYSTEM OF SOIL INOCULATION FOR ALL LEGUMES

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FARM MANAGEMENT PAGE

D. H. Doane, University of Missouri

A certain amount of opposition is a great help to a man. Kites rise against and not with the wind.

I have learned that success is to be measured not so much by the position that one has reached in life as by the obstacles which he has overcome while trying to succeed.—Booker T. Washington.

For Sale

Seed Corn—$80 a bushel. Apply to Missouri's Best Seed Corn Raisers.

I wonder how many will purchase seed corn at $80 a bushel for this year's crop. My guess will be none. The main reason will be that you can get first-class seed corn for a small fraction of this price. The real question is, "Is a good bushel of seed corn worth $80?" Let's view the facts. In southwest Missouri the Agricultural College tried a simple little test. They went through the country at corn planting time and selected from the corn planter boxes handfuls of corn. These samples, as you can see, were samples of corn that were actually being planted. They were taken to a test field and planted the same day, in the same way, and on the same kind of soil beside corn from the Agricultural College—"educated corn" the farmers called it. Throughout the season each plot was treated the same and all conditions made as near alike as possible. Here is the result:

The average yield of the three poorest samples of corn taken from the planter boxes made twenty-one bushels of corn to the acre. The sample of the educated corn made forty-one bushels to the acre. Difference, twenty bushels. Now let's see where the $80 comes in. If one bushel of seed will plant eight acres, and if the good seed will increase the yield, as it did in this case, twenty bushels to the acre, then eight time twenty is 160. 160 bushels of corn at fifty cents a bushel comes to $80. **For Sale—Seed Corn—$80 a bushel.** Ask yourself if it would pay.

Chinch Bugs—Corn—Soy Beans

Chinch bugs like corn, but corn cannot say as much and as a consequence they do not thrive well together.

Chinch bugs do not like soy beans; consequently, the former will not associate with the latter. This reasoning led some farmers to put soy beans in their corn to keep the chinch bugs out. It worked. Will you be one of the few this year to help us prove the truthfulness or fallacy of this statement? We are going to work on this problem this coming year and your experience would be worth while to us. Try it once.

What the Farm Advisers Tell Me

Cockefair of Green County said to a farmer in his county upon a recent visit: "That's a fine flock of White Rocks you have there." "Yes," the farmer replied, "Fine to look at but a mighty poor investment. They have not laid enough eggs this winter to pay for the litter they scratch in." "Would you be interested in trying the feed that has proven successful with me?" Cockefair asked. "Oh, I'll try anything; they can't do any worse than they have been doing." "All right, here it is: Bran, two pounds; shorts, two pounds; cottonseed meal, one and one-half pounds. I mix this together, moisten it and put it in a self-feeder and leave it before them all the time. Then, in the morning I throw out some cracked corn in the litter and the same in the evening. You see this bran-shorts-cottonseed meal mixture takes the place of the high-priced beef scrap, and my experience has been that I get about the same kind of results. For example, my hens made me a profit of twenty-five cents per hen, averaging the whole flock together during the month of January. If you think it's worth while you can try it.

A few weeks later. "Say, Smith," Cockefair asked, "how did that ration for your chickens work out?" "Well, sir," he replied, "those hens have laid more eggs since I started feeding that ration than they had during the whole previous winter. That one hint is worth a good many times the price of the Farm Bureau fee to me."

"Why are you cutting the trees out of that pasture?" Mr. Cook of Carroll County asked a successful cattle feeder. "Well, you see my observation has taught me this. When there are a few trees in a pasture the cattle gather in bunches around in this shade during the hot part of the day and stand there and attempt to fight the flies. As a result, they graze little and lose more flesh by crowding and standing around in this little patch of shade than they would if they were right out in the open. I am cutting all the trees out of all my pastures and as a result you will see that the cattle will not be so inclined to stand around in bunches and that they will graze more hours each day. I have given up the idea of shade for cattle in the pasture." "Well, that is a new idea to me," Cook remarked, "but I am going to see what other feeders say."

"Where are you going father?" "Up to Mexico to the Farm Bureau meeting." "What are you going to do?" "Well, we are trying to make arrangements to make it possible to keep Mr. Rusk. You know they are trying to get him for a Farm Adviser over in Illinois, and we are trying to keep him. Our County Court will not appropriate money for the expenses of the work in this county, and I am afraid we are going to lose Mr. Rusk." "Well, dad," the twelve-year-old boy remarked rather thoughtfully, and with a very sober face, "I will give all that mule colt of mine will bring if you will sell him and use the money to keep Mr. Rusk. He helped us boys get started in the corn club work and I do not want him to go to Illinois, so if you will sell my colt, you can have all the money for Mr. Rusk. (Too late. The farmers in Illinois are not kicking about the small cost of a county farm agent. They have offered Mr. Rusk more than $1000 more salary than he was getting here and he has accepted it. Why can Illinois afford to do it and Missouri can't?—Editor.)

The Small Tractor in Farm Practice

Under the above title Mr. A. P. Yerkes contributes his views through the Farm Management Monthly for the last issue. We hear so much about the use of the tractor on the small farms in the Corn Belt, that it seems to me his ideas are worth considering.

"To attempt to define the status of a machine which is undergoing so rapid a process of development as the farm tractor is difficult, as its status changes with each improvement or modification. Eighteen months ago the farm tractor was a comparatively large and expensive outfit and might truthfully have been said to have no place in the operation of the medium sized farm of the general type. Now, however, the type of tractor most prominent and apparently most in demand by the farmer is a small, low-priced outfit, capable of pulling from two to four plow bottoms, and with belt capacity sufficient to operate any of the machines commonly used on the average farm.

"These small tractors are of simpler construction than the large ones. Most of them have only one drive wheel and usually only one speed forward and one reverse, thus eliminating considerable gearing, including the differential gears. At the same time they permit the hitching of a two-bottom gang plow directly behind the center of draft of the machine, something which was impossible to accomplish with a wide tractor having two drive wheels without causing side draft or running the tractor partly on the plowed land.

"The mechanical features are not so important from the farmer's viewpoint, however, as its low price. The average farm already has as large an investment per acre for power as conditions will justify, and the purchase of a tractor which would not displace its money equivalent in other power would be unwise. As a tractor's working life in years is usually only about half that of a horse, it is evident that it should displace practically double its value in horses, if it displaces no other source of power. As a rule, however, the small tractor will take the place of a stationary engine for operating the various farm machines, and the difference in the cost of such a stationary engine and a small tractor is slight; so it will not always have to displace horses to any great extent to justify its purchase.

"Judging by data already obtained in a study of the small, low-priced tractor, it is safe to predict that it will soon command, on the ground of economy, a permanent place on the average farm. The degree of success which will be attained with a tractor depends very largely on its operation and the general management of the farm work so as to utilize it to the greatest advantage. Like every machine, its value is increased by being worn out as rapidly as possible in profitable work, as the interest charges are thereby reduced, and depreciation, through rust, etc., reduced to a minimum. The work of the farm should, therefore, be planned so as to use the tractor wherever practicable and to dispense with as many horses as possible. As the tractor will be capable of doing practically all the plowing on the average farm, the number of horses which must be kept will depend upon the amount of cultivation, etc., to be done, for which the tractor is not adapted. Where the tractor is used the cropping system should be planned to reduce this kind of work to a minimum."

A Two-Fold Use for the Manure Spreader

Mr. L. M. Morehouse makes the following suggestion on this subject. While not many of our farmers grow root crops, still there are certain kinds of crops that this idea will help us with. I have heard that some of the farmers have worked up some scheme whereby they have used the spreader for threshing out soy beans and cowpeas. I wonder how many of us have ever used the manure spreader for any purpose other than its original plans called for. It would be interesting to get some information on these points. Let's help each other along this line.

"Some of the implements which are found on almost every farm are used for very short periods each year. The length of service may not include more

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You never did have the opportunity to visit **two** world expositions for **one** fare—and at the same time see California. This extra low fare and the special privileges it gives you should induce you to make plans now to take this splendid trip. You can go

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The peculiar properties of the waters of the Hot Springs of Arkansas are due to radio activity, found in them to an exceptionally marked degree, and their equal has never been known in the treatment of rheumatism and all uric acid troubles. These springs are owned and controlled by the U. S. Government.

The cost of living at Hot Springs may be regulated to suit any purse, accommodations varying from moderate priced boarding houses, up to the most fashionable hostelries.

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The Way There is via the

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J. G. Hollenbeck, G. P. A.,
St. Louis

Wanted—Farmers!

Mayes County, Oklahoma, wants more farmers; good farmers to take advantage of her splendid opportunities.

Located in Northeastern Oklahoma, Mayes County produces corn, wheat, oats; dairy products; live stock. Has 40 inch rainfall. Good plow land, $20.00 to $50.00 per acre; pasture and hay land $2.00 up. Good schools. Trunk line railroad; low taxes. Write for up-to-date booklet, descriptive of the square deal proposition of the Mayes County Farm Bureau.

Special homeseeker's fares to Oklahoma on First & Third Tuesdays of each month.

Colonization Dept, M. K. & T. Ry.,
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THE MKT

than three or four weeks. For the remaining part of the year such pieces either remain in the open, or they may be given the best of care in a first-class implement shed. Where they are exposed to the weather a rapid decline in value is the result. Investigations have proven that the depreciation for the manure spreader is approximately 11.67 per cent annually. Owing to the fact that this machine is required to carry a by-product which contains more or less moisture, a part of the depreciation is undoubtedly due to the decay of the wood in the framework. If this and similar pieces could be utilized to a greater extent they should last almost as long, and in doing the additional work the yearly charge in connection with operation could be met more fully or completely. Ordinarily the manure spreader is in use at seasons of the year when the field work is not demanding attention. While the harvest is in progress it will be found idle; hence, it is available for other work.

"In districts where field roots such as mangolds, sugar beets, or turnips are grown, the manure spreader may serve as a wagon in transferring the crop from the field to the root cellar or pit. A simple adjustment will enable the operator to save considerable time, as well as the task of unloading with the aid of a shovel. The cylinder or spreader is first removed from the end of the box and a suitable end board is set in place, the latter being held by an iron bar or rod. When the load is taken to the cellar, the end board can be lifted out readily and the roots may be rolled into the trap door merely by putting on the crank which connects with the apron shaft and turning by hand until the entire lot has been discharged. It requires only a few moments to deliver the load. If the farmer does not have wagons enough to move the crop rapidly, this difficulty may be overcome by following the suggestion which has been offered."

The Small Farm

We have heard a great deal about the small farm. The idea of few acres well tilled has been quite prevalent. Investigation of the real facts has shown us some things quite different than we had anticipated. It is interesting to know what Professor W. J. Spillman, who is head of the Farm Management Department at Washington, says through the Farm Management Monthly that goes out from this office on this subject.

"Small farms devoted to general farming rarely, if ever, give an adequate living to the operator. In order to be profitable the small farm must be devoted to some intensive type of agriculture, such as truck, poultry, fruit, intensive dairying, etc. To be successful in any of these lines, the farmer must be an unusual man, on account of the complexity of the business not only in growing the crops and caring for the animals, but also in conducting the business side of the farm. Further, if the farm is devoted to perishable products there must be an important advantage in location with reference to markets. The production of perishable products far from market is attended not only with heavy freight and commission charges, but is subject to disastrous fluctuation in prices between the time of shipping the commodity and the time of its actual sale on the market.

"Intensive crops are normally subject to far greater fluctuations in price than are the staples. Taking the country as a whole, vegetables, including potatoes, occupy only 2¼ per cent of the crop area and fruit only 1¾ per cent. Under present conditions this is about all of these crops which can find a market at remunerative prices. On account of the small area involved it is very easy to increase production far beyond demand; in fact, this often happens, with results disastrous to specialized, intensive farming. The field for the profitable small farm is, therefore, a very limited one.

"The attempt to establish intensive types of farming in regions where markets are lacking, or on a scale inconsistent with market facilities, has led to serious mistakes. Such mistakes resulting from any great extension of truck growing soon become apparent and are soon corrected; but it takes longer to realize a mistake in fruit growing and therefore longer to correct it."

KEEP THE BOY ON THE FARM

Don't let the boy leave the farm. If he has a notion in his head to go to town, change his views by giving him some interest in the farm. How would you like to work, toil and labor for no return?

It may be that this son is the youngest of several sons. If so, he is at a disadvantage among his older brothers for when they were grown up they could work for some neighboring farmer and thereby get a small start in life, while the younger son was tending the home place. Now the youngest son has attained manhood and has nothing with which to start out on. Possibly he has to work out in spare time to secure a little spending money and probably his clothes. Now, brother farmer, are you treating him right? Must he leave the old home to get a start? Why not give him something to keep his interest up? For instance, give him a sow or cow, or a small share in the corn which he has labored hard in the boiling sun to produce.

I am sure that if you would do this your boy would stay on the farm and in doing so he will be away from the many snares and temptations of the city or town. Many farm boys get the wrong impression of farm life. They think that it is only through a life in town and a business career, that success can be attained, but in my estimation the man that has made a success as a farmer is the greatest success in the world. Let your son read good farm papers such as "The Missouri Farmer," and try to make farm life attractive for him if possible. Let him have a nice driving team and buggy, for it is the pride of a farm boy's heart to own a buggy and team.

Now brother farmer if your son is thinking of going to town, try some of these suggestions and I am sure you will never regret it.

Lue Benny.

MISSOURI FARMERS' EXCHANGE

The Missouri Farmers' Exchange is a state-wide organization of farmers, co-operating in the buying and selling of farm products. The ultimate object of the Exchange is to buy and sell farm products direct, and thus save freight, expense of writing to locate an article or market, get the article cheaper, nearer home, secure seed that is acclimated, and by each member signing an agreement assure one another of a "Square Deal."

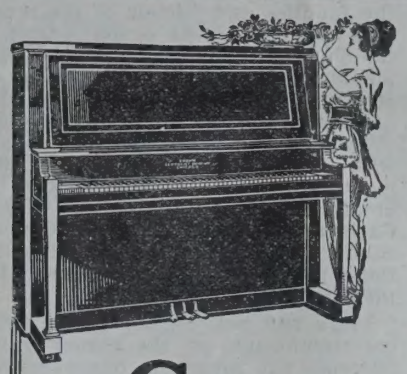
The past season we corresponded with 2200 Missouri farmers, 7070 letters passing between the members and the secretary, to say nothing of how many passed between members. We bought and sold, by the office putting members in touch with each other, $24,944.83 worth of live stock, feed, and seeds. Out of the $15,231.67 worth of products our members report that they bought from other members, we saved $1,332.43 above what the articles could have been bought elsewhere. Some individual savings are as follows: H. J. Amidon, Vandalia, saved $35 on car of corn bought in Iowa; Miss Alice Kinney, New Franklin, saved $25.25 on seed oats sold; J. L. Smithson, Dexter, saved $39 on car of hay bought in Kansas; Geo. R. Renshaw, Branson, saved $8, on $21 worth of cowpeas bought. And this could be extended, but this is sufficient to show that one can make large savings over the local prices and even the general markets. In answering the question, "Are you pleased with the plan of service, and have you been dealt with unfairly," every member states, "I am pleased with the plan of service and have never been dealt with unfairly." This speaks for itself.

The plan is very simple. Every member sends the secretary a list of the articles they have for sale and want to purchase, and these are put on file. When each member receives an answer, he receives the addresses of all who have what he wants. He writes these and makes the trade direct, with no cost in the form of commissions. To illustrate, we shall take Mr. B. who lists a Hereford bull and a "want" for seed oats, and Mr. C. who writes that he wants a Hereford bull and has seed oats for sale. Mr. C. is sent the address of Mr. B. and two trades are effected. This often happens at the same station, and neither knew the other had what he wanted till they are put in touch by the secretary.

The cost of memebrship is one dollar ($1) as an annual fee to defray the expense of writing and advertising. There are no commissions charged, each member is allowed free trade, and profits by the amount of business he does. From our last year's report you will note that this is one organization from which you may expect to get your $1 threefold. The organization is one to which every progressive Missouri farmer should belong, and a year's trial will prove this to you. When you become a member, you do not commit yourself to trade with the members of the Exchange alone; you are permitted to trade elsewhere if you think it possible to do better.

Further information address
Missouri Farmers' Exchange,
Columbia, Mo.

What Shall I Pay for a Piano?



First make up your mind to buy a good piano. This does not necessarily mean the highest priced piano, but, naturally, a good piano cannot be made to sell at the price of a poor one. However, it is possible to buy a high grade piano at a reasonable price.

Prove this yourself—investigate the

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Scientific factory organization and large volume of business enable us to produce a high grade, artistic instrument at a price only slightly higher than pianos of medium quality manufactured under less favorable conditions.

How Can I Know A Good Piano?

Send for the complete set of our books. They tell you just how to test pianos—how to recognize true musical value; what to look for. These are points you ought to know and you are welcome to them whether you decide upon a Crown or not. Follow the advice in these books and you will get a good piano.

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Yes, waiting for every farmer or farmer's son—any industrious American who is anxious to establish for himself a happy home and prosperity. Canada's hearty invitation this year is more attractive than ever. Wheat is higher but her farm land just as cheap and in the provinces of Manitoba, Saskatchewan and Alberta

160 Acre Homesteads are Actually Free to Settlers and Other Land at From $15 to $20 per Acre

The people of European countries as well as the American continent must be fed—thus an even greater demand for Canadian Wheat will keep up the price. Any farmer who can buy land at $15.00 to $30.00 per acre—get a dollar for wheat and raise 20 to 45 bushels to the acre **is bound to make money**—that's what you can expect in Western Canada. Wonderful yields also of **Oats, Barley and Flax. Mixed Farming** is fully as profitable an industry as grain raising. The excellent grasses full of nutrition, are the only food required either for beef or dairy purposes. Good schools, markets convenient, climate excellent. Military service is not compulsory in Canada but there is an unusual demand for farm labor to replace the many young men who have volunteered for service in the war. Write for literature and particulars as to reduced railway rates to Superintendent Immigration, Ottawa, Canada, or to

GEO. A. COOK
125 W. 9th St., Kansas City, Mo.

Canadian Government Agent.

Farmers Must Co-operate

Dears Sirs: Enclosed find $1 for three years subscription to your paper, which is well worth the price asked for it and even more, as your articles on the co-operation of the farming classes are more than worth the price of the paper, and the day is not far distant when the farmer must get interested in this one subject or give up the farm. All other classes are now organized our merchants, doctors, colleges, and everybody but farmers. During the last summer I had a car load of wheat to sell and having business in St. Louis took a sample of the wheat with me and going into the Exchange there and visiting a half dozen buyers I met this proposition: "We cannot buy from the grower or producer, you must go back to Centralia and sell to your local buyer." Then, again, I wished to buy some oyster shell for our poultry and going to our local merchant, asking for prices and the answer 90c per cwt., but ordering from Chicago I received a better grade of shells for 39c per cwt. The time is almost here for "The Farmer's Union" and may the day hasten when we as farmers can stand united. C. E. Shock,
Centralia, Mo.

The money that has been sent out of the state to pay for hay fed during the recent dry years would have paid all expenses for seeding a million acres of alfalfa and with that much alfalfa well seeded the hay shortage would hardly have been felt. Better sow some alfalfa this year.

MISSOURI HOME MAKERS' CONFERENCE

This Department is Edited by Miss Alice Kinney, New Franklin, Mo.

THE HURRYING HOURS

How often the thought comes home to me,
As the moments hurry away,
Of the many things I intend to do
Somehow, some time, some day.
There are promises that have not been kept,
Though I always meant to be true,
But time is too short for all the things
That a body intends to do.

I will answer a letter or read a book,
I will write a bit of rhyme,
I will do the thing that I ought to do
Some day, when I have the time.
So I look beyond as I hope and plan
For the days that are just ahead,
While the day that is here goes into the grave
With its opportunities dead.

Today is the only day we have,
Of tomorrow we can't be sure;
To seize the chance as it comes along
Is the way to make it secure.
For every year seems a shorter year,
And this is a truth sublime;
A moment misspent is a jewel lost
From the treasury of Time.
—Selected.

WHAT A MARION COUNTY CLUB IS DOING

"The Rural Library Club was organized January 23, 1912, and its organization and success—in a large measure—is due to the untiring efforts of Mrs. A. C. Bross, who first conceived the idea of a neighborhood club, and was its president for three years. We have at present nineteen members and meet at the home of a member on the second Thursday afternoon of each month.

We exchange books and have a literary program, sometimes the entire program consists of clippings from the various household departments of the different magazines.

Again we have essays, reading, papers, recitations, written stories, contests and sometimes a few riddles, possibly a question box or maybe a game; always a business session and light refreshments are served with a pleasant social hour before we break up. During the winter we entertain the families and friends of the members at a party or an oyster supper at the home of a member; there is a big picnic for the summer with seventy or eighty people present, with a possible program. Besides all of these social times and the good books we buy—with the small membership fee and monthly dues—we have given two ice cream socials for the benefit of the Christian Orphan's Home at Council Bluffs, Iowa, and are planning something to have in the near future for them also.

Plays and box suppers help make entertainments at the school which proceeds are given to improvements for school equipment. Each month a visiting committee of two is appointed to visit the sick in the neighborhood.

We have about seventy good books now—and what is more helpful than to forget yourself and duties in some elevating book?

These things are helping us in our daily work—but we are not yet satisfield and the end is not in sight."

Mrs. W. S. Foster, Pres.,
Palmyra, Missouri..

We trust that this open Club Exchange is meeting with the approval of many of the rural clubs; it is interesting to note the many angles from which they view their special needs and make the necessary efforts to meet them.

The visiting committee to look after the sick—in the Rural Library Club—is fine; too often the rural invalid is a lonely "shut-in," whose long days would be cheered by a friendly visit.

Another suggestion: In every community there are a number of families who do not affilate with us in our social pleasures. Why not make a time or day when the hand of fellowship would be extended to them. We fully appreciate what this can mean to them and their vision of life.

The Vandalia Homemakers are setting the pace for the home and school to work in closer harmony. We wish that they would let us hear more of their good works, though so young in point of time and experience. The following record gives some of their effort which is meeting with success:

Rules Governing Credit for Home Work—Every Saturday afternoon a home work record slip will be given to each pupil. Beginning with Sunday all time spent by pupils in home work should be entered in the proper space. Each Tuesday morning a slip filled during the previous week should be returned to the teacher. The slip must be signed by the parents or guardian as an assurance that a correct record has been kept.

Any work not listed, but of value to the parents may be counted and the nature of the work specified in the blank spaces.

At the close of the school month, when the report of school work is made out, in the column of "home work," the pupil will be marked in the scale of 100 for actual work of not less than one-half hour each day, and in the column "personal care" on the scale of 100 for numbers A, B, C, and D and for attendance at church or Sunday School.

In addition to credit on the report card, reward may be given at the option of the principal for a specified amount of time spent in useful work at home.

For the purpose of reward, credit of 5 minutes a day will be allowed for each operation listed at A, B, C and D, and 20 minutes for attendance at church or Sunday school.

Home Work Record: Work in gardening, splitting kindling, bringing in fuel, milking cow, care of horses, preparing meals, washing dishes, sweeping, dusting, bedroom work, washing, ironing, care of baby.

Personal: Bathing brushing teeth, sleeping with open window, going to bed before 9 o'clock, attending church or Sunday school.

Fumigation of the Home and School.

"Formaldehyde gas is now commonly used in fumigation. It does not injure the texture of fabrics and very rarely changes their color. Formaldehyde destroys organisms by uniting chemically with the protoplasm. Formalin is a forty per cent or saturated solution of formaldehyde in water. Formaldehyde is usually sold as formalin.

"Methods of disinfection—Seal all crevices by means of cotton, rags, or by pasting strips of paper over all crevices; the furniture should be arranged so that as much surface as possible will be exposed.

"Place one-half pound of potassium permanganate in an earthen or wooden vessel and pour in one pint of formaldehyde liquid—full strength—(a large container should be used, since the effervescence will cause the liquid to run over the edge of the small container); many carpets and rugs are injured by this kind of carelessness. Leave the room at once, as the gas will be liberated immediately.

"This amount of potassium permanganate and formaldehyde should be used for every 1000 cubic feet of room space; leave the room closed from 12 to 24 hours.

"Many kinds of commercial disinfectants are used and these are not always reliable. The burning of small quantities of sulphur has very little, if any, value."

We hope the above formula sent out by the State Board of Agriculture will answer many requests that came last year for some practical method of fighting moths in the home as well as disinfecting; we have found that sulphur is a failure, even in a tight closet. One should not neglect to use the greatest caution in using the above formula.

If the potassium permanganate is placed in a paper bag it will take a little longer time to mix so that the person can be out of all danger before the gas is generated.

Now Is the Time to Swat the Fly.

Uncle Sam is waging a relentless war on the deadly house-fly and in a late bulletin prepared by the Department of Agriculture, valuable information is given on the best means of combating this deadly pest. The most effective way of exterminating the fly, according to the bulletin, is to eradicate his breeding places. The breeding season of the fly begins early in March and continues throughout the spring and summer months. All dirt should be removed from the premises, stables cleaned and decaying vegetables destroyed.

The fly has rightly been called the undertaker's traveling salesman, and in addition to his regular line of "typhoid bugs," he carries a side line of tuberculosis, Asiatic Cholera and other disease germs. Now is the time to "swat the fly."

Farming Tools

are *money savers*. High quality considered, the lowest price tools made. Last twice the "life" of common tools. Cost nothing for repairs and do better work after years of use than many other tools do when shining new from the Hardware Store.

Every hand farming tool on which you find the Keen Kutter trade mark is covered by a broad-gauge guarantee. If a Keen Kutter fork, hoe, rake, scythe, snath, shovel, axe or hay knife doesn't prove satisfactory, the dealer is authorized to return the money and take back the tool.

Send for our Garden Tool Booklet No. BI 1646.

"The Recollection of Quality Remains Long After the Price is Forgotten."
Trade Mark Registered. —E. C. SIMMONS.

If not at your dealer's, write us.

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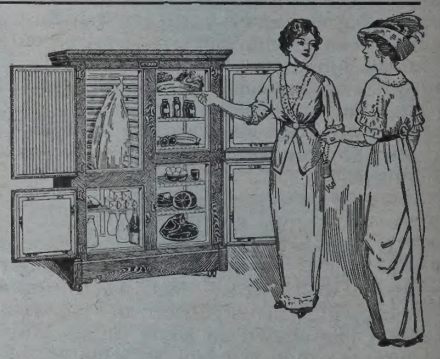

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There is a McCray refrigerator for the modest home or the most pretentious residence. The SNOW WHITE linings of OPAL GLASS, PORCELAIN or WHITE ENAMEL are not only attractive but are sanitary and easily cleaned.

McCRAY Refrigerators

Keep all foods fresh and palatable—free from taint, germs or odors. The health of your family is safer with a McCray. Write for any of the following catalogs that will tell you why the McCray is best.

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Try This Washer FREE

in your home for 14 Days and prove that it is the best investment you can make. Saves money, labor and health.

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Excels in many ways—Sliding Power Wringer, All Steel Frame, Adjustable Height Platform. Gas, gasoline or electric power. Eight models. Low prices. Liberal guarantee.

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HOWARD BICYCLE Co., Dept. M.F., Trenton, N. J.

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Sturdy as Oaks

Our roses are strongest and best. Always grown on their own roots. More than 60 years of "knowing how" behind each plant. Safe delivery guaranteed—our guide explains. No matter where you live, you can *depend* on getting D & C roses in perfect condition. Write for

Our "New Guide to Rose Culture" for 1915—free

The most educational work on rose culture ever published. Not a catalog, but the lifetime experience of the oldest rose-growing house in America. Profusely illustrated in natural colors. Describes over 1000 varieties of roses and other flowers and tells how to grow them. Write today for this guide before issue is all gone. *It's free.* No other rose house has our reputation. Established 1850. 70 greenhouses.

The Dingee & Conard Co., Box MF, West Grove, Pa.

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is ready. It shows what to choose from nearly 400 roses—the very cream of the world's best. Free. 85 beautiful illustrations—19 in color. Gives Free Delivery Offer. Our own root roses are hardy, beautiful, and guaranteed to bloom—make rose culture a real delight. Write for your Guide and 9 Art Rose Poster Stamps—today. Free.

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Rose Specialists. Over 50 Years' Experience

10 Good Size Packets SEED

Northern Grown, Thoroughly Tested, Reliable, Fresh, the "Sure Grow" kind, worth $1.00. Cost you only 12c. That's all—mailing expense paid by us.

Beet, Best first early favorite.
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Carrot, Best table Variety.
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Lettuce, Tender—always good.
Onion, Great yielder—best red.
Parsnip, Best, smooth and sweet.
Radish, Scarlet Turnip, white tip.
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Send us 12 cents, stamps will do—with each order we include a copy of **Good Poultry**, our quarterly magazine, devoted to special crops—also a copy of our new book, **Intensive Farming**. Write tonight.
Shorewood Farms Co., Saugatuck, Mich.

Seed Corn--Cow Peas

Reid's Yellow Dent, St. Charles White, Early 85-day yellow and white corn, all $2 per bu., bags free. Medium and early Soy Beans, $3 per bu. Cowpeas, $2.75 per bu. Orange and Amber Cane, Kafir Corn, $1.25 per bu. Correspondence solicited. Prompt Shipment.

LEONARD SEED CO., Marshall, Mo

SUDAN GRASS SEED

OFFICIALLY INSPECTED. Guaranteed free from Johnson grass. Greatest of all grass and forage crops. Price 20c lb. up, depending on quantity. Write for book "How to Grow." Hyde Seed Farms, 110D Hyde Ave., Pattonsburg, Mo.

Strawberry PLANTS **FREE** To introduce our *Pedigreed Everbearing* strawberries we will send 25 fine plants free. PEDIGREED NURSERY CO., St. Louis, Mo.

SWEET CLOVER SEED White and large biennial yellow. Prices and circular on request. Bokara Seed Co., Box F., Falmouth, Ky.

Important Missouri Shorthorn Sale

By W. C. PREWITT & SONS, at CLARKSVILLE, MO.

THURSDAY, APRIL 22

22 HIGH CLASS BULLS AND HEIFERS 22

This sale offers an unusual opportunity for breeders and farmers of this state to secure Shorthorns of high quality from a herd that was founded along practical lines and has been at the front at most of the shows of this state for several years past.

This is our first public sale and we are putting in a class of cattle that we think are a distinct credit to us and the sort that will be money makers for buyers.

The offering is made up of 22 head of Scotch and Scotch Topped bulls and heifers.. They are a healthy, useful lot throughout and will be presented in excellent breeding condition.

With the feeding season over, and grass ready to turn on, NOW IS THE TIME TO BUY.

You are invited to come and look over the offering, and see them sell whether you care to buy or not. We will feel honored by your presence. Parties from a distance are to be our guests at the Huckstep's Hotel. The sale will be held under cover.

Write for catalog and kindly mention this paper.

Auctioneer: R. L. Harriman

W. C. PREWITT & SONS - - - Clarksville, Mo.

PRACTICAL FARM PAPERS—No. 10

We set some peach trees this spring as it is our rule to set a few every two or three years, and we missed last year and year before. So I set twenty-two on April 6. Three years ago this spring we set fifty apple trees, 30x35 feet apart, and the peach trees were set between the young apple trees, the wide way of planting.

Although 1913 and 1914 were both very dry years we only lost two apple trees out of fifty planted. We also put out 750 strawberry plants in one of the spaces in the young orchard, and of the 750 five died. They bore us two splendid crops of berries, as they were well taken care of, but they will not bring many this year and we will set as many more next week. Any time during April will do to set young trees or berry plants, and I have set peach trees in May, all growing. While the peach is supposed to be short lived, we have had them to live and bear until thirty years old, but, of course, the trees were unsightly and gave small crops after they got old. My plan of growing peaches is to take the best of care of the trees until they are eight or ten years old then cut them away for younger trees.

A farm without fruit is no farm at all, and I must confess that we have been careless and let ourselves get pretty near out of an apple orchard, as we only have about fifteen bearing trees now, the old orchards, planted in 1854 and 1873 both being gone excepting for a few old trees.

On a neighbor's farm there are still standing four apple trees set in 1845, and they bear good crops yet. Father brought the trees from Dayton, Ohio, together with some for his father, and it took him two days to make the 60-mile trip, Dayton to Cincinnati, by canal boat.

We sent direct to responsible nurseries for our trees, and for many years have refused to buy of agents. In all that time our trees have come true to name—of course mistakes have been made—and have cost us about half agents prices, while every year we hear somebody cussing the agent who sold him his trees.

This April 7 is the first warm day this spring, frost having fallen every day in March, with no rain. Many people are through plowing, all well along, while at this date last year scarcely a furrow was turned. Much of the wheat looks bad and some will be plowed up. We will probably plow up eight acres of ours. Spring pig crop immense. Health of all No. 1.

C. D. Lyon,

FEEDING BLACKSTRAP MOLASSES

In reply to Earl Johnson in your March 15 issue, will say that we purchased our blackstrap molasses from the ..... It is guaranteed 42% Baume and it is our impression that this molasses will run around 60% sugar although there was no guarantee as to the amount of sugar it contained. It cost us 12c per gallon delivered at our station in carload lots which sounds a little cheaper to us than yours as we are in Northern Missouri while you are east of Kansas City and ours apparently is a very good quality.

We have a 52 gallon farm boiler and during the cold weather we mixed about 3 gallons of water to one of molasses and heated it thoroughly. In this way it mixes with the ensilage, cottonseed meal and corn meal to much better advantage than straight molasses or even the cold water and molasses and it is very little trouble to heat it.

We fed quite a batch of dry fodder run through the ensilage cutter in this manner last fall and the cattle ate it about as well as they did the ensilage. Otherwise it would have been almost a worthless feed. We are also feeding it to our hogs in a slop with corn meal and a little cottonseed meal but have not noticed any worms passing from the hogs after feeding it. We consider that you need either meat meal or cottonseed meal to balance the ration when fed to hogs. We are very enthuiastic about this molasses and consider we can make a much cheaper molasses feed than we can possibly buy, as I note by an experiment that is being conducted in Indiana now comparing straight molasses with Champion Molasses Feed that it is proving quite a little cheaper than the Champion Feed, which verifies our personal experience.

Will be pleased to hear further from you in regard to your experience at any time. Yours truly,

A. J. & P. Maurer,
Nodaway County.

$14.75 And up buys a high-grade **"IOWA" Cream Separator**

Mail the Coupon Today

Equipped with famous patented Curved Disc bowl—skims cold or warm milk exhaustively—finest grade of tinware—enclosed dust-proof gears—quality guaranteed in every particular. Equally attractive prices on larger Separators.

"CHORE BOY" GASOLINE ENGINES $28 And up
Ask about this Line of Engines. All sizes

ASSOCIATED MANUFACTURERS COMPANY
161 Mullan Avenue Waterloo, Iowa

TEAR OFF AND SEND THIS COUPON

Name _____
Address _____
_____
No. of Cows _____

Without obligation on my part send me your Cream Separator Booklet at once.

161

An Important Shorthorn Sale

The attention of our readers is directed to the advertisement of W. C. Prewitt & Sons, Clarksville, Mo., in which they announce that on Thursday, April 22, they will hold their first public sale of Shorthorns.

This event should prove of more than passing interest to any of our readers who may be in the market for Shorthorns of quality, because it will afford an exceptional opportunity to secure well bred cattle, of the most approved type, at a time when the feeding season is almost over, and grass ready to be turned on.

Several years ago Messrs. Prewitt established their Walnut Valley herd by making very select purchases from some of the leading breeders of the country. Whenver new blood was added it was just as carefully selected as the original purchases. At the head of the herd stands the good bull Sultan's Heir 368468, a prize winner himself and a sire that has proven his ability to transmit to his offspring the qualities most sought after by buyers.

The offering consists of twenty-two head, including eleven good strong young bulls, and eleven females. Most of them are straight Scotch bred lots, a few however are Scotch Topped. Among the bulls cataloged are several youngsters that are promising herd bull prospects, and any one of the eleven will please the man looking for a bull to improve his herd. The cows and heifers listed represent some of the most fashionable breeding. They are the nice headed, wide, level backd, thick fleshed kind, with plenty of scale and quality.

Several times Messrs. Prewitt have been urged to hold a sale but they have prefered to wait until they could offer a class of cattle that they knew would not disappoint. They feel that the present offering is a very creditable one and extend an invitation to all who may be interested to be their guests on Thursday, April 22. The sale will be held in town and will be made regardless of inclement weather.

The catalogs are now ready and will be mailed for the asking. We recommend this sale to our readers and trust that they will show their appreciation of Messrs. Prewitts effort to produce Shorthorns of merit, by attending the sale. Kindly mention this paper.

Greiner's O. I. C. Bargains

Beginning with this issue F. J. Greiner, proprietor of the Maple Grove Stock Farm near Billings, Mo, calls attention of our readers to his herd of O. I. C. swine. Mr. Greiner has over 100 head of pigs on hand and is offering them at the following prices: choice of litter, either sex, $12, litter average, $10; September, October and November gilts, $15, bred gilts $20 and $25 each, bred sows $30 and $35 each. Mr. Greiner has been engaged in breeding a superior type of O. I. C.'s for a number of years and by careful buying, breeding and feeding and sending out only such animals as he could guarantee to please, he has established a highly satisfactory trade in something like ten or twenty states. He makes a practice of culling his herd very closely and any individuals that fall below the average are sold to the butcher. The pigs now offered are from mature sires and dams, many of which carry the blood of prize winners, and Mr. Greiner frankly states that they are the best lot of pigs he has ever raised. There never was a better time to buy pure bred stock than now. Mention this paper.

Maple Grove O. I. C's

Over 100 spring pigs from 2 to 3 months old at the following prices: Choice of litter, $12; litter average, $10; fall gilts, $15. Bred gilts $20 to $25. Bred sows, $30 to $35. Prize winning blood and the most popular strains. Each individual guaranteed to give satisfaction.

F. J. GREINER, BILLINGS, MO.

Johnson County White SEED CORN

The greatest drouth resistant and heaviest yielding variety of corn grown. My seed was from the originator's prize winning stock; cost me $10 a bushel, and what I offer was all in the crib before freezing weather.

Price extra select crated ears, $5 per bu. No. 1 Shelled Seed. $3 per bu. $5.50 per two bushel bag.

Only my own growing and selection. Better order early.

C. D. LYON, Georgetown, Ohio

Classified Advertising

White Wyandotte Cockerels, extra good, $5. If not as represented, return bird and get your money. Eggs for hatching $3 for 15. Isham Boulware, Centralia, Mo. 216

S. C. Rhode Island Reds. Eggs, 15, $1.50; 50, $2.75; 100, $5. Mrs. C. B. McClanahan, R 4, Kirksville, Mo. 316

Barred Rocks, Utility and Exhibition Matings. Indian Runners, Fawn and White—Persistent layers. Mrs. F. A. Daniels, Vandalia, Mo. 314

Superior, heavy laying, Single Comb White Leghorns. Eggs, Chickens. Armstrong Bros., Arthur, Mo. 314

White Wyandottes—Winter layers. Eggs $1.50 per 15; $2.50 for 30. Richard Bloom, Fulton, Mo. 314

Single Comb White Orpington Eggs for hatching, from my famous English strain. Best pens $2 for 15 eggs; utility stock, $1.50 for 15 eggs. Fertility guaranteed. Order from this ad. E. L. Andrews, Maryville, Mo. tf.

S. C. White Leghorn Eggs, 15, $1.00; 100, $4.50. Yesterlaid strain. Mrs. J. W. Ezell, Houstonia, Mo. 412

Yesterlaid—Vannoy Single Comb White Leghorn Eggs, postpaid, 15, $1; 30, $1.50. 224 eggs from 20 hens in February. W. C. Carver, Vandalia, Mo. 2156

Pure Bred Buff Rocks. My pure bred Buff Rocks beat the Leghorns, try a setting. 18 eggs, $1.50. Sarah Houston, Mercer, Mo.

Barred Rock Eggs from extra choice, high-class stock. Deep, clear barring. Large and vigorous. $1 per 15; $5 per 100. M. D. Porter, Vandalia, Mo. 314

Thoroughbred S. C. Reds, bred for heavy egg production and standard points. Deep red. Healthy flock. Eggs: 15, 75c; 105, $4. Mrs. Geo. Gerhart, Glensted, Mo. 3154

Barred Rocks of Quality. Eggs: Settings, $1.50; 100, $5. Stark Farm, Arcadia, Mo. 3153

White Plymouth Rock Eggs.—Good laying strain, 100, $3.50. R. J. Lambert, Laclede, Mo.

Barred Plymouth Rocks, Black Langshan. Better than ever. Cockerels, $1.50 to $3 each. Eggs from pens, $2.50 for 15. Range flocks, $1 for 15. Harry L. Brown, Stephens, Mo. Mutual Phone. 316

Buff Rocks. First Prize Winners, Columbia, Mo. American Poultry Association diploma for best Buff Rock cockerels in show. Eggs from prize winning stock $1.50 per 15. H. D. Wilkinson, Route 7, Columbia, Mo. 316

Barred Rock Eggs; big, quality kind. $1.50 for 15. Obadiah Prettyman, Fairfax, Mo. 41tf

For Sale, Two Guernsey Bulls. Registered, good individuals, excellent breeding. Two-year-old and six months calf. Come and see or write D. P. Daniels & Son, Vandalia, Mo. 314

Mammoth Bronze Turkeys

I am offering eggs for setting from my famous flock of Bronze Turkeys. Also from my ribbon winning Buff Orpingtons. My turkeys are known throughout the United States.

STONE "The Mammoth Bronze Turkey Man, Rfd 6, Columbia, Mo.

The College of Agriculture

can spare two choice Duroc boars. One is a January yearling, the other is an October yearling. Both are well bred, splendid individuals, and are good herd boar prospects. A number of nice Duroc gilts are also offered. Prices moderate. For further information, write Prof. L. A. Weaver, Columbia, Mo.

GALLOWAY CATTLE

Young stock for sale at all times. Herd established 25 years.

J. & W. R. CLELLAND, New Hampton, Mo.

ChoiceAberdeen-Angus

Established 30 years. 100 head in herd. We are offering good useful Bulls, and Heifers of excellent individual merit and breeding. Prices reasonable. Our customers make them popular.

D. L. Sutherland & Sons Windsor, Mo.

Aberdeen-Angus

I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.

J. D. Blackwell Fayette, Mo.

ANGUS CATTLE

HERD FOUNDED 1904

Seven early calves—3 BULLS and 4 HEIFERS, sired by Dean's Eric 139686. Every one the right kind, and priced to sell.

V. E. LAWRENCE, SALISBURY, MO.

Angus Bargains

Registered bulls and heifers. The market topping kind. Leading families represented. Priced worth the money and satisfaction guaranteed.

Also Poland China hogs.

J. M. JONES, R. F. D. 3, EVERTON, MO.

Aberdeen Angus Cattle

I am offering one aged bull, 8 coming yearling bulls of exceptional merit, weight 700 to 800 lbs. Also coming yearling heifers and cows. Sell on reasonable terms.

ROBT. D. TURPIN, R 2, Carrollton, Mo

IDLEWILD SHORTHORN CATTLE

Milk and Beef Type. Dual purpose in name and in fact. Herd 50 years old. In one family, on one farm. The type is fixed. I have a strain that I believe rivals the famous Duchesses. Fine beef cattle that are heavy milkers. And deep milkers of fine beef type. Call, or this blood is safe by order.

W. P. Harned, Vermont, Mo.

Shorthorn Bulls and Heifers

PEABODY FARM now offers 12 choice young bulls and 20 heifers. Good individuals; reds and roans. Priced to sell. Also 20 open BERKSHIRE gilts. Get our prices.

June K. King & Son Marshall, Mo.

BAKER'S REAL BIG-TYPE POLANDS

Our winnings at the State Fair prove that we "have the goods." Spring boars and gilts of excellent breeding and individuals at very reasonable prices. Also a number of fall boars, big, stretchy fellows.

W. A. Baker & Sons, Butler, Mo.

Dooley's Spotted Polands

Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pairs and trios no relation. Also registry furnished. Send check with first letter.

Edgar Dooley Etterville, Mo.

LIVE STOCK NOTES

R. P. Royce, Fieldman

College of Agriculture Offers Duroc Boars

Elsewhere in this paper appears the advertisement of the Animal Husbandry Department of the College of Agriculture in which two choice Duroc boars are offered for sale at very reasonable prices.

One of the boars is a January yearling sired by Intrunder by Beauty's Success, the prize winning son of the champion, Beauty's Model Top. The dam of this boar is Top Best Girl by Orion Top Col. by the famous Top Col. The grand dam, on the sires side was the great sow Edna Browning, one of the best producing sows Sheley & Clatterbuck ever had in their herd. This young boar is really a very superior prospect for a valuable herd boar. He is an extremly lengthy fellow, very smooth, carrying excellent lines, has plenty of bone, and is extra good on his feet. He represents a genuine bargain and we feel sure that he will please most any one.

The second boar offered is an October yearling sired by the first prize aged boar at the recent Missouri State Fair, S & C's Valley Chief, and is out of a Beauty's Model Top dam. It will be noted from the above that this is the cross that has proven so successful in the Sheley & Clatterbuck herd. This boar leans a trifle more to the early maturing type than the first boar and for that reason will perhaps please some buyers more than the other. Any deficiency he may have in length is more than made up in extra width and depth and hams. A number of the best sows in the College herd are bred to him which is sufficient evidence that he is held in high regard by the Department.

The College had planned to keep these boars in the herd but find that they can be spared and are therefore offering them for sale. Either or both represent excellent values and we trust that our readers who can use a boar will not overlook this opportunity.

From time to time the College accumulates a surplus of breeding stock that is offered the buying public, and just now, besides the two boars referred to, they have on hand a number of good Duroc gilts that will be sold open or bred.

If interested in any of the above stock we would suggest that you write at once to Professor L. A. Weaver, Columbia, Mo. The advertisement will not appear again.

Lee Chief Goes to Kentucky

E. D. Moore, Columbia, Mo., has sold his sensational show mare, Lee Chief, to Pres. W. Ray of Bowling Green, Kentucky for $2500.

Lee Chief was shown nine times last year and won seven firsts, including the junior championship at the Missouri State Fair, and two seconds. She was regarded as the best mare out last year and horsemen are predicting a clean sweep for her this season.

Dean's Polands

Clarence Dean, Weston, Mo., is offering some rare bargains in Poland China bred gilts of strictly big type breeding. The gilts are sired by or bred to one or the other of Mr. Dean's splendid herd boars, Mastodon Price, by the famous old A. Wonder; Gritter's Longfellow 3rd; A. Wonder Price, and Jumbo Wonder. The dams of the gilts mentioned represent one of the grandest collection of broods sows owned in any herd in this state. Mr. Dean is also offering several tried sows that would look well in most any herd. The prices are extremely reasonable considering the quality and individuality offered. Mention this paper in writing.

Williamson's Poland Offering

H. S. Williamson, Centralia, Mo., who advertises Poland Chinas and Shorthorns in this paper, has a few strictly big type sows and gilts that are bred for April and May farrow that he is mighty anxious to sell. He also has twenty-one fall boars that will weigh from 125 to 175 pounds. The boars are just right for service. In speaking of these boars Mr. Williamson stated that they had extra length, heavy hams, good high backs, and the best bone and feet he ever saw on pigs of their age. He is pricing them from $15 to $25. Besides the above Mr. Williamson has forty-three open gilts, mates to the boars that are priced the same. Pairs, trios or more of unrelated pigs can be furnished.

In Shorthorns most anything from September calves to two year olds can be furnished. These bulls and heifers are of

CLYDESDALE HORSES FOR SALE

MISSOURI FARMERS, DO YOU RECOGNIZE THE OPPORTUNITY?

The war in Europe means that the United States will furnish the Draft Horses and Draft Breeding Stock for the world for years to come. There was never a better time for you to get into the game and Missouri farmers should take advantage of the opportunity. I have Prize Winning Stallions and Mares of all ages for sale at lowest prices.

F. L. CROSBY, Highview Farm - - - - - - - Mexico, Mo

$25 DUROC JERSEY BOARS DELIVERED $25

We will deliver fall boars anywhere in the State at $25 per head. They are sired by our first prize senior yearling boar, Beauty's Model 152503, and individually are right. We can please you.

W. O. & B. A. SMITH - - - - - Thompson, Mo.

DUROC SOWS BRED TO CHAMPION

CRIMSON COL I AM for March and April farrow. Bred gilts sired by him, stretchy, good bone and color. Choice fall or spring boars $25 each. Guaranteed as described. Come see them.

A. WHITE, JR. Box 422 PALMYRA, MO.

ADENHILL DUROCS--BRED GILTS and SOWS

Sired by Champions Tatarrax Again, Crimson Col. I Am and Col. Wonder II. Priced reasonably. Also a few serviceable spring boars of same breeding. Priced to sell. A fine lot of fall pigs sired by Col. Wonder II.

R. L. HILL - - - - - - - - Adenhill Farm, Columbia, Missouri

THOMSONS' BOAR BARGAINS

Duroc Jersey spring boars. Splendid individuals from a $1500 sire and $100 dams. Satisfaction guaranteed or no sale.

W. H. and GEO. E. THOMSON, Columbia, Mo.

DUROCS WITH SIZE AND QUALITY

15 May boars and gilts. Must sell in next 30 days. I have the size combined with quality. Prize winning blood. Pric ed to sell. Come or write.

A, C. BROCKMAN, Route 2, - - - - Centralia, Mo.

WELLER'S IMMUNE DUROCS

I am offering a choice lot of boars, bred sows and gilts. Priced reasonable. Customers in 48 Missouri counties.

J. E. WELLER, FAUCETT, MO.

15 DUROC SPRING BOARS & GILTS

We will have 15 boars and a number of open gilts which we will price to sell quick, and are booking orders now for 25 pigs, farrowed November 10th.

J. C. Garrard & Son McBaine, Mo.

Champion Col. Wonder Durocs

A few yearling boars and bred gilts. Booking orders for spring pigs either sex. Col. Wonder sires my champions—he will sire champions for you. Write or come.

CHAS. L. TAYLOR - - OLEAN, MO.

DUROC PIGS $5.00 EACH

Good pure bred stock of spring farrow. Either sex. Buy one or two for the boy and start him in the hog business.

STARK FARM - - - - - - - - - Arcadia, Mo.

MEGOWN'S SPOTTED POLANDS

No matured stock for sale but booking orders for pigs to be shipped later. Have length, bone, size and big spots. Sired by two of the biggest boars in the State for their age.

B. B. MEGOWN - - - - - - - - - - - - - - New London, Missouri

FOR SALE—MAMMOTH POLAND CHINA SPRING BOARS and BRED SOWS

All safely immuned by double treatment vaccination. The biggest of big type breeding. Spring gilts weighing in moderate flesh 250 lbs. Tried sows bred for early farrow. Mature sows weighing (in flesh) 650 to 750 lbs. All from litters of 7 to 16. Gilts by Mastodon Price and Gritter's Longfellow, bred to Ellerbrock's A Wonder. 25 big spring boars of serviceable age. See or write CLARENCE DEAN, Weston, Mo. P. O. Weston, Railroad Station, New Market. Electric line from St. Joseph and Kansas City. Station, Dearborn, Mo.

BIG POLAND CHINA BRED GILTS

Headed by King David 179495 by Long King, and Leader 201105 by Grand Leader, a pair of great boars that are siring the right kind. A fine lot of spring gilts bred for early farrow. Get my prices.

HALLECK BLAND, Rfd. No. 5 CENTRALIA, MO.

OAKWOOD POLAND CHINAS & SHORTHORNS

Bred sows and yearling gilts bred for last of April and May farrow. Twenty-one fall boars, big stretchy, big boned, heavy hamed, good backed fellows. Forty-three open fall gilts, extra good brood sow prospects. Several choice Shorthorn bulls and heifers. Satisfaction guaranteed or your money back.

H. S. WILLIAMSON - - Centralia, Missouri

SUPERIOR HERD BIG-TYPE POLANDS

We have at all times anything you want in strictly big-type Polands. Special prices on spring boars and gilts in pairs or more—not related. Write us your wants.

Freeman & Russ Kearney, Mo.

LOCKRIDGE'S GIANT POLAND CHINAS

In my recent sale gilts bred to my great young boar THE GIANT 72083 averaged $57. THE GIANT is conceded to be one of the greatest boars of the breed. You will want some of his blood. Booking orders for spring pigs. Write at once.

WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

POLAND CHINA BRED SOWS

DOUBLE IMMUNE

Two good yearling sows for May farrow. Have raised two litters. One fall yearling for first of June. Had one litter. Spring gilts for May farrow, weight about 300 pounds. These are the big broad-backed kind and prolific.

OBADIAH PRETTYMAN - - - - - Fairfax, Mo.

straight Scotch breeding, reds, whites and roans, good size, and the right type.

Mr. Williamson is one of the most successful breeders in the state and everything he sells is guaranteed to be just as represented or your money will be refunded.

Brockman's Good Durocs

Beginning with this issue A. C. Brockman, Route 2, Centralia, Mo., places his herd before the readers of The Missouri Farmer and asks that they consider his herd before making any purchases.

Mr. Brockman began breeding Durocs something over thirteen years ago, and from a modest beginning he has built up a herd that has enabled him to establish a trade over a very wide territory.

From the very first he has insisted on size, bone, prolificacy, and easy feeding quality, and the herd as it stands now is evidence that he has succeeded to a marked degree.

We have been more or less familiar with this herd for the past several years and each time we have seen it we were forced to remark on the exceptional lot of brood sows that were kept on the farm. We are not saying that Mr. Brockman has the best lot of sows in the state, but we do say that in point of uniformity, size, bone, and prolificacy few herds equal this one.

Many of our readers will perhaps recall the sow, Hazel Dawn, that Mr. Brockman exhibited at the recent Missouri State Fair. This sow was counted as the largest Duroc sow on the grounds. If we remember right she weighed 810 pounds.

Just now eight May gilts, bred to farrow next month, and seven May boars are in offer and owing to the fact that Mr. Brockman is crowded for room he is offering them well worth the money.

The above lot are sired by B's Col. Crimson by B. & C's Col. Perfection by the great B. & C's Col.

These boars and gilts are well grown out, have excellent bone, and are good colors.

Mr. Brockman would be pleased to hear from any of our readers who are interested and extends an invitation to them to visit his herd. Kindly mention this paper when you write.

Caldwell's Durocs

C. D. Caldwell, Milan, Mo., is advertising a nice lot of fall boars sired by his herd boar Leavell's Wonder, one of the good sons of Handsome Wonder. Mr. Caldwell has been breeding Durocs for about six years and has met with considerable success. He knows the kind that the average buyer wants and guarantees his stock to be as represented. We can recommend his herd to any of our readers who are looking for the useful kind at prices that are reasonable.

Rauscher's Chester Whites

H. Rauscher & Son, Kahoka, Mo., still have a number of extra good spring gilts bred to farrow in the next sixty days that they are making a special offer on. This is one of the good herds in Missouri when judged from any angle and the fact that it has been in existence for over thirty years is sufficient proof of the high quality of the Rauscher kind.

They also offer a cracking good lot of fall boars and gilts. This stuff is mostly of September and October farrow.

It will be to the interest of anyone about to buy to get into communication with Messrs. Rauscher. Mention this paper in writing.

Lawrence's Angus

V. E. Lawrence, Salisbury, Mo., writes under date of March 20, as follows: "My Angus have wintered well and are in nice growing condition. I now have about ten head of young bulls and heifers that I can offer the trade. The above stuff represents several of the leading families of the breed and at the prices I am asking should find ready sale. The past season has been a very trying one on cattlemen, but I take a very optimistic view of the future. I don't remember a time when a man could buy good cattle with greater assurance that they would make money than right now. I have always found that the time to buy is when prices are near the bottom."

There is a lot of truth in what Mr. Lawrence says and we urge any of our readers who are interestd in his kind of cattle, to write Mr. Lawrence at once.

Milking Shorthorns

W. P. Harned, the veteran Cooper County breeder advises us that he has on hand several very choice young bulls bred and selected along lines that are calculated to make them valuable additions to any herd that is being developed along milking lines. Mr. Harned has long been a persistent advocate of the milking Shorthorns and for years he bred with this idea in mind. He feels that the Double Mary strain he has developed equals in every way the famous Duchess blood, and he will be glad to give any of our readers more detailed information if they will but write him.

Mr. Harned has been identified with Shorthorns all his life and he is one of the best known and respected breeders in the state.

Lockridge's Giant Polands

Will G. Lockridge, Fayette, Mo., is now booking orders for spring pigs, either sex, sired by his great young boar, The Giant. This boar is easily one of the best big type Poland China boars in this or any other state and with the opportunity Mr. Lockridge intends to give him we are going to expect him to make a great record. The Giant is sired by Hercules 68356 and is out of Colossal Giantess by Old Colossal. The day he was nine months old he weighed 400 pounds, and measured 65 inches from between the eyes to the root of tail, was 61 inches in the heart girth, and stood on a 10½ bone. He is headed for the 1000 pound class and will reach that much talked of goal in about as smooth condition as one could ask in a hog of his size. Keep this boar in mind and ask Mr. Lockridge to save you a good boar or gilt sired by him.

Duroc Boars Express Prepaid

W. O. & B. A. Smith, Thompson, Mo., are offering the readers of this paper some attractive bargains in fall boars sired by their first prize senior yearling boar, Beauty's Model. Messrs. Smith are pricing these boars at $25 each delivered at your station. Remember that if you want the kind that win you must buy the blood of winners. How many prize winners can be recalled that did not have a lot of winning blood close behind them? None that we can think of. Here is an opportunity to secure proven blood at very moderate prices. Write them if you can use a boar.

Angus Bulls and Heifers

Readers of this paper will find it to their interest to write Robt. D. Turpin, Route 2, Carrollton, Mo., concerning the stock he is now offering for sale. Included in the lot is one aged bull, eight coming yearling bulls, that weigh from 700 to 800 pounds, and several extra good cows and heifers.

Weller's Durocs

J. E. Weller, Faucett, Mo., has one of the best known herds of Durocs in his section of the state and the young stuff he is offering in his advertisement should prove very attractive to any one planning to buy. We have visited the Weller herd and have no hesitancy in recommending his herd to our readers.

Spotted Polands

Edgar Dooley, Etterville, Mo., is advertising a nice lot of yearling and fall boars and gilts of the real old-fashioned big boned, spotted kind. We know men who have been made rich by handling this kind and if you want some of the genuine blood Mr. Dooley will be glad to talk "turkey" with you.

Angus Bulls and Heifers

J. M. Jones, Everton, Mo., calls attention, elsewhere in this paper, to a number of choice young Angus bulls and heifers that he is offering for sale, as well as his herd bull, Laddie Blackbird. Here is a chance to buy a bull of proven merit and Mr. Jones will be glad to have any one interested to visit his herd and look over the kind of calves that this bull sires. Mr. Jones is a thoroughly reliable breeder and we take pleasure in placing his herd before our readers.

THOMAS E. DEEM
AUCTIONEER
Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased.
Dependable service at a reasonable charge. Address, Cameron, Mo.

Harry W. Graham
AUCTIONEER
PURE BRED LIVE STOCK
Seventeen years experience with America's best breeders.
Chillicothe, Missouri

W. D. ROSS
Auctioneer
Pure bred live stock. Sales made anywhere on reasonable terms. Write for dates.
Otterville Missouri

JERSEY CATTLE
Bulls ready for service. They are sired by the Owls Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.
Wm. H. Bruns & Son, Concordia, Mo.

Jerseys-Spotted Polands
April Special—Jerseys: I will offer for April only, six young bulls, ready for service, at lower prices than I have quoted for six years. Also bred heifers.
April Special—Spotted Polands: For April only I am offering 35 fall boars, mostly October farrow, at $20 each. Order now. Also sow pigs and bred gilts for sale. Free circular.
THE ENNIS FARM, HORINE STATION, Mo. (Just south of Saint Louis)

Jersey Cows
I want to sell 20 head of registered cows and heifers that are either fresh or soon will be. Also four young bulls.
J. B. SMITH Platte City, Mo.

HOLSTEINS
Young bulls and heifers from A. R. O. cows. Sired by Sir Korndyke Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.
M. E. Moore & Co., Cameron, Mo.

Glenvarloch Large Yorkshires
The prolific, growthy and gentle bacon hog. Closing out entire herd at private sale. Bred sow, boars and pigs either sex. The produce of one Yorkshire sow will keep your family in delicious meat all next winter. Everything at bargain prices. All immune.
Frank Gildow, Mgr., Jamesport, Mo.

ELM LAWN HERD IMPROVED CHESTER WHITE SWINE Choice boars and gilts of September and October farrow for sale at reasonable prices. Everything recorded free.
W.B.Taylor and Sons,Weatherby, Mo.

RAUSCHER'S CHESTER WHITES!
One of the Oldest Herds in the West
A few choice spring gilts bred for early farrow. Several richly bred big spring boars. A fine lot of fall pigs. Size, quality, and bone. Prices reasonable and every pig guaranteed.
Rauscher & Son, Kahoka, Mo.

Save $50 on your Silo
Don't buy or agree to buy any Silo of anybody till you get our latest Folder with special direct-from-factory prices.
We positively and absolutely guarantee to save you $50 to $100 in spot cash, depending upon the size you want.
You save $50 first because you pay no agent's or dealer's profit: second, because you buy from one of the biggest Lumber and Building Material Houses in America, and NINETY PER CENT of a Silo is LUMBER. The wood Silo is not an experiment, it has been tried out and found satisfactory.
Every Gordon-Van Tine Silo is genuine, Clear Oregon Fir, a wood that the U. S. Forest Service says is the strongest and longest lived. And we use one-piece Staves only—no spliced two piece staves to open up and ruin ensilage. It is the only stave that can be used any side, in or out.
Has New Adjustable Wall! All hoops are tightened from the ground. No guy wires needed!
No doors or door frames to weaken the structure, or warp and get out of shape, but instead is a real modern construction.
A Silo with framework as solid as Steel, none stronger. Built like a city "Skyscraper." Impossible to creep off of the foundation, is the easiest Silo on the market to erect.
The Gordon-Van Tine roof allows you to put more ensilage in our Silo than you can in any other Silo of a like diameter which is four feet higher. Sold under a written guarantee of satisfaction or money back. Prompt delivery guaranteed, no matter where you live. We make quick shipments of silos direct from Davenport. Send for complete, illustrated Folder showing many advantages. Then compare with other Silos you know. Remember we unqualifiedly GUARANTEE to save you FIFTY DOLLARS in real money.
Can you afford to choose a Silo till you have seen what a genuine bargain we have to offer?
If you write NOW, you will receive complete details by return mail.
GORDON-VAN TINE CO., 5704 Case St., Davenport, Ia.
Largest Factory-to-Farm Lumber and Building Material House in America.

STOP DISTEMPER AT THE START
(6)

Distemper and all similar head and throat diseases in horses, sheep and dogs, are caused by contagious germs. Stop the disease at the start, kill the germs with a bottle of
CRAFT'S DISTEMPER REMEDY
For 22 years Craft's has been sold on a positive guarantee to cure Distemper, Influenza, Epizootic, Pink Eye, Coughs, Colds, Shipping Fever and Catarrhal Fever, or your money refunded. Craft's is not only the BEST, the SAFEST, the QUICKEST and most CERTAIN remedy on the market, but it is also invaluable as a preventive. Even if your animals are not sick at the present time, if you are wise you will get a bottle of Craft's at once to give to your horses as a preventive. It will drive out the germs, tone the blood, re-invigorate the appetite and put your animals in a first-class healthy shape. Buy a $1.00 bottle today and safeguard your animals from disease. Small trial size bottle, 50c. Your dealer has it or can get it for you. Be sure to get the genuine. Imitations are never so good. Remember, you take no risk—YOUR MONEY BACK if it fails.
VALUABLE HORSE BOOK FREE
A Practical Veterinary Book. Tells how to cure all the common diseases of horses. Of value to every farmer, stockman and horseman. Write for your copy today. A postal brings it by return mail.
WELLS MEDICINE CO.
33 Second St., LAFAYETTE, IND.

The Jersey

comes into maturity early, is long-lived and is often found making records even to advanced age. She stands above all other breeds for *economic production.* Shall we mail you free a good book on the Jersey?
THE AMERICAN JERSEY CATTLE CLUB, 324 W. 23d St., New York City.

A $35 CALF ONLY $7
Market the cow's milk and make big money raising calves cheaply on
Blatchford's Calf Meal
The Recognized Milk Equal
Calf prefers it — keeps healthy, grows faster.
[We also make Blatchford's Pig Meal—It saves young pigs at weaning time. Promotes steady, rapid growth.]
At dealers or write us. *Write for free booklets.* (6)
Blatchford Calf Meal Factory, 13 Madison St., Waukegan, Ill.

DUROC BOARS
Extra good fall boars. Plenty of size and bone. Prices right.
C. D. CALDWELL, Milan, Mo.

BUCKSHOT BY THE PROFESSOR

If "greens" don't hurry up and grow I'll soon have to go to eating silage.

Even a mule loves kind treatment once in a while—and human beings still more so.

Suppose we buckle up the old belt a notch or two, spit on our hands and go in for a big crop this time? What do you say?

If you don't want your son to "chaw terbacker," drink "pizen," cus a blue streak, fight and raise Ned generally, suppose you cut these things out yourself?

There's nothing like getting up in the morning with a smile. It makes the day pass more quickly and happily—and it's hard on the doctor's business.

Lots of fellows don't think their wives are very pretty until some other fellow gets to "making eyes" at them. Then they raise a "holler" that you can hear for ten miles.

If old Saint Peter didn't use more judgment in picking angels than some farmers use in picking seed corn ther'd be a lot of horse thieves and train robbers in heaven.

You know, I like a home where Father or Mother returns thanks before each meal. Somehow I don't believe that a boy who comes from that kind of a home will ever go very far wrong.

I almost believe now I could have licked that fellow Johnson myself. I'd liked to have had a chance to have gone behind the barn and tried him a whirl—and I'd have done it for a bloomin' sight less than $20,000, too.

Upon the way and manner in which you plant things depends the harvest. You can't take a few "swipes" at a 40-acre field with an old rusty shoveled cultivator or a worn out plow and expect to impart a swelling to your bank account in the fall.

Is there a bright, ambitious farmer girl in your family? If so, will you not kindly have her send in her name to the Publisher of The Missouri Farmer? He has a mighty interesting offer to make to some bright farmer girl in every school district in the state.

Why not plant a few gorgeous roses this spring? Why should the people in the towns and cities be the only ones to enjoy beautiful flowers? Their sweet fragrance not only makes the farm home a more charming place to live in but it makes us better and kindlier men and women.

The Missouri Legislature had enough money to blow in $17,000 on junketing trips to "investigate" a lot of things nobody cares anything about—but it didn't have enough to appropriate a few hundred dollars for the State Board of Horticulture—and so it had to disband and give up the ghost.

It makes me "sore" to travel around over Missouri and see hundreds of farmers raking up and burning their corn stalks. Here we are trying to devise means by which we can maintain the fertility of the soil—and yet a lot of farmers are deliberately burning it up. So, too, we are sending millions of dollars out of the state for feed—and yet here are a lot of men who are burning up enough silage, had it been properly preserved, to have fed every horse and and cow in the state. Have we got much right to complain about "hard times" while we are guilty of such wanton waste?

Housekeeper Wanted

One of our good subscribers has appealed to us to find him a housekeeper. He recently lost his wife. Has several small children. Good wages and good home to right party. Address The Missouri Farmer.

TWO KINDS OF POTATO BUGS

A correspondent from Adair County, Mrs. Buelah Webber, says she has been bothered with the "possum" potato bugs and has not found any successful way to control them and would like to know how to get rid of them. The following advice is by Professor Leonard Haseman, Entomolgist of the University of Missouri:

The potato plant is attacked by two types of beetles which we commonly call the "Potato Beetle" or "Potato "Bug." The one common form in most localities is a hemispherical shaped object with yellow and black stripes. It is the so-called "Colorado Potato Beetle" and is the one which does most damage to the early potato. The other type of beetles is longer and more slender and may be striped with yellow and black or white and black or bluish. These beetles are the so-called "blister" beetles or the "old-fashioned" potato beetles. The one which you refer to is evidently this later type of beetle for when disturbed they drop to the ground and act "possum." The Colorado potato beetle may also feign death, though usually not so directly as the so-called "blister" beetles. The application of Paris green and London purple should quickly control the Colorado potato beetle, but the blister beetles are resistant to arsenicals, which is the killing element of the two poisons you mentioned, and as a consequence, one is not always able to destroy the blister beetles with arsenical poisons. The stock dip should have destroyed them if you touched them with it, unless, of course, you made the solution weak enough so as not to affect the bug. Stock dips are of no value in a campaign against this type of pest, however, for they are very destructive to the foliage of plants.

About the best way to control blister beetles is to resort to driving. With a little practice you can learn to drive them from your potato patch about as readily as you can drive sheep or other large animals. At first they act "possum" but a little dry road dust and a brush will start them to moving and they get over the ground quite readily once you get them started. It is a good plan to distribute a little straw along the edge of the patch and when driven into this, fire it and in that way destroy many of them. You can also drive them to the edge of the field with coal-oil or with very strong soap suds and a little coal-oil added in this way will destroy them.

It may be of interest to you to learn that the blister beetles in their grub stage are decidedly beneficial to the farmer, though the beetls in the mature stage are equally as destructive. The young grubs of some of the blister beetles live underground in the egg cases of the common grasshoppers where they feed on the eggs and in that way prevent many outbreaks of grasshoppers.

We want the name and address of every bright, ambitious country girl in Missouri. Write to The Missouri Farmer at once—for we have something which will interest you very keenly.

INCREASE YOUR PROFITS

By BUYING or HIRING a

RED RIVER SPECIAL

The farmer wants all of his grain saved. It can best be done by the *Red River Special.* It uses the correct principle to take the grain out of the straw—*It Beats it Out* with the Big Cylinder, the Man Behind the Gun and the Beating Shakers, just as you would do by hand with a pitchfork.

IT SAVES THE FARMER'S THRESH BILL

It pays the farmer to insist upon a Red River Special doing his threshing. It saves his grain and does not waste his time.

It is most profitable for the thresherman.

It threshes fastest—threshes most—threshes when conditions will not permit other kinds to work—and the farmers want it.

Buy a RED RIVER SPECIAL Outfit and

GET THE BIG RUN

Send for new Red River Special Paper. FREE

NICHOLS & SHEPARD CO.
(In continuous business since 1848)
Builders of Red River Special Threshers, Wind Stackers, Feeders, Steam Traction Engines and Oil-Gas Tractors
(7) BATTLE CREEK, MICH.

Farmers Saved Over
A MILLION DOLLARS
By Storing 1914 Grain in
BUTLER STEEL GRAIN BINS
Galvanized steel has advanced on account of war and shortage of spelter. Will take early orders at old prices for future shipment. Buy before prices advance. Write for 1915 booklet.
BUTLER MANUFACTURING CO.
1315 Grand Avenue, Kansas City, Mo.

PRINCE ALBERT

the national joy smoke

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This is Charles Blow, of Dundee, Ill., who tips the age scales at 94 years. Mr. Blow is to-day, and always has been, a man who smoked his pipe liberally—and enjoyed it mightily. Mr. Blow qualifies for the Prince Albert "old-time jimmy-pipers club" and has just been elected to full-fledged membership. We would like to hear from other old-time smokers.

has this to say to you:

You get busy and smoke some pipe, or roll a makin's cigarette with Prince Albert tobacco that'll make you wish you could hark back to your first days of smoking.

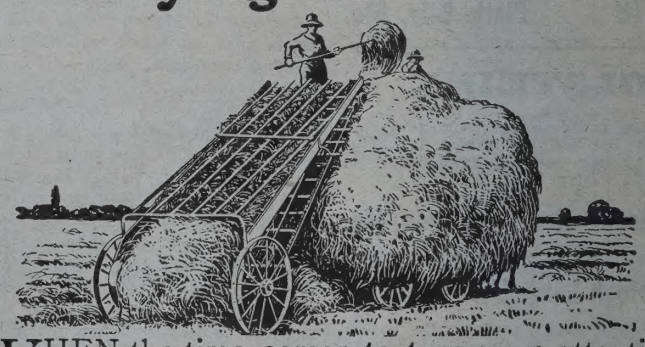
Because, no matter how pipe-shy any man is, no matter how tender his tongue, *he can* smoke a pipe, and *he will* smoke a pipe if he smokes Prince Albert tobacco!

Why, smoking P. A. is like having breakfast in bed Sunday morning! You just pack that joy'us jimmy pipe with load after load. The first few puffs *prove* P. A. can't bite your tongue or parch your throat. That's because it is made by a patented process owned exclusively by the R. J. Reynolds Tobacco Co. *No other tobacco can be like Prince Albert.*

Prince Albert is sold everywhere. Just say, "P. A. for mine." In the toppy red bags, 5c; tidy red tins, 10c; pound and half-pound tin humidors; crystal-glass pound humidors.

R. J. REYNOLDS TOBACCO COMPANY, Winston-Salem, N. C

International Harvester Haying Machines



WHEN the time comes to turn your attention and your energies to the hay harvest for this year you will have to take the weather and the hay crop as you find them—but on you and your methods and machines will depend the amount and quality of the hay you get into barn and stack.

As to hay machines, many years of trying out in many fields have proved that you cannot do better than make your choice from the **International Harvester** lines.

International Harvester haying tools are carried in stock or sold by local dealers who can take care of you quickly in case of accident. It is their business to see that you are satisfied with the **International Harvester** haying machines and tools you buy from them. You cannot go wrong if you buy only haying tools with the I H C trademark.

Write us, and we will give you the name of the nearest dealer handling **International Harvester** haying tools, and we will send you catalogues on the machines in which you may be interested.

SEE THE INTERNATIONAL HARVESTER EXHIBITS SAN FRANCISCO SAN DIEGO 1915

International Harvester Company of America
(Incorporated)
CHICAGO USA
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BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE MISSOURI FARMER

COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE AND THE MISSOURI EXPERIMENTAL STATION

Let Us Save the Farm Waste

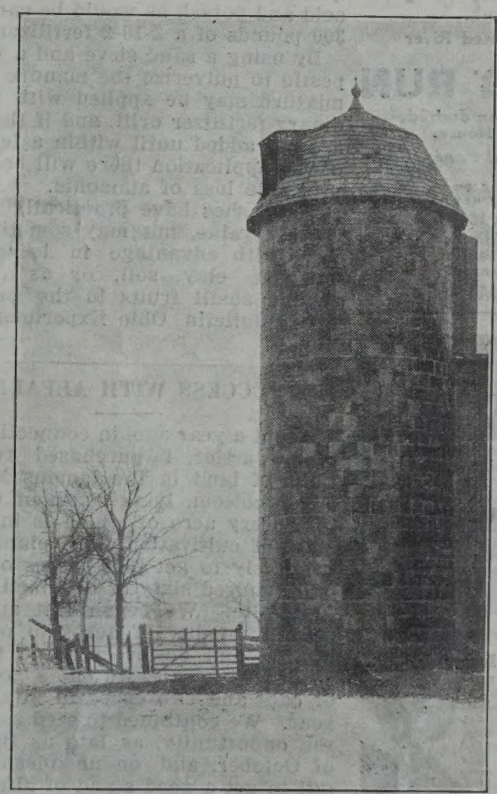
Competition compels every manufacturer to watch closely to save the waste or by-products of his plant from the sale of which he reduces the cost of his wares and materially adds to his profit. But careless methods and following in a rut have caused a loss to farmers that would have bankrupted any other business. There are many leaks on the farm which cause material loss but the greatest waste is the failure to save the corn fodder and utilize it for increasing the profits of growing live stock.

Annually Missouri farmers cultivate one-sixth the whole area of the state in corn. Last year—a drouth year—we produced on 7,421,678 acres a total yield of 175,158,072 bushels of corn valued on the farm at $115,257,869 for the grain alone. This was more than fifty per cent of the value of all our farm crops. The experiment stations have found and their findings have been proved by thousands of farmers that the forage of the corn crop when utilized by making it into silage is equal in feeding value to two-thirds that of the grain. Upon that basis the value of last year's corn fodder if made into silage would have been worth $76,871,912. Not more than one-half the fodder is saved under present methods and hence the farmers' loss for one year only amounted to $38,435,956.

Last year's loss on our corn fodder could it have been put into the silo would have paid for building more than 12,000 miles of gravel roads at $3,000 a mile. The loss would have paid for building a first class high school at a cost of $10,000 each, within easy walking distance of every farm boy and girl in Missouri. This wasted fodder made into sweet silage and fed to dairy cows would have paid the flour bill for every farm family in the state and then there would have been enough left to have paid the shoe bills and more.

Fifty years ago most farmers were cultivating a virgin soil and a crop could be grown with very little effort and in spite of adverse seasons of drouth or wet weather. Today we cultivate a depleted soil, the cost of labor has increased, the price of the land has gone skyward, insect pests have multiplied and the only way to make the corn crop pay its share of farm expenses and profits is to save the fodder by putting it into the silo.

The silo has become a positive necessity on every modern, well regulated farm where live stock is kept. The dairy farmer finds the silo essential to success in winter and almost equally valuable in time of short pastures in a summer drouth. The breeder of purebred stock finds silage a most valuable feed in the growing and development of breeding animals. The feeder of beef cattle finds that a ration of corn silage supplemented with cottonseed meal and clover or alfalfa hay will greatly lessen his cost of making beef. The man who keeps horses or mules, sheep or hogs, poultry or any other class of animals will find profitable use for silage made from many crops which are not now otherwise used to good advantage. The cost of a silo will prove a good investment on most farms and a means of saving the greatest of all farm wastes.



A Hollow Tile Silo on farm of Marshall Gordon, president Missouri State Dairy Association, Boone County, Missouri. (See page 13)

GEO. B. ELLIS
MANAGING EDITOR

VOL. VII MAY 1, 1915 NO. 9

WILLIAM HIRTH
PUBLISHER

ASHES AND HEN MANURE

Unleached hardwood ashes should contain about 5 or 6 per cent of potash with one per cent of phosphoric acid. But potash seldom produces its full effect unless used in connection with more phosphorous than is contained in ashes, and therefore ashes should be mixed with some such carrier of phosphorus as acid phosphate or steamed bonemeal. 250 pounds of unleached ashes and 180 pounds of 16 per cent acid phosphate would carry as many pounds of phosphoric acid and potash as would be found in 300 pounds of a 10-4 fertilizer.

Ashes are about one-third lime, and the addition of lime to acid phosphate causes the reversion of part of the phosphorus from the water-soluble to the citrate-soluble form, but this is no longer considered a serious matter. There is usually sufficient lime in the soil to cause this reversion, and if there is not, there should be, because this quantity of lime is essential to full crop production. For example: at the Ohio Experiment Station 320 pounds of acid phosphate has increased the value of crops by $15.20 on unlimed land, and by $24.20 on limed land, over and above the cost of the acid phosphate and the lime, as a 10-year average.

A ton of fresh hen manure should contain about 22 pounds of nitrogen, 20 pounds of phosphoric acid and 10 pounds of potash as a general average. When air-dry, hen manure should contain about 40 pounds of nitrogen, 40 pounds of phosphoric acid and 20 pounds of potash in the ton. Fresh manure from fattening cattle should contain 15 pounds of nitrogen, 8 pounds of phosphoric acid and 10 pounds of potash per ton, while as a general average, mixed barnyard manure, after exposure to the weather in open yards, is estimated to contain 10 pounds of nitrogen, 6 pounds phosphoric acid and 10 pounds potash to the ton. A ton of dry hen manure is therefore worth approximately as much as four tons of average yard manure.

Many persons propose to mix ashes with hen manure, but no material containing lime, in the form in which it is contained in ashes, should be mixed with moist manure, as the lime will cause the liberation of a considerable part of the nitrogen in the manure, and it will escape as ammonia gas. Ashes and dry hen manure may be mixed immediately before applying the manure, as the ammonia will mostly be absorbed and held by the soil.

The proper material to mix with manure is acid phosphate, as this serves to fix the ammonia, instead of liberating it and also re-enforces the manure with phosphorus, which is the element most needed by most Ohio soils.

At the Experiment Station, and as a 16-year average, 8 tons of fresh cattle manure has produced increase of crop to the value of $26, the manure being applied to corn in a 3-year rotation of corn, wheat and clover. When the same quantity of manure has been reenforced with 320 pounds of acid phosphate—40 pounds per ton of manure—the net value of increase, after deducting the cost of the phosphate, has been $39.

Acid phosphate, sprinkled over the dropping boards, will reduce the loss of ammonia and increase the effectiveness of the manure.

A mixture of 250 pounds dry hen manure, 150 pounds acid phosphate and 100 pounds unleached hardwood ashes will contain practically the same quantities of ammonia, phosphoric acid and potash as would be carried in 300 pounds of a 2-10-2 fertilizer.

By using a sand sieve and a wooden pestle to pulverize the manure such a mixture may be applied with the ordinary fertilizer drill, and if the ashes are not added until within a few days of the application there will be no appreciable loss of ammonia.

Coal ashes have practically no fertilizing value, but may sometimes be used with advantage in loosening a compact clay soil, or as a mulch around small fruits in the garden.—Press Bulletin Ohio Experiment Station.

POOR THRESHING COSTS DOUBLE

It wastes the farmer's grain by throwing too much into the straw stack.

It wastes the time of both farmer and thresherman by bother, breakdowns, etc.

It loses the thresherman the best jobs and the best of his run.

THE RED RIVER SPECIAL WILL SAVE ALL THIS LOSS

The farmer should insist on the RED RIVER SPECIAL doing his threshing. He has a right and it is his duty to do this. It is his grain that he has worked hard to plant and harvest and the loss falls upon him.

The RED RIVER SPECIAL employs the only correct principle for separation. It uses force to get the grain out of the straw. *It Beats it Out!*

It Saves the Farmer's Thresh Bill

C. L. Erickson and ten other farmers of Paswegia, Saskatchewan, say: "We want the Red River Special outfit to do our threshing next year as it saves all of our grain."

The shrewd thresherman should equip himself with the outfit that is popular with the farmers and that makes him more money by doing better work and more work.

Provide yourself with the Red River Special outfit and

GET THE BIG RUN

Write us for any information desired. Visit our Factory or Branch House.

Send for new Red River Special Paper, FREE

NICHOLS & SHEPARD CO.

(In continuous business since 1848)

Builders of Red River Special Threshers, Wind Stackers, Feeders, Steam Traction Engines and Oil-Gas Tractors

(8) **BATTLE CREEK, MICH.**

Lightning Can't Strike if

Illustrated Book on Lightning free. Explains cause and tells what kind of rods will protect your building. W. C. SHINN, 141 No. 19th Street, Lincoln, Nebr.

Shinn Gets There First

9 Art Rose Poster STAMPS sent free with "How to Grow Roses" — a book every rose-lover should have. 10 chapters telling about soils, planting, growing, pruning, etc. Not a catalog. Price 10c postpaid includes 25c coupon good on first $1 order. Our 1915 *Rose Guide*, offering nearly 400 varieties—the cream of the world's best roses, FREE. Send for it *today*.

The CONARD & Jones Co., Rose Specialists. Over 50 Yr Experience Box E West Grove, Pa.

OFFICIAL DENIAL

NO WAR TAX on HOMESTEAD LAND in CANADA

The report that a war tax is to be placed on Homstead lands in Western Canada having been given considerable circulation in the States, this is to advise all enquirers that no such tax has been placed, and there is no intention to place a war tax of any nature on such lands.

(Signed) W. D. SCOTT,
Supt. of Immigration.

Ottawa, Can., Mar. 15, 1915.

SUCCESS WITH ALFALFA

About a year ago, in connection with other parties, I purchased two sections of land in the famous Missouri River bottom, lying south of Carrollton, every acre of which is in a high state of cultivation. We planned immediately to get forty acres on every one hundred sixty of this land, seeded to alfalfa. We began last spring to seed a number of acres to oats and alfalfa, and on every piece that we seeded with oats, we cut a good crop of oats and two crops of alfalfa, last year. We continued to seed as we had the opportunity, as late as the tenth of October, and on no piece did we fail to get a good stand of alfalfa, but I am somewhat uneasy about some of this alfalfa, and wish your advice on the matter.

On some fields of alfalfa, the roots are thoroughly alive with nodules, showing a great abundance, while on other fields where the soil is apparently the same, I can not find any at all. I have tested the soil from a number of these fields and find that all contain, apparently, plenty of lime, and I can not find any reason why there are no nodules on some of this alfalfa. None of this land was inoculated before seeding; neither did we inoculate any of the seed. The alfalfa which is thoroughly alive with nodules does not appear to be any healthier, or does not seem to be making any better growth, than that on which there are no nodules.

Can you tell me what will be the outcome of this alfalfa, on which there are no nodules, and in your judgment will it continue to live and grow? Could I do any thing for it, or would inoculation do any good after the alfalfa is six months to a year old? We have improvements on every one hundred sixty of this land, and it is our purpose to divide it, and sell it in tracts to suit the purchaser, and for this reason we would not stand back on any reasonable expense, in order to help this alfalfa.

I wish to say that I am a regular reader of The Missouri Farmer, and like the paper very much, and am glad to say that I have been able to get more than its cost out of any one of its issues. E. H. Quisenberry, Carroll County.

Where there is plenty of available nitrogen the alfalfa may not show the nodules because they are not needed. This condition is most likely to occur on the rich bottom lands like you describe. If the land is the same I do not see why there should be any difference but the difference may be in the way the land has previously been handled.

So long as the alfalfa shows a good dark green color and grows well you need not worry about it. You can inoculate, however, if it shows a need of it later, by scattering inoculated soil over the field and disking it in immediately. Go to the field where plenty of nodules are found on the alfalfa roots and dig up from the top 7 or 8 inches of soil enough to spread 200 to 300 pounds per acre over the field needing inoculation. It is better to do this on a cloudy day as the sunlight will soon kill the bacteria if it comes in direct contact with them. You had better do this just after the first or second cutting and then follow up the sowing with the disk so as to work the inoculated soil into the ground. If there are any weeds starting this disking will help to get rid of them. However, I would not worry about inoculation so long as the alfalfa was growing all right and showing the dark green color.—The Editor.

Neighborizing the Farmer

One of the most significant facts of our telephone progress is that one-fourth of the 9,000,000 telephones in the Bell System are rural.

In the days when the telephone was merely a "city convenience," the farms of the country were so many separated units, far removed from the centers of population, and isolated by distance and lack of facilities for communication.

But, as the telephone reached out beyond cities and towns, it completely transformed farm life. It created new rural neighborhoods here, there and everywhere.

Stretching to the farthest corners of the states, it brought the remotest villages and isolated places into direct contact with the larger communities.

Today, the American farmer enjoys the same facilities for instant, direct communication as the city dweller. Though distances between farms are reckoned in miles as the crow flies, the telephone brings every one as close as next door. Though it be half a day's journey to the village, the farmer is but a telephone call away.

Aside from its neighborhood value, the telephone keeps the farmer in touch with the city and abreast of the times.

The Bell System has always recognized rural telephone development as an essential factor of Universal Service. It has co-operated with the farmer to achieve this aim.

The result is that the Bell System reaches more places than there are post offices and includes as many rural telephones as there are telephones of all kinds in Great Britain, France and Germany combined.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy *One System* *Universal Service*

Finds Lots of Good Points in The Missouri Farmer

Find enclosed check for one dollar, payment on your paper, which was sent to me through the kindness of a friend. Have been negligent about remitting but will be more prompt hereafter. We like your paper very much and think you should be complimented. We are raising cowpeas, alfalfa and other crops in rotation, and find lots of good points in your columns. Think every farmer should have The Missouri Farmer. Bert Caldwell, New London.

Made Colony Chicken Houses—They Are Fine.

Sirs:—Enclosed you will find one dollar for which please mark our paper up three years. Do not know who has been sending it to us but we like it. I had some colony chicken houses made like those described in your February paper only they have glass in the front and they are fine. S. Allen Brooks, Liberty, Mo.

The Missouri Farmer

VOLUME VII MAY 1, 1915 NUMBER 9

Team Work for Betterment of Agriculture in Missouri

By Geo. B. Ellis, Managing Editor

Any boy who ever drew the reins knows the value of team work in the use of animals for farm power. He knows how important it is in mating his work teams to select those individuals for the make-up of a team, whether it be a team of two, three or more animals which by gait, endurance, strength and disposition are not only equally matched but which have been trained to work together. The larger the team, that is the greater the number of individual animals in the team, the greater the importance of every animal fitting into his niche and doing his full part of the pulling. With a team of four, six or eight horses it is really necessary to have a big and strong pair for the "wheelers"—a pair that will throw their full power against the collar and hold until the lighter leaders swing into line and the combined power of the whole team moves the load. How often have we seen the "leaders" too quick for the "wheelers" try their strength at the load and fail because they did not "hang" until the sturdy old team put their weight into the collar.

All Must Pull Together

Missouri agriculture offers great possibilities for effective team work. We have a lot of individual strength for good in agricultural betterment but the individual can move but a small load as compared with the united effort of the whole team. What we need now to put Missouri in the very fore front of agricultural progress is for everybody from the individual farmer, the local farmers' club and the grange on up to our college of agriculture, the board of agriculture and other state wide organizations to find their right place in this great agricultural team and then all pull together for whatever will make this a better state.

Nature has done much for Missouri, but she has left a plenty for men to do if we would have her lead in social, moral and intellectual progress. It ought to be the pride and ambition of every true and loyal Missourian to make the state as a whole stand for the very best there is in American citizenship and American homes. If this is ever done it will not be through individual effort alone but it will be when our forces are all united in one powerful team, working as one man, for one purpose, and for the good of all. It will be when we make the spirit of co-operation and team work the true Missouri spirit. This will require not only loyalty to state, and it matters not whether we are native or adopted sons, but it will demand of us enthusiastic support of every state institution together with an abiding faith in the future greatness of Missouri. The man who does not believe that Missouri possesses both in the quality of her citizenship and in her potential resources the raw material necessary to make this state the equal of the most advanced state in the Union will not be of any great benefit in the team work for the betterment of Missouri agriculture.

Must Be Loyal to Our State

The man who lives in Missouri and permits himself to believe that Nature has done more for other states or that there are better opportunities elsewhere will not fit into this team work to good advantage. He will lack the enthusiastic loyalty and unlimited faith that it takes to make a good team worker. The man who allows himself to think that the institutions of other states are superior to Missouri's institutions may not be expected to urge greater support to make our own better. The man who will send his son or daughter to the University or College of another state because of some slight or possibly only imaginary superiority is not putting any weight against the collar to make Missouri institutions of learning better than those of other states.

This team work for the betterment of Missouri agriculture should begin at home, right on the individual farm but it must not end there. The man who is doing good team work on his farm is the one who gathers from his agricultural papers, from bulletins, from books, from the farmers' institute, the grange or the farmers' club all the help he can get and then without prejudice—with a mind open to all the knowledge he can get proceeds to work out his problems on his own farm. But that is only the beginning of good team work—it is not all of it. We might say it is not team work at all but it is only the training necessary to fit a man for doing team work to accomplish the bigger things which need to be done. Small things only are done by individuals, great things require the united work of many.

What are the agencies which go to make up the team work for agricultural betterment in Missouri? At the head of the list should be placed the agricultural college, an institution whose leadership we should all willingly follow. It matters not that our agricultural college may sometimes make mistakes—it has made many mistakes—but with all that the progress in farm betterment would have been fifty per cent further along had we farmers accepted the leadership of the college with the mistakes thrown in. I am not arguing now that we should accept a fallacy or an impractical rule of farming but what I mean to say is that there has been so much more of good than bad in what has been taught by our college of agriculture that we would be ahead in the game if we were to take it all—the bad with the good.

The Agricultural College Should Be in Sympathy with Farmers

But while we are urging the individual farmers to accept the leadership of the agricultural college we are not trying to excuse the college for any mistakes it may make or may have made, for we think that institution should be held strictly to account for its responsibility of leadership. One reason the college of agriculture fails to do its best team work along with the other forces engaged is its lack of enthusiasm. We think as a rule agricultural colleges and the teachers therein are entirely too conservative—too much afraid of their ground. One reason for this is a lack of sympathy for the every-day affairs of the farmer's life and the lack of contact with farmers. If college professors were required to do a few weeks practical farm work every year—even though at the expense of that European trip so much desired—they would have a better appreciation of the thousand difficulties under which farmers are working. The agricultural teacher is too apt to become an idealist, as many of them are, overlooking the hard fact that on ninety-nine farms out of every hundred there are a thousand things to do, some of them really impossible, before conditions will fit the ideal. Whether we place the agricultural college at the wheel expecting the institution, through its great organization of teachers, investigators and extension directors, to move the great weight of the load; or whether we shall put it in the lead to direct the farmers so they can do most of the pulling themselves; we repeat that in whichever part of the team the college of agriculture finds its place, it must get in closer touch with actual farm conditions before the best work can be accomplished.

While we think enthusiasm for the farmer's betterment and sympathy with his life and understanding of his difficulties and hardships are all necessary before the college professor can fit into his place properly, we are convinced that it is of very much greater importance that farmers should cultivate a sympathy and confidence in their work, one for the other. In the great conflict of the nations across the globe the one thing that makes it possible to continue that inhuman struggle is the universal sympathy every man has for his fellows and the consciousness each individual has that he is fighting, not for himself alone but that he is fighting for his country. Team work in this great fight which is going on here and elsewhere for the betterment of agricultural conditions is only the new way of fighting the world-old battle of knowledge against ignorance. Just as we have learned, step by step, that the scythe and cradle were better implements than the reap hook and the reaper was a great improvement over the scythe and cradle and the self-binder and complete harvester were vastly better than the old-time reaper, so we must learn step by step that to work together we can accomplish more for ourselves and for the good of all than to keep on in the old time way of individual effort.

The Indian let his ponies browse the brush or graze the prairie and compelled his wife to laboriously plant the corn with a blunt stick. The Indian did not know the value of team work and his race has been almost wiped off the face of the earth and the white man has taken his place.

The Future of Missouri Is in Our Hands

Team work simply defined means efficiency—a better way of doing the same things we have been doing and of doing things impossible under individual methods. We have been doing some team work for a long time in Missouri but we ought to do more. The old-time subscription school might be said to have been the first step in team work in education. Before that each family hired its own teacher. It required some sacrifice of opinion and compromise of differences to get together and all use one teacher. But what would we think of the old subscription school today? Team work has given us our present public school system not only free to every child in the state but every child not otherwise provided for compelled to attend. With the graded elementary school, the high school, the state normal school and the state university all free to any child who will attend, we have made a big step from the old family method of teaching the children and really with thousands of them not taught, and all this the result of team work in education.

Whether in the future Missouri shall be called a great state; whether we as a people will be known as enlightened, progressive and successful in business; whether or not we shall hold our own with other states in the rapid strides of the world's development; it will all depend upon whether or not we can bring together in one powerful harmonious working body the college of agriculture, the board of agriculture, the state farmers' organizations, the local farmers' clubs and the individual farmers. Team work means united work, it means sacrifice of personal opinions at times but compensation will come in the general agricultural betterment and each individual will get a greater share than if he were working independent and alone.

JOHN IMPROVES THE FARM

John D. Lawnsdale inherited the old homestead two years ago. He had worked hard to build it up, and had determined to place the farm on a permanent and paying basis. With this in mind he had applied fertilizer and energy in increasing amounts.

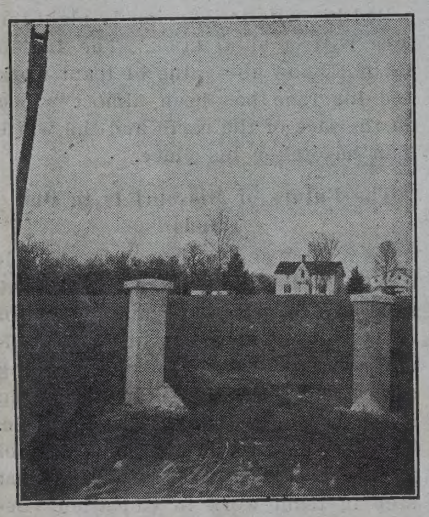
He was coming home from town one day with a load of concrete fence posts and met his neighbor George Martin, who said,

"Hello, John, what are you going to do with all those concrete fence posts?"

"I am going to repair that old fence line next to my west cornfield near the creek pasture. The cattle gave me so much trouble there last summer that I decided I would not fool with them any longer. Those old wooden posts have all rotted off and I decided to replace them with something that would last."

"They must have cost you a lot of money, didn't they?"

"No. They did not cost me so very much. I only paid thirty cents apiece for these and the Citizen Lumber Co. is asking twenty-five cents apiece for good cedar posts. I think these are well worth five cents more because I don't think I will have to replace them as long as I live here. I put in a few



A pleasing entrance to the farm.

last year and I liked them so well that I am going to put in about eight hundred this spring and about one thousand next year. Do you know that old pasture lot where that old rail fence used to be?"

"Yes."

"Well, I cut that old rail fence up and made stove wood of it. It certainly made good fire wood and made lots of good wood for Mary to cook with. I think that the old hedge fence and rail fences are relics of the past. We should no longer tolerate these inefficient forms of fencing.

"Why, when I tore that old rail fence down, I found that it was nothing but a harbor for weeds, mice and other pests. I burned the brush and killed about a million insects and chinch bugs that were wintering there. Concrete fence posts for mine. I can now burn the weeds along the fence every season and thus get rid of a lot of pests and weed seed. The concrete post will not burn and it is pretty easy way to clear the farm of weeds.

"Wood posts do not last long and good posts are hard to get now. While well made concrete posts are practically indestructible and also possess many other advantages."

"Those posts do not look like they would be strong enough."

"Oh yes they are, they will stand all the strain an ordinary fence will get. They are reinforced with No. 3 steel rods placed in each corner of the posts about three-fourths of an inch from the outside so that they will be well covered. All concrete posts should be well reinforced. I have known of some people using old rusty barb wire fence. But this does not make good reinforcement. The purpose of reinforcing is to add strength to the post. Old rusty wire and scrap iron, which in itself has become weakened by rust and corrosion can not add strength to the concrete. The most desirable reinforcing is the round, square or twisted square rod."

"I wish I had some of those but I haven't got the money to buy them."

"Well, George,I tell you what I am going to do after this. I am going to make my own posts. Bill Jones over on Providence Road made his own posts and they only cost him seventeen cents apiece not counting the labor he put in on them and he had to pay $1.10 per cubic yard for his sand and gravel, 3c a pound for his reinforcement and 40c per sack for his cement. Now, I am going to use the sand and gravel from the old creek bed in the pasture. It is just right to make good concrete. Then all I will have to buy will be the reinforcing and cement. That will make the posts cheaper than good wood posts."

"How do you make them? Are they hard to make?

"No, they are not hard to make and any one who is handy with tools can make a set of post molds in a short time, or he can buy them already made."

"What mixture do you use?"

"You can use a mixture of 1-3—one part of cement to three parts sand, or if you screen and grade the sand and gravel, which is better, you can use a mixture of 1-2-4 using no larger aggregate than will pass through a half inch mesh sieve. For gate posts and corner posts larger sized gravel can be used.

"There are two methods of making concrete posts, namely: the wet and the dry methods. In the first method, the concrete is mixed rather dry and tamped in the molds. The molds are then removed and the posts allowed to cure. In the curing of the cement posts they are kept damp until they are thoroughly set. This is done by sprinkling them with water and covering them with wet straw or sand."

"How do you fasten the wire to the posts?"

"There are a great many different ways. Sometimes holes are made through the posts by placing small pins or greased bolts in the forms. These are removed before the concrete has set, leaving a hole through which a short wire may be placed to fasten the line wire. This method is more or less unsatisfactory. There are also several patent fasteners on the market, but their use increases the cost of the posts. Usually the cheapest and simplest way is to fasten the wire to the post by wrapping a small wire around the posts."

"By the way, here is a picture of my new gate posts I put in this spring. Mary's cousin was out from town last Sunday and she took a picture of the place. She gave me this one when I was in town today. I haven't the gate put up, but will have soon. The gate won't sag on these posts."

"Well, John, you certainly have made a great improvement on that old place since your father died. If he were to come back, he would not know the place. It certainly looks good. So long, John. I am coming over to see you soon and learn some more about these concrete posts."

"All right. Good-by George. Come over and bring your wife along. Mary will be glad to see her. If I were you, George, I would write to the Agricultural Experiment Station at Columbia, Mo., and the various cement companies and ask them for their literature on making concrete fence posts. These free bulletins which they send out certainly contain a lot of valuable information." M. A. R. Kelley,
Instructor in Agricultural Engineering

HOW TO INTEREST THE BOYS AND GIRLS

Last year the Farm Bureau organized some Tomato Clubs where the girls were to grow and can a tenth acre. Where local leaders were obtained success resulted regardless of a very poor season.

A club conducted by Mrs. Irb Miller of Pittsville and Mrs. J. E. Deal of Holden was especially successful. Mrs. Miller started with only seven girls and four of those became discouraged by dry weather and army worms and dropped out. Now she has twenty girls wanting her to be their leader this year. It was a member of this club, Mary Turnbow, who won the State Trophy offered at Columbia. What is more this little girl, twelve years old, sold $50 worth of tomatoes from her tenth acre and will use this money to attend High School.

The Story of Mary Turnbow

Mary, as the accompanying picture shows, is rather small for her age. She lives in the village of Pittsville and had no land available. A neighbor who lives a mile away let her have a piece of land. Each day she walked back and forth to her garden and cared for her plants. In July a Home Economics school was conducted in the neighborhood and she attended this so as to learn how to can her tomatoes. When the tomatoes began to ripen not only must these long trips be made every day but fruit must be picked and carried home. Sometimes, but not always, she had the use of the family horse for this work. The season was far from good but she put up about 300 No. 3 cans and sold enough fresh tomatoes to bring her income to $50. Think of it, $500 income per acre and by a little girl, too. The following is her own story of the work:

The girls of this community met this spring and organized a club which we called, "The Girls' Agricultural Club." There were fifteen members and they were all willing to help make our club a success. Our club did a great deal of good work in this community and it is also helping children

Mary Turnbow, 12 years old made $50 from one-tenth acre of tomatoes.

of other communities to organize such clubs as ours.

These clubs make us feel like we had rather stay on the farm than go to the city, and this is what we are all working for. We had such good success with our Agricultural Club we organized a Sewing Club to last through the winter.

Transplanting: First the ground was plowed, harrowed, then worked over with hoe and leveled down. I next made my rows three feet apart, set my plants three feet apart. Before I set them out I put a small quantity of chicken manure on each of the hills. Then I set the plants deep enough so the dirt came almost up to the first leaves.

When I had them all set out the rows were checked. The tomatoes were "Early June" and "Ponderosa." (Stone variety would have been better, C. M. L.) To set them out it took me two hours. The plants cost 25c.

Watering: Every evening about sundown I put a cupful of water on each plant. This took me twenty minutes.

Cultivating: I first hoed all the dirt loose around the plants then while the plants were young and tender I kept the dirt around them so the sun would not sunburn them. This took me two hours.

Nell Shelton, member Industrious Roberts club, won state prize for first essay.

Delta Deal Makes $40.

Another successful club member is Delta Deal. Her income exceeded $40 from a tenth acre. She was a member of the "Industrious Roberts Club." Not only did she can tomatoes but she put up a fine display of all kinds of fruit and vegetables in glass. This display won her several dollars in prizes in the township and county exhibits, and her club work won her a free trip to Farmers' Week at Columbia. She also won a trip to the State Fair at Sedalia, owing to her proficiency in canning. Here her work was admired by many people throughout the state.

Miss Nell Shelton Wins State Prize

We show herewith the picture of Nell Shelton, another member of the Industrious Roberts Club. Nell won the state prize offered at Columbia for the best essay on "Canning Tomatoes" accompanied by a can of tomatoes. She also won a trip to the State Fair last fall where she and Delta Deal and Ethel Kaiser, another Roberts Club girl, put on a demonstration in canning under the cold pack process.

Floy McWethy, another Roberts Club girl, got an income of about $40 from her tenth acre. Mary Brown of Post Oak, sold $30 worth to her neighbors

but canned none, except for home use.

Not only have these girls made some money but what is far more important they have learned how to preserve fruit and vegetables in an easy, cheap and wholesome manner for home use.

C. M. Long.

WHAT TEAM WORK IS DOING IN JOHNSON COUNTY

What a fine thing it would be if we had the money in the bank to our credit that would represent the loss we have sustained from hog cholera during the past five years. Yes, the amount covering the loss for one year would look pretty good in these times of high priced feed and slim bank accounts. And just to think we could save practically every dollar of this waste if we farmers could divest our minds of our little prejudices and jealousies and preconceived notions of our own and just do a little team work by counties like the farmers of Johnson County have been doing for about a year under the leadership of C. M. Long, county farm agent, in a fight to rid their county of hog cholera.

Map No. 1 on this page will give you some idea of what the proposition was when Mr. Long under the able direction of Dr. Connaway and assisted by Mr. M. I. Hurley, organized more than twenty teams explicitly anti-hog cholera clubs and began the fight to control cholera in Johnson County. This map shows the condition before the hog cholera control work began. From a careful census of the county Mr. Long ascertained that the loss from hog cholera in Johnson County for three years previous to the time of this clean-up work amounted to approximately $116 per farm on the average or a total loss for three years of nearly $450,000. Now turn to Map No. 2 and observe the cholera infected farms found in the nearly six months, Oct 1, 1914, to March 21, 1915. It will be observed from the legend under the map that about half of the farms indicated were not infected farms but on these farms the hogs were merely treated with serum as a means of protection. According to the reports the losses have been reduced from an average per farm of $116 to $6.25 per farm; quite a nice sum saved to the farmers of that county.

A look at this Map No. 2 shows that nearly all the infected farms for the last six months have been in the northern part of the county. Across the line in the adjoining county to the north there is no organized work for the control of hog cholera. In this territory it is reported that a great many farmers use the simultaneous method and that there has been a great deal of cholera in that territory. This shows very clearly what it would be worth to have the entire state all under close organization and strict supervision so that sanitary measures could be enforced. With the kind of work they have done in Johnson County extending to every county hog cholera could be put under control and practically exterminated inside of two years.

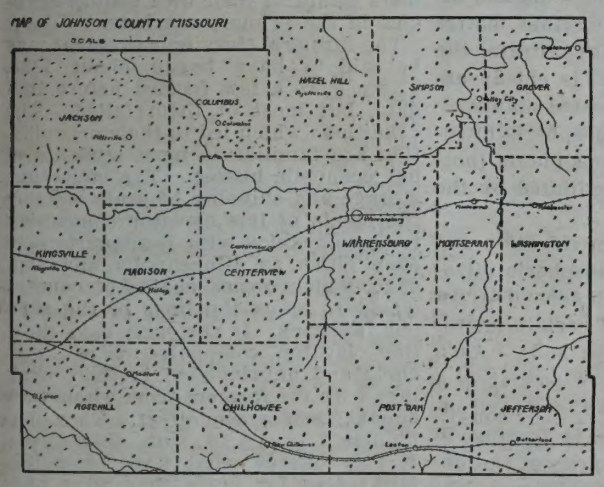
Another line where team work is showing up to great advantage for the farmers is the campaign started by Mr. Long to get the farmers to plant soybeans this year as a protection against possible loss from chinch bugs. One farmer expresses the idea pretty clearly when he says, "If we must fight the chinch bugs and can do it with soybeans and at the same time make money out of it, then I am for it. That's the kind of war I like to engage in."

Under the invitation of the County Farm Bureau the business men of Warrensburg and Holden have put up $1200 in cash for prizes to be offered for the most successful growers. Seed enough to plant from one to four acres is furnished free to each contestant, but the contestant agrees to pay back to the Bureau next fall one and a half bushel of soybeans from his crop or $3 in cash. The first prize is $200 cash for the greatest yield of soybeans grown on one acre and this is followed by other prizes of $25 and lower. These large prizes are offered on the condition that 1000 acres are entered in the contest. Should there be only 500 acres in the contest then the prizes will be only one-half as large.

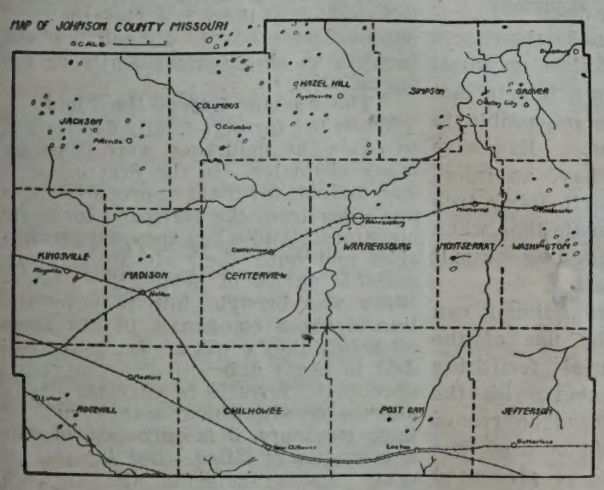
The farmers, business men and newspapers are taking hold of this contest in admirable fashion and if Johnson does not have soybeans for sale next year instead of wanting to buy we will miss our guess. The interest in the contest is shown by the fact that the county papers are devoting large space to exploiting it and one paper, the Star-Journal, has given over the front page to the plan and to information about the crop. The reasons given by Mr. Long for putting on this contest are summed up as follows: They make a crop wet or dry. They are well adapted to thin land but will grow on any kind of soil. The crop has already been raised in the county sufficiently to prove its value over other crops. The crop is profitable, the seed often selling for $3 a bushel. Yields of from 10 to 17 bushels of seed per acre were grown last year and then there is the hay crop besides. Soybeans do well when planted with corn and it is thought they protect the corn from chinch bugs. Oil is extracted from the beans and the meal is equal to cottonseed meal for feeding stock thus insuring a market after the seed demand is supplied.

Why should we stand back and criticise others for what they are trying to do? Why not get into the game ourselves and try to win? We would not advise dropping off a large acreage of any established crop to grow soybeans but every farmer who feels the need of protection against drouth, against the loss from chinch bugs and who wants to find a crop that will grow on thin land and a crop that will help to improve the fertility of the land should try at least a small acreage of soybeans this year.

Keep your eye on Johnson County team work for the eradication of hog cholera, the growing of soybeans, for marketing eggs directly, for the girls' tomato clubs and other useful lines of work inaugurated by the Johnson County Farm Bureau. No individual or community can stand still. We must either go forward or backward and the way to go forward is for every man to put his shoulder to the wheel and push.

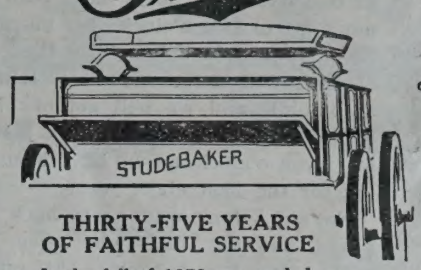


Map No. 1. Showing distribution of hog cholera before the anti-hog cholera campaign was started by the County Farm Bureau under the direction of Dr. J. W. Connaway, Veterinary Department, University of Missouri.



Map. No. 2. Showing distribution of hog cholera and herds treated from Oct. 1, 1914, to March 21, 1915. The open circle (o) indicates farms where the herds were treated for protection. The solid (.) shows where cholera was found during these six months. Compare these two maps to get the value of the clean-up work.

Studebaker
WAGONS BUGGIES HARNESS



THIRTY-FIVE YEARS OF FAITHFUL SERVICE

In the fall of 1878 we needed a wagon to haul our wheat. Mr. Smith arose early one morning, and riding one horse, led the other to Eugene, ten miles away, and bought a Studebaker wagon from A. V. Peters, the Studebaker agent there.

I well remember his getting home at midnight, for I sat up and kept his supper warm for him.

My eldest child, born in June, was three months old.

The old Studebaker is still our favorite wagon. It is in good condition.

Mrs. W. T. Smith,
Natron, Oregon

Her "Baby" is now 35 years old—born year Studebaker was bought

MRS. SMITH of Natron, Oregon, well remembers the day her husband drove home the Studebaker, for her little one was three months old. And during all the years he was passing through babyhood, boyhood and on to full-grown man's estate, that faithful wagon was at work making money for the family and cutting down the cost of the investment.

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Such durability would not seem surprising to you if you knew the methods, the material and the men on which the reputation of Studebaker wagons is based.

Studebaker wagons owe their long life to the manner in which they are built, and the materials built into them. Air dried, selected lumber alone is used. Steel and iron are tested for ability to stand strain and stress. Even the paint and varnish used on a Studebaker wagon undergoes a chemical analysis.

And there is a great deal more in manufacturing wagons than the mere fact of putting wheels, gear and body together. A wagon must hang right and ride right. It must be built to stand rough work, to carry all sorts of loads and to travel over all kinds of roads.

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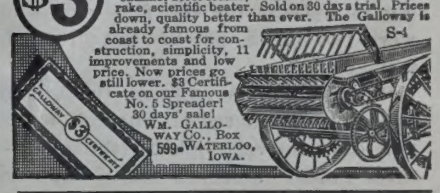

Seed Corn--Cow Peas

Reid's Yellow Dent, St. Charles White, Early 85-day yellow and white corn, all $2 per bu., bags free. Medium and early Soy Beans, $3 per bu. Cowpeas, $2.75 per bu. Orange and Amber Cane, Kafir Corn, $1.25 per bu. Correspondence solicited. Prompt Shipment.

LEONARD SEED CO., Marshall, Mo

PRACTICAL FARM PAPERS—No. 11

A man came along the other day and said that he did wish we could go back to the "good old times" of fifty years ago, and I said, "Please excuse your uncle, C. D." Since we had that talk about old times, I have been looking about, and thinking over the difference between farm life in 1860 and 1915, and will write of some few things as I see them on my own and nearby farms. Our team is a rather light one of three horses, but Harry goes out in the morning with the light, fourteen-inch sulky plow, turns a fourteen-inch furrow seven inches deep, all day, two and a half acres, and turns it easier on the team than we did a ten-inch furrow, six inches deep, with the old Thompson walking plow, and he does not have to lift a 110 pound plow, six feet, at each corner. When he harrows he takes the sixty-tooth nine-foot steel harrow, and does more good at one working than we did at two workings, "half lap" with the old A harrow. Fifty years ago this spring, we planted twenty acres of corn. First father furrowed the land one way with a one-horse plow, then we were ready to plant. He started to furrow cross ways. Mother and I dropped the seed while uncle Jim and another man covered with hoes, it taking about two and a half days to plant twenty acres. When we go to plant now, one man gets on the check rower and with two horses plants ten acres a day, or more, even in our small fields and short rows.

I have cleared an acre of land since last fall, with only three or four days work to do on it now.

I compared my ax with the old six-pound Williams hand made ax that cost $2 in 1860, and my mattock with the one "Uncle Sam" Yearsley made for father in 1865 at a cost of $2.50, and I guess that if I had had such an ax and such a mattock, that acre of timber would all be standing yet, while my new tools cost $1.25 each, as against about double for the old ones. Why, even the whetstone that I use to edge up the ax when it gets a little dull, cuts pretty near as fast as the old grindstone, that used to hang on two poles by the corn crib, and that whetstone is an artificial stone, too.

On the old 1000-acre farm grandfather owned, a 200-acre crop of wheat was reaped with sickles "back in the 40s," and father said that one day they had thirty reapers, all too cook for in an open fire place, all working at 75 cents a day, three meals and whiskey. He said that the women brought out a lunch for the men at nine o'clock in the morning, and another at four in the afternoon, a bucketful of hot water, sugar, ginger and whiskey with the afternoon lunch, to enable the men to stand the heat better! He said that the bottle of whiskey was sent to the field as regularly as the drinking water, and that while most of the men drank very moderately of it, all expected it, even to the extent of refusing to harvest for the few men who were "so mean, as to not furnish whiskey."

With our 100-acre farm, the fifteen to twenty-five acres of wheat is but a two days harvest job at the most—three men, three horses, and no whiskey.

That 200-acre wheat crop was threshed with a "ground hog" machine, simply a toothed cylinder and concave, the machine threshing, but not cleaning the grain, an operation which was performed with a "windmill," as the wheat fan of that day was called.

Sixty years ago we took the county paper and a city weekly, and got them from the postoffice, three miles away, on Saturday afternoon. Now we take a dozen weeklies and a city daily, and at one o'clock p. m. I have read the news up to two o'clock this morning. Next Monday morning, "Big Ike," our carrier, will make his first trip by automobile and we will get our mail by ten oclock in the morning instead of eleven o'clock, as we have been doing for the past eight years.

No, sir, I don't want to go back fifty years, and the man who sees 1965 will not want to go back to 1915 either.

C. D. Lyon.

APPLICATION OF LIME TO THE SOIL

An application of lime to the soil may become necessary on account of two general causes: First, because of an actual lack of available lime in quantities sufficient to properly and fully nourish the growing plant. Calcium is one of the ten chemical elements absolutely essential to normal plant development; and if it be wholly lacking in soils, even though the other essential elements are present in abundance the plant cannot develop naturally. Rarely, however, are soils encountered which are entirely without lime, although it is quite common to find soils which have been derived from granite rocks, sandstones or mica-schist, in which the percentage of lime is very low. In soils thus deficient in lime it would be correct to say that an application of this material would serve to furnish a direct plant food and when such a condition obtains, lime may be said to stand in the same class with other carriers of plant food usually used as fertilizing agents, such as acid phosphate, tankage, bone meal, etc.

Many soils, however, are abundantly supplied with lime by nature, so that it seldom becomes necessary for those who cultivate them to resort to liming. It would be just as irrational to apply lime where it is not needed as to omit it where it is required, and hence arises the necessity of ascertaining the needs of particular soils in this respect. This class of soils is usually formed by the decay and disintegration of, or the effect of former glaciation upon, limestone rocks. It sometimes happens, however, that even soils of limestone origin show benefit from liming also.

The second, and in the light of present experimental evidence, by far the more important reason for applying lime to the soil is for the purpose of counteracting the evil effects of free acids which may be present.

When the remains of plants undergo decay upon soils deficient in carbonate of lime and magnesia, acid or sour humus is likely to be produced, which is a condition particularly noxious to most agricultural plants. Such a condition is especially likely to occur even in upland and naturally well drained soils whenever heavy crops of green manure are plowed down, particularly in hot weather. In all such cases liming is an effectual and probably the most economical remedy.

Experiments have shown conclusively that where an application of plant food is required some form of available phosphorous must receive first consideration. But when soluble phosphates are applied to soils deficient in lime and magnesia the phosphoric acid combines with the iron and alumina of the soil to form compounds which are not readily utilized by plants. If, however, the soil is fairly well supplied with lime and magnesia this transformation is retarded so that the plant is afforded an opportunity to utilize much of the phosphoric acid before it becomes unassimilable.

Physical Effects of Liming.

The effect of lime upon the physical condition of the soil is oftentimes an important consideration in the practice of liming. Many clay soils when wet by rains are not porous enough to allow the water to pass through them with sufficient rapidity. In consequence we have a heavy water-logged soil and the air which is necessary for the healthful development of plant roots is excluded. In times of drought, also, such clay soils, as well as certain loamy soils, containing a considerable amount of clay, have a tendency to cake readily, thus becoming more difficult to till and less adapted physically to the growth of plants.

By causing the soil to become more open and friable, lime becomes an effective remedy for all of these unfavorable conditions. In this connection it will be readily seen that on heavy clay soils, lime becomes an important adjunct to effective drainage, since the soil having been rendered more porous by the action of lime, the excess of water is permitted to pass through it more easily and is more readily carried away by the drains.

On sandy soils lime has an exactly opposite effect. Such soils are frequently benefited by being rendered more compact and hence have a tendency to become less leachy in character and to be more retentive of moisture. It should be the aim to increase the organic matter in such soils by the use of stable manure, or by the occasional plowing under of green crops.

The process of nitrification is materially assisted and magnified by the presence of an abundant supply of lime in soils. Nitrification being the breaking down of the ammonia and nitrogen compounds in organic matter and the conversion into nitrate, the form in which nitrogen is chiefly assimilated by most cultivated plants.

The utilization of atmospheric nitrogen by certain leguminous plants (notably the clovers) is facilitated by the application of lime.

Both the process of nitrification and the assimilation of atmospheric nitrogen are processes which depend largely upon the activities of certain microscopic organisms in the soils. As a rule these organisms are partial to a neutral or slightly alkaline environment, and unless lime is present in sufficient quantities to prevent the development of an acid condition of the soil, the organisms cannot remain active.

Liming Sometimes Injurious

In view of the beneficial effects which nearly always follow an intelligent application of lime, it must not be supposed that it is impossible to overdo the business. Excessive amounts of lime may have an injurious action. This is particularly true of freshly slaked or caustic lime when used on soils containing small amounts or organic matter.

Continued success from liming can only be obtained by the use of the other essential manurial fertilizing constituents in connection with the lime. I know of no case on record where soils originally in need of lime have failed to continue to give good results from liming where care was taken to maintain a supply of the other essential constituents and where lime was applied in moderate amounts and the soil kept stocked with a reasonable quantity of organic matter.

The frequency with which liming should be practiced depends upon conditions; for example, upon the character of the soil, the quantity of lime employed at each application the number of years involved in the rotation, etc. The experiments on this point thus far indicate that two tons of ground lime-stone applied once in 5 or 6 years will be sufficient. Only very exceptional cases would call for a larger application. If soils which are very acid and have not previously been limed, are to be seeded, with the intention of allowing them to remain for a number of years, perhaps an application of 2 to 2½ tons might be advisable.

R. C. E. Wallace,
Purdue, Indiana, University.

FARMERS' CO-OPERATIVE GRAIN ELEVATORS

Just now the subject of co-operation among farmers is receiving a great deal of consideration and farmers are coming to realize that it is just as essential to cut down the cost of marketing a crop as it is to increase the amount produced. Some progress has been made in Missouri in establishing co-operative creameries, and co-operative societies for handling strawberries, peaches, etc., but so far not much has been done along the line of selling and buying grain. Co-operation for handling grain seems to have made much better progress in the Northern grain states and perhaps Minnesota has taken the lead of all others. We reprint the following excellent article from Farm, Stock and Home, by L. H. Weld, which shows many of the advantages of co-operative grain elevators, but also some of the reasons for failure:

There are two phases of the co-operative grain marketing problem: First, local co-operation through farmers' elevators; and, second, co-operative terminal marketing, whereby farmers establish their own selling agencies in the primary markets.

The farmers' elevator movement may be said to have begun about 1890. There were a few formed before that date, but most of them failed. The conditions which led to their organization are familiar to most students of our economic history. The collection, storage and shipping of grain were in the hands of line elevator companies, i. e., companies with headquarters in such cities as Minneapolis and Chicago, which owned chains of country elevators along the lines of the various railroads. In the early days these line elevator companies were rapacious and unprincipled in their dealings with the farmers from whom they bought their grain direct. They manipulated prices to suit themselves. If they offered what were ostensibly fair prices for grain they were only too apt to underweigh or undergrade the grain, or to dock the farmer unfairly for dirt and foul seeds. Secret favors from the railroads strengthened the position of these line elevator companies and made it difficult for the farmers to ship independently or co-operatively.

The Farmer Enters the Field

When the farmers finally determined to enter the field they were beset by many obstacles. In the first place, it was difficult for them to procure trackage sites from the railroads for their elevators. And when they did procure sites and built their elevators, every possible device of destructive competition was brought into play by the line elevator companies to kill them off before they could get fairly started. Add to these difficulties the inexperience of the farmers in business affairs and the resulting poor management of their elevators, it is only natural that a great many failed. But in spite of early discouragements the farmers persevered; and today we have a goodly number of successful farmers' elevators in many of the states of the grain belt—notably in Illinois, Iowa, Wisconsin, Minnesota, North Dakota,

South Dakota, Nebraska and Kansas.

Within the last ten years, farmers' elevators have been gaining very rapidly on line elevators in Minnesota. The farmers have not only been gaining in number but the latter have been rapidly decreasing. Some line elevators have been torn down, and the lumber hauled to Montana to be reconstructed. In 1906 there were in Minnesota 1,199 line elevators and 151 farmers' elevators. In 1912, according to the Railroad and Warehouse Commission, there were only 777 line elevators and 300 farmers' elevators. The Railroad and Warehouse Commission classifies as farmers' elevators all country elevators that call themselves by that name, but as a matter of fact, many of the so-called farmers' elevators are not owned by farmers at all.

In accordance with a law passed at the last session of the Minnesota Legislature, the University of Minnesota was authorized to obtain annual reports from all co-operative organizations in the State.

The Farmer as Elevator Owner.

As a result of this investigation, it has been found that on January 1, 1914, there were practically 270 elevators in Minnesota in which farmers owned more than 50 per cent of the stock. In most of these companies, farmers own practically all of the stock. These 270 elevators have an aggregate membership of about 34,500 farmers, an average of 128 members to a company. One farmer out of every five in the State belongs to a farmers' elevator company. One company has 600 members, one 500, two 400, and four between 300 and 400. The aggregate volume of business of these companies may be estimated from the reports received as approximately $24,000,000 per annum, of which about $22,000,000 represents the value of grain marketed and $2,000,000 the value of supplies, etc., purchased for members. The grain marketed through the companies constitutes about 30 per cent of the grain marketed by Minnesota farmers.

Extent of "Co-operation"

Of 239 companies reporting, all but thirteen, or 94.5 per cent of the total, have the one-man-one-vote principle. As for the limitation of number of shares, 39 companies, or 16.6 per cent of the number answering this question, set no limit on the number of shares that one person may own. The other five-sixths of the companies set limits ranging from three shares to fifty shares. One has a limit of 100 shares. Sixty-nine of the companies, or 30 per cent of those reporting, set the limit at ten apiece. Most of the others set limits of four, five or eight shares apiece. Twenty-six per cent of the companies report that they limit the dividends on capital stock, and distribute the balance on the basis of patronage. The size of the stock dividend is of interest in this connection. Only one limits it to 5 per cent; only nine to 6 per cet, three to 7 per cent, thirteen to 8 per cent, and sixteen—or the largest number of all—pay a dividend of 10 per cent before they distribute anything on a patronage basis. In other words, the patronage dividend has not been widely adopted, and in the majority of cases where it has been adopted, more than the current rate of interest is paid as a dividend on stock.

There are many who will doubtless conclude from these figures that the farmers' elevators of Minnesota are not co-operative in the true sense of the word. When elevators are owned and operated by farmers, however, and when they limit the capital stock that each member may own, and also have the one-man-one-vote principle, I believe that such companies are entitled to be considered as co-operative. Not but what I believe in the patronage dividend, for I think that every farmers' elevator should have it.

If a farmers' company can be run on a no-profit basis, so that there are no profits to divide, it is immaterial whether it provides for a patronage dividend or not. This is the case with live stock shipping associations, which distribute the full receipts from each shipment among all who ship. In the case of farmers' elevators, there are some that make large profits, but they are few in number.

During 1913, about 20 per cent of all farmers' elevator companies in Minnesota actually lost money. Out of 139 companies reporting, 59, or 42 per cent, paid no dividends at all on stock; there were only 18 companies out of these 139 that paid over 10 per cent. One paid 125 per cent, but that company has since adopted the patronage dividend. There were two that paid 25 per cent, and 6 that paid 20 per cent. Twenty-eight paid 10 per cent dividends.

The Reasons for Failure

It is apparent that many of the companies are having hard sledding, and it is well known that a few fail each year. These failures are due principally to poor management and inadequate accounting systems, and to the competition of line elevator companies. I visited a farmer's elevator in Southeastern Minnesota not long ago that had lost over $5,000 in one year. I found that it had marketed about $200,000 of grain and live stock and that this big business had been managed by a retired farmer who was hired for $50 a month. The books were in such bad shape that it was impossible to tell just how far behind the company was. It was not hard to determine why this elevator lost money, however, because I found that it had been handling large quantities of barley on a cent-and-a-half margin.

The average salary of managers of farmers' elevators of Minnesota is $1,032 a year, or $86 per month. The average salary of managers of elevators that made profits during 1913 was $1,056 a year, or $88 per month; of those that lost money, the average salary was only $933 per year, or $78 per month—$10 per month less than the successful managers received. Although the best of managers may have bad years, due to poor local conditions, there is apparently a definite relation between the size of salaries and the ability of managers.

Who Puts Up the Money?

Another interesting question is the method of financing farmers' elevators. The elevator has three sources from which it may borrow money: First, the grain commission men at the terminal market; second, local bankers; third, individual farmers. Information on this point has been procured from 158 of the 270 farmers' elevators in Minnesota. Fifty-one per cent report that they are financed in whole or in part by commission men; 72 per cent report that they borrow more or less from local banks; and only 13 per cent borrow from farmers. About one-fourth of all the elevators report that they are financed exclusively by commission houses. The average rate of interest charged by commission houses was 6.7 per cent; by local banks, 7.4 per cent; and by farmers, 6.3 per cent.

Although farmers charge the lowest rates, the commission firms charge much lower rates than the local banks. Local banks are often unable to extend sufficient credit, both because of lack of funds and because of the law limiting the proportion of capital or surplus that may be loaned to one person or company. The commission firms are, of course, glad to lend money in order to get the elevators' consignments, and a written agreement is required stipulating that the elevator company ship all or a certain proportion of its grain to the commission house that makes the loan. The commission firms in turn borrow from Minneapolis banks, and do not aim to make any profit on this transaction.

Although there is some disadvantage in an elevator's tying itself up with a single commission firm, it must be remembered that in the past there has been practically no other source from which the elevators could borrow money and that the commission men have performed a valuable service, especially in newly settled communities. Reliance on local sources is increasing rapidly in Minnesota, while in North and South Dakota the elevators still mainly depend on the commission firms.

What the Elevators Purchase

One of the most important features of the farmers' elevators of Minnesota is the extent to which they serve as a means of purchasing supplies for farmer members. Those who are interested in co-operative purchasing will do well to study the importance and methods of the farmers' elevators of Minnesota. As already said, the aggregate value of commodities purchased in this way through the farmers' elevators of Minnesota amounted to approximately $2,000,000 last year. Sixty-three per cent of all elevators reporting buy coal, 41 per cent feed, 40 per cent flour, 35 per cent binding twine, 18 per cent seeds and 16 per cent salt. Among other commodities handled are cement, tile, farm machinery, lumber and fence posts, oil and wire fencing. All but 41 companies out of 239 reported the handling of some commodity other than grain.

The Most Practical of the Lot.

I am sending you my renewal for your paper for three years and wish to state that I am taking five farm papers, one of them a dollar and a half a year paper, and I consider The Missouri Farmer the most practical of the lot. Chas. B. Keith,
Libertyville, Mo.

Firestone

Producing the Proof in Quality and Price

HERE they are—plain as day—the "extras" in Firestone Tires that cost you nothing extra!

Examine the section—note the piled-in values you get at average price; you need the extra fabric; you need that cushion stock—there isn't any in the average tire; why do without it when the cost is the same for Firestones?

The reason why Firestone Tires deliver so much more Mileage is in the "extras" you see here. And the reason for these "extras" is in the Firestone production—a simple business question of making and selling. Nobody can equal Firestone in Economy of Manufacture and Distribution.

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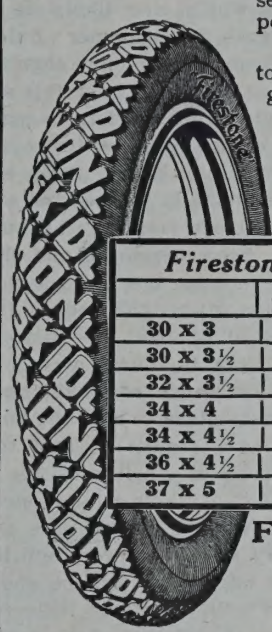
Examine the section—remember, too, that you get the same relative degree of Mileage no matter what size of tire you buy. The values are there—beyond question or dispute.

Your dealer has Firestones—for motorcycle as well as automobile. If not, he can get them easily.



Firestone Net Prices to Car-Owners

	Case Round Tread	Case Non-Skid	Grey Tube	Red Tube
30 x 3	$ 9.40	$10.55	$2.20	$2.50
30 x 3½	11.90	13.35	2.60	2.90
32 x 3½	13.75	15.40	2.70	3.05
34 x 4	19.90	22.30	3.90	4.40
34 x 4½	27.30	30.55	4.80	5.40
36 x 4½	28.70	32.15	5.00	5.65
37 x 5	35.55	39.80	5.95	6.70

Firestone Tire & Rubber Company, Akron, O.

"America's Largest Exclusive Tire and Rim Makers"

Branches and Dealers Everywhere

Actual Size 5-inch "Non-Skid" FIRESTONE

Fig. 1. 7 plies of Sea-Island fabric in Firestone —some are satisfied with 6.

Fig. 2. Extra coating of finest rubber between fabric layers in Firestone —not in the ordinary.

Fig. 3. ⅛ inch Pure Para Rubber cushion layer in Firestone —none in the ordinary.

Fig. 4. 3-32 inch Breaker Strip of Sea-Island fabric and high-grade rubber in Firestone —less in the ordinary.

Fig. 5. ½ inch Tread, tough, resilient, gripping in Firestone —less in the ordinary.

Fig. 6. ⅛ inch side wall of strongest rubber in Firestone —less in the ordinary.

Fig. 7. Firestone Bead, built into tire specially for clincher rims in Firestone.

In the ordinary tire the clincher part of bead is only a patch applied to straight side type to fill "clincher" space.

Yet you pay only $39.80 for this 37 x 5 inch Firestone NON-SKID—20% below the average of four widely advertised makes.

Firestone Tube Bag Free

Send us your dealer's name and the make of your tires and we will send you, free, a fine rubberized Tube Bag. Will keep tubes in prime condition. Write today. Get also, the Book on Care and Repair of Tires. Ask for Book No. 41

THE MISSOURI FARMER

Devoted to Better Farming, Better Farm Homes and Better Citizenship.

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Geo. B. Ellis - - Managing Editor

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Agents Wanted. We want some one to represent us in every community and make up clubs for which we will pay liberal commissions. Write us for terms and sample copies.

We solicit communications from farmers and members of the family on timely and practical subjects. Photographs illustrating farm life or plans for buildings, live stock, etc., are appreciated.

To render service is our aim and we will endeavor to answer all pertinent questions or have them answered by competent authority. When answer is desired direct, always inclose stamp.

Entered at the postoffice at Columbia, Missouri, as second-class mail matter.

BOYS' AND GIRLS' CLUBS

One of the best lines of work inaugurated by the University in recent years is the organization of boys' and girls' clubs. It matters not whether the club is organized for a contest in sewing, canning, cooking, growing tomatoes, feeding pigs or lambs or growing corn or whatever it may be the boy or girl who succeeds in winning a prize in one of these contests has his or her mind directed toward a successful business career. How many farmer boys or girls from ten to fifteen years old who can earn for themselves, independent of the regular work on the farm or in the household, forty or fifty dollars during the summer? On another page in this issue of The Missouri Farmer we print an account of a little girl only twelve years old who raised on one-tenth acre of ground last year tomatoes which she sold for fifty dollars. She had to walk a mile from home to cultivate the ground and gather the tomatoes and our readers will call to mind what a drouth we had last year, but in spite of all that this little twelve-year old girl got more money from a crop raised on sixteen square rods than thousands of farmers produce on eight hundred square rods (five acres at ten dollars an acre). Accounts are given of other girls who made from thirty to forty dollars from one-tenth of an acre for the tomatoes sold besides valuable prizes received at the county exhibit.

The girl who honestly earns the reputation for baking the best bread, canning the nicest fruit, sewing the best seam, or making the most profit from a garden she cultivates with her own hands, has already built the first round of a useful life. The boy who will put in his spare moments grooming a colt, feeding a pig or cultivating a field of corn with the hope of winning a prize at the county fair is laying the foundation for a successful farmer.

It is not necessary to take away from the boy or girl the time necessary for amusement and recreation in order to give them time to look after these special things. But when they become interested in a contest they will use their time to better advantage, they will work with more encouragement and with better heart and more intelligently, too, because they have their minds fixed on accomplishing something definite. If a club for boys and one for girls could be organized in every school district in the state and these were intelligently directed so that they would take up work adapted to local conditions, the farm practice of Missouri could be revolutionized in a generation. But the important thing gained would be the fixing in the habits of the future farmers of the state sound principles of farm management without which there can be no success. Let every boy or girl join a club and start a bank account.

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DO YOU FAVOR CHEAPER FARM LOANS?

In our last issue of The Missouri Farmer we gave a very complete synopsis of the Gardner Rural Credit Bill which was passed by the recent Legislature but which will require an amendment to the state constitution before it can become effective. The necessary amendment passed the House of Representatives but was not taken up in the Senate because it could not be reached under the rules of that body as there were a great many measures ahead of it on the calendar and not acted upon when the Legislature adjourned. To get this amendment before the people at the next election, it is necessary to submit it by iniative and that will require several thousand petitioners from at least eleven of the sixteen congressional districts of the state.

The Missouri Farmer has for many months given a great deal of space to the subject of rural credits because we think there is a real need for cheaper money to be used by farmers who want to buy a home, or to improve land already owned, to pay off mortgages maturing and probably difficult to renew under present conditions, or to buy live stock to utilize the forage that annually goes to waste on so many Missouri farms. It will be a sad day for this state if the time should come when most of the land would be owned by a few non-resident landlords and we had a rural tenant population like Ireland for instance and which has been the great handicap of the Irish people. We have now a tenant or non-land ownership problem facing us of much greater proportions than most people are aware of perhaps. Out of a total of 277,244 farms in Missouri according to the census returns of 1910 there were 192,282 farms operated by owners. Of that number 88,486 were reported to be mortgaged, 1,285 were not reported and 102,514 were reported free from debt. Thus it will be seen that out of every 100 farmers who are farming land they are said to hold title for more than 46 of them are struggling with a mortgage. If to the number of farmers with a mortgage we add the number operated by tenants we find there are 63 farms out of every 100 operated by either a tenant or a mortgagor as compared with 37 who really own their farms.

Even the man who now owns a farm free from debt is vitally interested in the tendency toward tenantry and mortgaged farms because it means that his children must face this problem with increasing difficulties against becoming home owners. Neither is the interest in the question confined to farmers alone. It is a well known fact that tenant farming when compared to farming under land ownership proves that as a rule the tenant takes less interest in maintaining the fertility of the soil, he takes less interest and contributes less time and money for the improvement of roads, the building and maintenance of schools, churches and other public institutions. If the tenant then is not so efficient and prosperous and permits the land to become impoverished in the face of our rapidly growing city population it is evident that every man, woman and child in the state has a vital interest in the general question of land tenure.

In this article we merely want to call attention to the status of the Rural Credit Bill now before the people and suggest what will be necessary before the bill can become a law. In a short time we understand petitions will be ready for circulation and any farmer who is interested and would like to see this measure put into operation in Missouri should write The Missouri Farmer stating whether or not he will be willing to aid the cause by circulating a petition for signatures.

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LOOKING AHEAD

It is a good thing to be optimistic, always looking on the bright side of things, but the fellow who mixes his optimism with good judgment and some forethought is always in a little better shape to get through emergencies without loss. It might be well for farmers to plan a little now against an invasion of the crops by chinch bugs which are likely to be quite numerous this summer unless the clouds favor us with more than the usual amount of rain. Last fall and winter we urged our readers to make war on the chinch bugs by destroying them in their winter hiding places and had that been done in a concerted way from 75 to 90 per cent of the bugs could have been destroyed and that much of the damage they will do prevented. Not many neighborhoods (we have not heard of one) in Missouri made any effort to burn over and clean up the fence rows, the road sides and waste places where the bugs winter and as a result the first two or three weeks of April millions of bugs came out of their winter sleep and spread over the wheat, oats and rye and very soom for every million of these old bugs there will be about five hundred millions of the little red pests sapping the life out of the growing grain. This is going to be a pretty expensive neglect this year which is promising a good crop if not molested by bugs and when we have for the first time in many years a good chance to get a dollar and a quarter a bushel or more for the new crop.

Insect pests and contagious diseases among live stock which cause more loss to farmers in this country than the combined loss of floods and drouths should not be looked upon as the visitation of an angry Providence. So far as they are in our power to control we should admit that this incalculable loss we suffer annually is the cost of neglect and ignorance. Every female chinch bug which came out of winter quarters in healthy condition is capable of producing about five hundred young which will spend the best of their short lives reducing the wheat yield and then in turn each one of these new crop bugs will increase five hundred times more to make battle on our corn. That would mean then that by destroying one bug in hibernation we would prevent absolutely the possible devasation of an army of two hundred fifty thousand.

But what can we do now as a protection for our crops? Nature may come to our relief and give us plenty of rain just at the right time and hold them in check. A few cold rains just about the time the insects hatch may save serious loss and the rain by pushing the crops along may produce a fair crop in spite of the sapping done by the bugs. About all the farmer can do now is to plant crops that are immune to bug damage. This would be a good time to set aside a field and prepare it for seeding alfalfa along in July or August. If the chinch bug will induce farmers to sow a larger acreage of alfalfa it may be a "blessing in disguise." Cowpeas and soybeans are not attacked by chinch bugs and farmers would do well to consider planting more of these crops as a protection against the bugs. They will send out of the state this year a great many thousands of dollars for cowpea and soybean seed that might as well be kept at home by growing more of these crops for seed.

When grown for a seed crop it will require only one or two pecks per acre for seeding and the yield at present prices should be about as profitable as any grain crop raised on the farm. A field of these immune crops planted beside an infested wheat field may hold the bugs out of the corn after harvest long enough to prevent material loss. Another method some farmers believe keeps the bugs out of the corn is to plant soybeans or cowpeas right in the hill with the corn.

The better and cleaner the cultivation of the crop; the richer we make our land so as to force the rapid growth of the crops; and the greater the acreage we plant of such immune crops as clover, alfalfa, cowpeas, soybeans and vetch; the more thought we give these things at the right time, the smaller will be our loss.

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MUNICIPAL SLAUGHTER HOUSES

A correspondent has asked us why we do not "advocate the building of municipal slaughter houses as a partial remedy for the hold the big packers have on the live stock business of this country?" We are decidedly in favor of building municipal slaughter houses in all our good towns, but we have not thought it worth while to devote much space to the subject until the farmers show more of the co-operative spirit than has been shown in the past.

The first advantage in the public slaughter house would be in its better sanitary condition. Most of these places privately owned are unfit places for the killing of animals and dressing the meat, but in a public-owned plant under the strict supervision of the pure food department, the plants ought to be kept in a good sanitary condition. There ought to be a great economic advantage in the operation of a public owned plant. We have never been able to see any sound reason for shipping the animals necessary for local consumption to the big stock yards, paying freights, commissions, feed bills and other charges and then shipping the meat products back over the same route before the consumer can buy them. Farmers have been told this long-way-round of marketing live stock was the cheapest way because of the utilization of the by-products. But there is no reason why these by-products could not all be utilized to the same advantage if we had a number of public abattoirs co-operating in the disposal of the by-products. Public slaughter houses are successfully managed in Europe and there is nothing in the way of their success in this country except our indifference toward co-operative enterprise. We are hoping that the department of marketing of the United States department of agriculture may work out a plan and be able to get a line of public slaughter houses established. It would add profits for the farmer and save cost for the consumer.

BARNYARD GOSSIP

Have you, dear, reader, ever thought about how many things there are to do and to think about in giving you a paper like The Missouri Farmer? Has it ever occurred to you that the editors of a high class farm paper have a great responsibility resting upon them when they undertake to fill the columns of the paper week after week with information of value to the readers; with thoughts and suggestions that will encourage the fellow who has for some reason failed and may be it was for no fault of his own; with inspiration that will cause men and women to look upon the bright side of life and get pleasure out of the daily tasks no matter how hard they may be; and finally with good stories told so as to entertain the readers and make them forget for a time at least some of the things which bear upon us as real heavy burdens in our daily routine upon the farm? These are some of the things we are trying to do for our readers and we are not unmindful of our duty to the great family of readers made up of the fathers, mothers, boys and girls in the fifty thousand farm homes where The Missouri Farmer finds a place on the reading table, in keeping out of our columns any endorsement of any theory or farm practice that would lose the farmer money or any thought or suggestion that the most exacting parent would be afraid for his child to read.

Our motto carried at the head of the paper every issue is: Better farming, better farm homes, better citizenship. In order to live up to this motto it is our aim to have every page, yes, every paragraph in The Missouri Farmer contain nothing to offend but something that will either interest, entertain, instruct or inspire our readers. A big book could be written about better farming, better farm homes, better citienship and then not half the story would be told. At the very bottom of all our success is better farming. No man need be ashamed to admit that his farming is not perfect farming for there is no such thing and perhaps there never will be because there are some things we cannot control altogether. But any man should be ashamed to admit that he is not trying to improve on his methods and make his farming better every year than it was the year before. There are a great many sources from which we may get points on better farming. The first perhaps is from closer observation and study on our own farm. Of course we can not make an experiment station out of our farm but it is quite possible to try out one or two new varieties of any crop we are growing and also to try a small plot of any new crop that has been recommended by the farmers of other sections or by trial at our state experiment station.

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After our own resources have been exhausted for improvement we should utilize the knowledge of our neighbors. There is not a neighbohood in Missouri or any other state where at least one man can be found who is doing something better than the average. He may do some things poorly, he may be a positive failure along certain lines but if he has a better way of digging a ditch, setting a post, stacking hay, shucking corn or sawing wood or whatever it may be why not just get over the fence, tell him you want to learn his way because it is a better way than you have been doing it and give him full credit for showing you how. Selfishness is one of the worst traits of human nature and I think we farmers have about as much of it as anybody else. One reason for our selfishness is our isolation which makes us depend very much on self for everything we have done, but we can not afford to be so much wrapped up with self that we shut out improvement no matter where it may be found.

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After selfishness comes prejudice which has closed the eyes of many a good farmer to things he could have used to his own advantage. We have seen men very much prejudiced against agricultural papers just because some farm papers are edited by impractical men and because some erroneous doctrine may have been promulgated by them. Just as well find fault with all farmers because some one man has practiced poor and unsound methods and has proved a failure. The man whose mind is free from prejudice is able to weigh what he reads, to discard the chaff and select only the wheat which he can use. The prejudiced man condemns an article in the paper and calls it impractical because it does not exactly fit his conditions while the unprejudiced man will analyze it, study it, cull out what don't suit him and use what does perhaps to very great advantage. And what we have said about prejudice against farm papers applies with equal force to the college of agriculture, experiment stations, farm advisers and other agencies out of which we can get some good if we will use them.

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As an example of what a little carelessness may cost and how science may come to the farmers rescue we may point to the recent outbreak of foot and mouth disease in this country. First by either carelessness or incompetency of the veterinarian who found the first outbreak in Michigan last summer the infection was allowed to spread and get such a start that it has taken an army of men months of time and five million dollars or more to stamp it out. Should we find fault with the whole veterinary profession because one man was so careless or incompetent whichever it may have been? If there was any doubt in the minds of any farmer as to the value of the veterinary profession that doubt ought to be removed by the fact that notwithstanding the rapid spread of foot and mouth disease, so that at one time about half the states were quarantined and the great live stock business of the country was in danger of inestimable loss, the infection is now completely under control and possibly entirely stamped out. It could have been accomplished much quicker and consequently with very much less loss and expense had the stock men everywhere given their support loyally to the state and United States sanitary officers instead of opposing them as they did in places even in a violent way. Five million dollars may look like a large sum for stamping out this malady but had it been allowed to run its course without interference our country like most of the European countries would have had a yearly loss of several times five million dollars without hope of ever getting rid of it. So let's get rid of our prejudice, whether it be against sanitation for people or for live stock or along any other line.

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This would be a fine old world if every man would accept the good in everything and from every other person. But some how or other our preconceived notions get such a firm hold on us that we can not see any good coming from those we just don't happen to like. And not only should we be ready to accept a wholesome idea for all its worth even though it emanates from a personal enemy but we should make it a part of our life to freely give for the good of others of whatever knowledge we may possess. Did you ever see a good farmer who was successful in money making, kept everything about his farm in tip-top shape and yet he was regarded by his neighbors as close, reserved and selfish? If a man has an idea worth while and does not wish any one else to use it without a royalty he ought to apply to the United States patent office and have his idea protected by letters patent. If a farmer has found a profitable way of doing a thing he can help himself by helping others with that information. Just as we have many times said in the columns of The Missouri Farmer, a good horse in a neighborhood where the horses are all good is worth more money than the same horse would be in a neighborhood of scrub horses. And the same is true of any kind of live stock or any other product produced on the farm. And so it is that the man who is successful can help himself by giving a little help to others.

If there is a daughter in your family who would like to earn a beautiful piano, have her write to The Missouri Farmer at once. She can easily earn it during the next two months.

You Sell Your Wheat By Test—
Do You Buy Your Lumber By Test?

To get the top market price for your wheat it must undergo a careful test. The man who buys it is going to know just what he is getting before he pays for it. He is going to know, not only that the quality of your wheat justifies the price, but whether that is the particular quality of wheat suited to his purpose.

Do you use the same business-like caution when you buy lumber? Do you make certain you are getting the best for the money, and that the lumber you buy is suited to your needs?

There is a range of quality, utility and price in lumber vastly greater than in wheat. When you buy lumber, buy by *test*,—insist on having lumber that has superior strength, toughness, workability, and reasonable price. Specify

SOUTHERN YELLOW PINE

The Wood of Service

Do you know that *Southern Yellow Pine has a greater breaking strength than White Oak; a greater crushing strength than White Oak, Rock Elm, Hard Maple, Shagbark Hickory or Black Ash?*—and yet is among the *easiest working, lowest priced* woods?

Those qualities of Southern Yellow Pine are not guessed at; they are determined by *test*—the *tests of the United States Government.* Here are the Government's figures, made by experts of the Forest Service in comparing various commercial woods:

Woods Tested	Breaking Strength	Woods Tested	Crushing Strength
LONG LEAF YELLOW PINE	8,630	LONG LEAF YELLOW PINE	4,280
White Oak	8,160	Shagbark Hickory	3,890
Post Oak	7,380	Hard Maple	3,850
White Elm	6,950	Rock Elm	3,740
Silver Maple	5,820	White Oak	3,510

No other wood is suited to so many different uses as Southern Yellow Pine. No matter what your use for a serviceable, easy-working, durable lumber may be—whether you are building a house, a silo, a barn, or are repairing implements, gates or buildings—Southern Yellow Pine is "best by test," the Wood of Service.

Free Plans For Farm Structures

If you have any building to do, write us, and we will send you complete plans, with specifications and cost estimates, of model barns, granaries, hog houses, poultry houses, feed racks—a wide variety of farm buildings. Those plans will cost you absolutely nothing—our purpose is solely to make you more familiar with the wonderful utility and economy of Southern Yellow Pine.

Cut Here

Southern Pine Association
619 B Interstate Bank Building
New Orleans, La.
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Silo Book
Plans of Farm Buildings
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House Plans
Name.....
Town.....
R. F. D. ..... State.....

MISSOURI HOME MAKERS' CONFERENCE

This Department is Edited by Miss Alice Kinney, New Franklin, Mo.

THE MOTHERLOOK

You take the finest woman with the roses
in her cheeks,
An' all th' birds a-singin' in her voice
each time she speaks;
Her hair all black an' gleamin', or a
glowin' mass o' gold—
An' still the tale o' beauty isn't more
th'n half way told.
There ain't a word that tells it; all de-
scription it defies—
Th' motherlook that lingers in a happy
woman's eyes.

A woman's eyes will sparkle in her inno-
cence an' fun,
Or snap a warnin' message to the ones
she wants to shun.
In pleasure or in anger there is always
handsomeness,
But still there is a beauty that was surely
made to bless—
A beauty that grows sweeter an' that all
but glorifies—
The motherlook that sometimes comes
into a woman's eyes.

It ain't a smile exactly—yet it's brimmin'
full o' joy,
An' meltin' into sunshine when she bends
above her boy
Or girl when it's sleepin' with its dreams
told in its face;
She smooths its hair, an' pets it as she
lifts it to its place.
It leads all the expressions, whether
grave or gay or wise—
Th' motherlook that glimmers in a lovin'
woman's eyes.

There ain't a picture of it. If there was
they'd have to paint
A picture of a woman mostly angel an'
some saint,
An' make it still be human—an' they'd
have to blend th' whole—
There ain't a picture of it, for no one
can paint a soul.
No one can paint the glory comin'
straight from paradise—
Th' motherlook that lingers in a happy
woman's eyes.

—W. D. Nesbit, in Chicago Tribune.

We call special attention to the following article and hope that it will stimulate many new centers of interest over the state in order to receive your share of this valuable fund:

SMITH-LEVER FUNDS FOR COUNTRY WOMEN

To the Editor of the Homemakers' Section, The Missouri Farmer:

You ask me to tell, for the benefit of your readers, something about the use of Smith-Lever funds for the rural women of Missouri. You have framed your question differently than the majority of women do who ask for the same information. The usual question which comes to me is, "What work in home economics do you expect to do in Missouri with Smith-Lever funds?" Now there is a vast difference between "work in home economics" and "work for rural women." In fact, as I go more deeply into the problem, I am more and more impressed with the thought that the questions which especially interest rural women are, in large measure, not home economics questions at all. When I ask rural women to tell me the most important matter which, in their estimation, needs the attention of Smith-Lever funds, it is the exception, rather than the rule, to have them name as their first choice a strictly home economics subject.

Work for the betterment of rural schools, whether it concerns boys or girls, is of vital interest to the women of Missouri. Similarly the problems of the country church and the social community are women's problems as much as they are problems of the men. In a broader sense every problem of the farm is a woman's problem because in the end the farm is but the means of supporting the farm home. As a matter of fact a careful study of rural statistics shows us that about all that the average farm does is to support a home with just enough of a margin in the good years to give assurance that the farm will be able to continue to support the home in the bad years.

As nearly as I have been able to obtain an expression of opinion from farm women, their problems are not so much questions of how to cook and bake and sew; neither are they in the main, problems of labor saving devices. The big problems seem to be the following: First and foremost, good rural schools so that the children may have the kind of an education that country boys and girls deserve; second, live, active country churches and social organizations so that young and old alike may enjoy the good that comes from religion and social opportunities that are too much neglected in the country; third, pleasant physical surroundings which includes not only the pleasant house but an attractive dooryard with shade trees, flowers, and lawns, giving the proper setting for a home that is more than merely a place where body and soul are kept together; and fourth, modern conveniences which includes water supply, heating system, and lighting system—important in the order named. The items included in the fourth group I do not class as "labor saving devices" any more than I consider the roof on the house a labor saving device. They are essential parts of a house. The step from the house without water, heating and lighting systems to the house equipped with these conveniences is no greater than the step from the wigwam of the redskin to the log cabin of the pioneer, or from that to the average farm house of today. After all it is merely a question of standards. I presume we could all live in tents made of the skins of wild animals if that were our standard of living.

As to the specific lines of work for rural women which will be supported by Smith-Lever funds, the following have been decided upon at the present time and more will be added as the demand arises:

1. Boys' and Girls' Club Work;
2. Movable Schools of Home Economics;
3. Organization of Women's Clubs;
4. Special Demonstration Campaigns.

In order that the above may be more intelligible, I will try to tell in the fewest possible words what each one of the projects includes. Under the head of Boys' and Girls' Club Work is included a wide range of home and school study which is intended to center about the district school, bringing the home and the school into closer contact and establishing if possible the right relation which should exist between the two but which all too often does not exist. In the club work we have at the present time lesson plans and instructions for sewing clubs, poultry clubs, tomato clubs, bread baking clubs, canning clubs, corn clubs, pig clubs, and stock judging clubs. It has required a 24-page circular to give the details of the Boys' and Girls' Club Work so it would hardly be feasible for me to attempt to tell in the columns of your paper about the details of the work. Through the use of Smith-Lever and other funds, the Missouri College of Agriculture is in a position to furnish instructions, report forms and lesson plans for any boy or girl in Missouri, between the ages of 10 and 18 years, who wants to do work of this kind.

I have included, and intentionally so, boys' club work as a part of the extension work with rural women. I do not believe that any mother will take exception to the statement. The boy is as much her problem as is the girl and however we may view the subject, the cold fact remains that both the boy and the girl are far more the woman's problem than the man's.

Movable schools of home economics have come to be so well known in this and other states that a very few words will be sufficient to explain their organization and purpose. The movable school is an attempt to take to farm women within easy reach of their homes a systematic course of instruction extending through from three to five days. The College of Agriculture has not established a definite course of study for these schools. Each community is given a choice of a dozen or more lines of work and it is largely left to the local committee on arrangements what the course should cover. Before a movable school will be located in any community, the College must have evidence that there is a real local desire for such a course of instruction. Movable schools are, therefore, assigned upon the basis of applications bearing the original signatures of women who want the work and want it badly enough so that they agree over their own signatures to pay the local expenses. No statement can be made as to what local expenses amount to. Some communities demand lines of work that make it necessary to go to considerable expense; other communities desire work that requires practically no expense.

It has become a fundamental principle in all extension work that the highest efficiency can never be attained except by working through organized bodies of people. This is particularly true of the work with rural women. The Agricultural Extension Service will, therefore, make a special effort during the next year to help women to organize clubs and provide for such clubs a definite program of work for the year, which program will include not only material sent to them but, so far as possible, will include direct personal assistance. Logically the clubs which are most efficiently organized and administered will be the clubs which will receive the greatest amount of assistance. With the limited means at the command of the College of Agriculture for extension work, it will not be possible and is probably not desirable that the College should force its work upon indifferent or unwilling communities when there are other communities thoroughly alive and anxious to work, waiting eagerly for help.

At certain times in the year, the College of Agriculture will arrange special demonstration campaigns on special timely topics. The best illustration of this type of work is the canning demonstration. For the purpose of these campaigns, a series of one day, or half-day, meetings will be arranged at such hours as a demonstrator from the University can include in a continuous itinerary, and having a schedule arranged, the demonstrator will spend anywhere from a week to several weeks in repeating to different audiences on successive days, some demonstration that has particular value at the time it is presented. The field is unlimited and the amount of work that will be done will be limited solely by the amount of help which can be made available for the work. Canning is just one of a dozen things that may be made the basis of demonstration campaigns.

The exact and final details of the above projects have not been fully worked out. It is only a few days since the governor of the State of Missouri finally approved the appropriation which makes it possible to obtain at least the main portion of the Smith-Lever fund which the U. S. Department is ready to give to the State of Missouri. In the few days which have intervened, it has not been possible to work out in detail the plans of expenditure for the next year. It is my hope that by May we will be in position to tell exactly how a community must proceed in order to receive the benefit of any or all of the projects named above. One thing should be borne in mind, namely, that rural women who expect to get the greatest benefit from the funds available for this type of work should arrange their plans and dates so as to coincide with the regularly prepared schedules of the Agricultural Extension Service. As rapidly as possible an attempt will be made to prepare, several months in advance, a complete schedule for each extension worker occupying her full time. This will mean that the community which waits until the last minute, then sets a date for a meeting of a certain kind and writes to the College of Agriculture for help, will be disappointed and probably will feel that they are not getting their proper share of the Smith-Lever appropriation. It should be generally understood that efficiency demands systematic and thorough organization of the work. Such organization will be to the decided advantage of the com-

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munity that tries to fit its plans into the organized plans of the College of Agriculture. On the other hand, the better our work becomes organized and the more systematic it becomes the more disappointing it will be to the community which insists on making its plans at the eleventh hour, setting its own dates and making no attempt to fit into the general extension organization. Very truly yours,

A. J. Meyer,
In charge of Agricultural Extension.

DENTAL HYGIENE; ITS REAL SIGNIFICANCE

Until very recently the necessity of caring for the mouth and teeth of children has not been a matter of public interest. An important part of medical inspection in schools has been neglected. Medical school inspection is the most important work carried on by departments of health; it is one of the most important functions of the State.

By the practice of dental hygiene the general public health can be greatly improved. In the fight against the great white scourage, tuberculosis, it is a factor of the first importance.

Dental hygiene is the practical application of dental science to the individual, the home and the school. A realization of its importance is needed. Everybody should know that the general health of the individual and of the community depends largely upon the condition of the mouth and teeth; that the highest efficiency and happiness in life can not be gained when the gateway to the body is neglected.

The care of the teeth is an important factor in the care of the child. The mental and physical efficiency of school children can be greatly aided by the proper care of the mouth and teeth. This is fully attested by experiments in Germany, which cover a wide field. There dental infirmaries connected with the schools have been in operation for a sufficient length of time to demonstrate:

First—That the time expended in putting the teeth in order was far less than the time formerly lost from toothache and disability caused by diseased teeth.

Second—That the cost of keeping the teeth in order was more than compensated for by better health and a consequent reduction in medical expenses.

Third—That the child became physically stronger, secured a higher average in his studies, was easier to control and was apparently happier.

A clean mouth and clean teeth furnish one of the best protections against disease. A child forced to swallow the discharges from an unclean mouth, and having nutrition interfered with by his inability to chew his food, is unable to resist disease.

The condition of the teeth is a telltale as to diet. They are the guards which stand at the gateway to the body, ready to divide the food into manageable portions, to bring peace of mind and healthful bodily activity. No greater kill-joy exists than dyspepsia, no more vicious a menace to life and efficiency obtains than disordered condition of the process of nutrition.

Cancer of the stomach is notoriously a disease of gross feeders. Eighty per cent of the cancers of the stomach arise from bolted food. If an ounce of prevention is ever worth a pound of cure it is keeping the teeth in good condition.

This problem of dental hygiene is not altogether one of benevolence. It is in large measure a problem of economics. Health is needed for great industrial production. Every case of disease involves an immediate economic loss to the community in which such events occur. There is coming a great change in the practice of medicine, surgery and dentistry and a much greater proportion of the attention of these professions is hereafter to be devoted to prevention rather than cure.—Indiana Health Bulletin.

FACTS OF INTEREST ABOUT POULTRY

If kept in the dry and properly cared for manure from the farm poultry house makes a valuable fertilizer. The droppings from one fowl will average about 65 pounds in a year. An anaysis would show that these droppings contain nitrogen, potash and phosphoric acid. This is one of the reasons why orchardists advise poultrymen to turn large flocks in their orchards during the summer months. The fowls destroy many orchard pests in the way of worms, bugs and other insects.

Some people will tell you the reason they don't go in the poultry raising business is that they are afraid of over production—that eggs will become cheap and practically without value. Besides what eggs are used for food about forty million eggs are used by the calico print works each year. Photographic establishments use millions of dozens. Wine clarifiers over ten million dozens. Eggs are used by bookbinders, kid glove manufacturers, coffee roasters and by many other manufacturing industries. New uses are being found almost daily and the demand is increasing every year instead of decreasing, and the fact remains that demand makes price.

High Roosts

If you are raising any of the larger breeds of fowls, the roosts should not be more than two feet from the floor and always on a level. If made in the old-fashioned way like stair steps one above the other the fowls will all want to roost on the highest perch. Bumble foot, lameness and other ailments are caused by high roosts.

Green Bone for Poultry

At this season of the year, before the worms, bugs and insects appear, green bone is not only relished by your fowls but forms one of the essential elements in their food ration. If a mill is not available to grind the bones they can be crushed or pounded. You can easily feed too much and cause trouble in your flock. One pound should be fed to thirty fowls once a day, or about half an ounce to a fowl. In the absence of bone feed a good clean grade of meat scrap, but do not feed blood meal, tankage or a cheap grade of meat scrap that has an odor.

Clean House

A household word as sure as spring comes. Why not apply this to the poultry house. Whitewash with some crude carbolic acid added put on with a sprayer is the best and quickest way to purify a chicken house. Remove the perches, empty the nests and spray the entire interior of the house. Whitewash the fence posts to the poultry yard. It costs little and looks well. If your fowls have been kept in pens or runs this winter sprinkle slacked lime over the ground, spade or plow it and sow to rape, cowpeas, rye or something of the sort and it will purify and freshen the ground and make it as good as virgin soil. Never allow a dead carcass of any kind to lie around where the chickens can get to it; always bury or burn them. Limberneck, a poultry disease, is brought about by eating this sort of putrid flesh.

E. L. Andrews,
Maryville, Mo.

WATER-GLASS METHOD OF "CANNING" EGGS

One of the best, simplest, least expensive and most effective method of preserving eggs is to place them in a solution of water-glass, or sodium silicate, according to a statement just issued by F. C. Hare, poultry husbandman of Clemson College, South Carolina Agricultural College.

This is a transparent liquid that looks like thin, strained honey and is used commercially in manufacturing mucilage. It covers the shell of an egg with an impervious coating of glue and prevents the entrance into the egg of bacteria-laden air, which would render the egg unfit for food. Eggs treated with water-glass can easily be kept in good condition for nine months, provided they are perfectly fresh when placed in the solution.

Procure a five-gallon glazed earthenware crock with cover, the glazing being to prevent absorption of the solution. Buy a quart or more of sodium silicate or water-glass at the druggist's. Thoroughly rinse the inside of the crock and its cover with boiling water to kill any germ life that may be there. Boil three or four gallons of water and allow to cool. When cold make a mixture of nine parts of this water and one part of the water-glass.

Fill the crock two-thirds full with the preserving mixture. As the eggs are gathered daily, put them into the crock. Do not keep eggs several days before putting them in the water-glass, as it is very important that eggs go into the crock the day they are laid. Eggs must on no account be washed and all cracked eggs and those with very thin shells that might be broken must be discarded.

Eggs may be added daily until the crock is about three-fourths full, bearing in mind, however, that at least one inch of liquid must always be above the top layer of eggs. Place the cover on the crock and set in a moderately cool place to prevent excessive evaporation of the liquid. Examine the eggs from time to time and add more boiled water if it is needed to keep the solution an inch or more above the top layer of eggs.

For general culinary purposes, water-glass eggs are equal to ordinary new-laid eggs. They may be poached, fried, scrambled or used in baking, just as they come from the crock. However, to boil them, stick a pin into the large end of the shell before heating and thus allow the gas inside a hole by which to escape when heated. The water-glass solution closes the pores of an egg shell and acts as a tin can acts around tomatoes. If an opening is not made, the shell will crack while being heated, for the expanding gas to escape. Yolks of these eggs "stand up" as do those of new-laid eggs and the white will beat into a fine froth.

According to Mr. Hare, the cost of preserving eggs in water-glass is about one and one-half cents per dozen.

BEGINNING WITH PUREBRED CHICKENS

For the benefit of others I will give my experience, how I started raising chickens and keeping them. I purchased two settings of Rose Comb R. I. Reds, range chickens, for $1 a setting, from a man who paid $12 a setting. I raised 27. Then the next year I purchased four settings from the Missouri Experiment Station. Out of that flock I took 12 of the best hens and purchasing a cockerel each year to mate with them and out of that flock I take the cockerels for my next year breeding pens.

The last thing at night when hens are on the roosts I throw whole wheat and oats in the litter under dropping boards so the hens can start early in the morning and at noon a dry mash containing 30 per cent middlings, 40 per cent bran, 20 per cent ground oats, 8 per cent meat scraps and 3 per cent oil meal and a pinch of salt and a little mustard and some charcoal.

I have fed the mash damp until this year and having lost some from being too fat when warm weather sets in. At 3 o'clock I feed chopped corn, all they care for and will eat up clean. Oyster shell and air slacked lime and warm water in winter are always before them. My hen house is open front.

I set enough hens when I set my incubators that I can give each hen thirty chicks. I put two hens with sixty chicks in a coop 2 x 4 feet and when the season advances and chicks get hardened I take one hen out leaving one to care for all. I find this more economical than brooders at least through April and May.

Their first feed is unfertile eggs with shell, then coarse ground corn meal baked in stove. Later ground oats, middlings and bran. I have experienced trouble with lice on chicks brooding with hens, but have dusted the chicks with lice killer under wings and a drop of sweet oil on their head the 7th day. I had no more trouble.

I averaged 11 eggs to every hen a month including pullets and 2-year-old hens. I now have a flock that I am proud of as a laying strain and color as rich as a red bird. If every farmer would spend $4 or $5 for 100 eggs, pure bred, Missouri would with one stroke have utility poultry, and adding some settings from Missouri Experiment Station, they would double the value of their poultry. I am a member of the Missouri Poultry Association getting valuable information that adds to my interest.

Geo. A. Menne, Cottleville, Mo.

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THE photograph of the young orchard—just as it starts the summer growth—then another photograph, say in October when the growth is ended and the wood is hardening, will make an interesting and valuable record. Such pictures become a real asset when used to show *comparative growths* of trees or crops that have had different treatments in fertilizers or in cultivation.

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FARM MANAGEMENT PAGE

D. H. Doane, University of Missouri

Inasmuch as ye have done it unto one of the least of these my brethren, ye have done it unto me.—Matt. 25:40.

Spring with life—new life, with swelling seed and bursting bloom, spring with all of promise, the future wrapped in tiny seeds and swelling buds, spring in the warm earth, the new calves, colts and tiny chicks, is here. God has given us at this time the new life and from it we get our hope for the future. Our thoughts, our money, our work, are bound up in this promise of spring life—this new life. I wonder how many of us are letting our thoughts and our efforts extend beyond the confines of our own farm. Are we thinking that perhaps in some place in this great land of ours there may be a little spring life in the form of a little boy or girl that does not see God's great handiwork as we do, that his or her vision is limited to dark walls and fatherless and motherless days and nights. Yes, there are many of these little ones waiting at **their** springtime of life, now at God's springtime, for the homes where no little ones gladden the hearts of parents.

This is not an abstract talk on the subject of homeless babes but a timely account of what The Sheltering Arms, a charitable institution in St. Joseph is doing for these children whose lives know no parents. The home—and it is a home as far as it is possible for the kindly love and affection of motherly Mrs. Ziemendorff to make it such—shelters fifty little folks. At present there are thirty-six children there and twelve of these are today asking **you** to share with them a **home** that knows the tender love of a mother and the guiding influence of a father. **What will your answer be?** You who live in the great big out-of-doors that gives unto young child life its best opportunities—you who so seldom see the misery and struggle of the big cities, you whose homes are best situated to the care of the lives of little ones. I say what is your answer to these tender, springtime lives that call you now?

Words cannot make the appeal as strong as the reality, and so I can but say, write or go **now** to Mr. W. A. Ziemendorff, Humane Officer, St. Joseph, Mo., and tell him that your home throws its doors open to a little life that hitherto has not come. Tell him to write you of the conditions under which you may legally adopt a little boy or girl, or perhaps a tiny babe, for at the Sheltering Arms you will find children of all ages. They are admitted there from a few days old up to six for the boys and up to fifteen for the girls. At six boys that have grown up in the home have to leave, but girls can stay longer.

It is the policy of this home to endeavor to urge parents to keep their children if possible and so if a parent will even pay a small amount toward the support of a child it is never taken away. When you go there you will see many little ones whose fathers are dead and whose mothers are working to pay enough to retain their children. Many of the little ones have neither father nor mother and they are now waiting for your home call.

It was nearly noon and I had hurried, that I might see them at the dinner hour. One little fellow became impatient and started for the dining room before his turn, and had to be brought back. This brought tears but a kindly loving pat and tender words from Mrs. Ziemendorff soon healed the hurt spot.

All were in their places. Little three-year olds and some over twelve. In many homes I see children take their places at the table ahead of their seniors and begin a ravenous claw for all within their reach. Here, not a hand touched a thing until the blessing. Until some older person said it? No, until each little voice joined with the other and **sang** it. It was a sight and sound I will never forget. Each little head bowed, each pair of tiny hands clasped and each childish voice **singing** to God its thankfulnes for their daily bread. Then I thought of the bounteous country tables I had sat before and as I saw each little hand go out to partake of potatoes, bread and scrambled eggs—I thought, yes, I thought—surely of all the good country people I know some will help fill this table.

"'You see," Mrs. Ziemendorff was saying, "we are having a treat today, the eggs." "So you call eggs a treat?" I asked. "Yes, eggs cost twenty to twenty-five cents a dozen, and it takes between four and five dozen for one meal for us and we cannot afford them often. We always have plenty of bread and ——" "and butter," I interrupted. "Oh, no, butter is our once-a-week treat. We seldom have it. Just plain bread, potatoes, milk, and most always some kind of preserved or canned fruit. Meat once a week—a cheap cut, boiled tender. The only thing I really would like to have that we cannot have is more eggs. You know these little growing bodies need muscle building foods like eggs and we just cannot afford them. As I told you, all that we have to run on is what people **give** us and when times are a little hard, we have to economize."

All this time I had been watching these little "men and women" eat. Remember, no parents to guide, correct or train them, but just the same, not one did I see do a thing that would be counted rude or bad. It shows us, does it not, that in these little bodies, coming from many different places, many different conditions, there is that little spark or seed as it were, that needs only the warm touch and tender care of thoughtful mother love to make it grow into God's own image with all the childish love and obedience that makes each little life so dear to parents?

"Tomorrow will be the last day of school," Miss Grant (now Mrs. Doane) was saying, "and children let us make as a part of our closing exercises for the year sending of a case of eggs to the childrens' home. I will have the case here in the morning and each one of you bring some eggs. Perhaps not each one can bring a dozen, but some can bring more; above all, let's **each one have a part.**" The children responded and a full thirty dozen left the schoolhouse the next day. It was the childrens' gift to their less fortunate little brothers and sisters they had never seen and who were many miles away.

In telling me of the incidents a few days ago, Mrs. Doane said, "We got more out of that one little gift than anything we did during the whole year. Parents and children talked of it and we thought more of ourselves because we helped others. It was the beginning of a new life in our district and following our gift of a case of eggs to those little homeless children, were able to improve our school, buy an organ, get new seats and make other needed changes. You see it taught us that we could work together and we had the feeling we had helped others."

Could we have a better example? Let us, and now I am speaking to rural school teachers, county superintendents, farm advisers, and mothers' clubs in the county, each do our part in sending what we have in such abundance in the country at this time of year—a case of eggs to these little boys and girls in the "Sheltering Arms Home," St. Joseph, Mo. I know they can use all you send. They can be placed in cold storage if too many should come at once. We need not fear, however, for it takes a good part of a case for one meal. If you wish to send the eggs collect, I know Mrs. Ziemendorff will gladly pay all expenses. Be sure to write or mark the case plainly so she can tell who sent the eggs. Write a letter to these little folks from your school, a letter that can be read at meal time when they are all together.

Finally, let me say that here we have two opportunities before us. One to open our homes to one of these little homeless—there are twelve of them now ready, from babies to little boys six, and little girls twelve, and the other is to do our part to provide a "luxury"—just some pure, clean, fresh eggs, for these little growing bodies. On this basis we can each do something. **Let's do it.**

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J. D. McNAMARA
General Passenger Agent
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EARLE LIND
Division Passenger Agent
Moberly, Mo.

Farmer Wives, Attention!

Never since I have been writing "After-Thoughts" in The Missouri Farmer have I ever made a direct appeal for your help—but I need it now and I hope you will respond—for in the things I have said and written in these pages I have plead not only for better crops and more money on the farm but for a better and happier farm life for those who toil in the hot kitchen and upon whom depends the rearing and welfare of the little ones.

Among other splendid premiums The Missouri Farmer is offering to some bright farmer girl in every community in Missouri a beautiful piano—an instrument of such quality that any girl in the state might well be proud to own it—and if there is a daughter in your family, or if you know of some bright, deserving girl who you think would appreciate this splendid opportuntiy, I am going to ask you to send me her name so we can send her the full particulars. Here is a chance to do some fine girl a kindness which she won't forget as long as she lives. If she happens to be your daughter, so much the better. Now please do this for me. I will appreciate it deeply.

Sincerely,
The Author of After Thoughts,
Care The Missouri Farmer,
Columbia, Mo.

Ownership of The Missouri Farmer

In accordance with the law enacted by Congress which requires newspapers and magazines to file a statement showing the name of the editor, business manager, the owners of the publication and the names of any bond holders, mortgagees and other security holders, The Missouri Farmer has filed the following statement with the Postoffice Department: The managing editor is Geo. B. Ellis. The business manager is William Hirth. The Hirth Publishing Company, which owns The Missouri Farmer, is incorporated for $20,000 divided into 200 shares, 189 of which are owned by William Hirth and 10 shares by Lillian Hirth.

The best insurance against loss from chinch bugs is to raise cowpeas, soybeans, clover and alfalfa. These crops are immune from bugs.

NO CLIMBING OF TOWERS IN OURS

Every bearing is constantly flooded with oil. Two quarts of oil in the gear case of the 8-foot Auto-oiled Aermotor will keep the gears and every bearing flooded with oil for a year or more. With its duplicate gears and two pitmen lifting the load straight up it is unbreakable. It runs in a breath of air. The galvanized helmet covers the gears, keeps out rain, keeps out dust, keeps in oil. If you are tired of climbing a windmill tower; if you are tired of buying repairs and having them put on; if you are tired of waiting for a big wind, let us furnish you this self-oiling, ever-going mill to go on any old tower. It costs but little and you will get the difference between no water in a light wind and an abundance of water in almost no wind. Write

DUPLICATE GEARS RUNNING IN OIL
Oil Annually
EVERY BEARING FLOODED WITH OIL

A pull of 30 lbs. on this wire furls mill.

Cut out and show your dealer.

Aermotor Co., 1146 S. Campbell Ave., Chicago

BUTLER SPECIAL METAL SILO

Guaranteed to withstand the silage acids. Not harmed by weather changes. Write for special free booklet, showing Butler Special Metal Silos in actual service, and letters from satisfied users.

BUTLER MFG. CO.,
1339 Grand Ave. Kansas City, Mo.

POWER

Economical, reliable, steady, satisfactory engine service built into every Galloway gasoline and kerosene engine. Heavy weight, large bore and long stroke low speeded. Compare it with any engine! Then decide! Don't buy an engine of any make at any price until you know all about Galloway engines. H-6

17.95 1½ h.p.

ENGINE PRICES LOWER

Great volume, perfected design and simplicity make Galloway prices possible. Built from best material on modern automatic machinery, all parts standardized. Sold to you at one small profit. No unnecessary parts. Built-in quality steadily increases our volume. All styles and sizes from 1 1-2 h. p. to 16 h. p. at proportionate prices. A postal gets big Galloway engine book free. Engines shipped from Minneapolis, Council Bluffs, Kansas City, Waterloo or Chicago.

WM. GALLOWAY CO., Box 595 WATERLOO, IOWA

Big Profits to Rider Agents of the Howard new style Bicycle. Men, women, boys, girls, send at once for our free proposition. Learn all about this wonderful bicycle, entirely different from the ordinary sort.

HOWARD BICYCLE Co., Dept. M.F., Trenton, N. J.

BUCKSHOT BY THE PROFESSOR

Well now, aren't you mighty thankful to be over here in the U. S. A. hopping clods rather than be dodging bullets as big as a wash tub over in France or Belgium?

I haven't got much sympathy for a farmer who stumbles along year after year without a silo, wastes 40% of his corn crop—and then raises a "holler" because times are hard.

When those fellows across the pond aren't shooting at each other they're jumping onto Uncle Sam—but old Uncle Sam is doing a land office business at the old stand just the same.

With plenty of "greens" and the creek full of catfish I am not worrying about the "high cost of livin' these days. In fact, if I was a king and they wouldn't feed me a mess of greens once in a while, I'd resign.

The Missouri Farmer is offering a beautiful piano to some bright farmer girl in every community in the state. If you know of a deserving young lady who would appreciate this splendid opportunity, have her send in her name.

It always did make me sore to see a farmer who let's some patent medicine outfit or some other concern paint a big advertisement all over the side of his barn. A farmer like that would let them paint a sign on the side of the old mule if he could get anything out of it—and if the old mule would stand for it.

I heard of an Irishman the other day who paid $7.50 for a shoat last fall. During the winter he fed it $10 worth of corn—and a little while ago he sold it for $17.50. A neighbor who heard of the transaction remarked to him, "Well, you didn't make much money on that hog deal did you?" "No," replied the Irishman, "but I had the use of the hog all winter for nuthin."

Old "Josh" Simpson says the "catfish ain't bitin' this spring like they used to back there in '62." The gang down at the livery stable say it's not the fault of the fish but that they get scared at old Joshes "headlight." "If you'd quit tryin' to catch 'em with a hook and got into a boat with that old strawberry of yourn at night I'll bet you could gig 'em by the wholesale," said "Freckles" Foster—and old "Josh" got riled and said if he was a little younger he'd lick the whole outfit.

Young Ladies, Attention!

We have a proposition to make to the bright girls in whose homes The Missouri Farmer is a visitor by which we will enable them to earn a beautiful piano. By this we don't mean a cheap, trashy instrument but a piano of the highest character and quality and one of which any young lady may well be proud. If you would like to own a beautiful piano earning it during your spare time, write to The Missouri Farmer, Columbia, Mo., at once.

DO YOU OWN A SILO?

We believe the time is not far off when every farmer who owns an average amount of live stock will find it to his advantage to build a good silo. In fact, we believe the time is not far off when there will be mighty few 160-acre farms in this and other Corn Belt states without one. During the last several dry years the farmers of Missouri have paid out millions of dollars for feed and that this means "bad times" not only for the farmer but for the town which depends upon the farm goes without saying.

That more farmers have not waked up to the utility of the silo is really surprising. Surely anything which will utilize 40% of the corn crop which otherwise largely goes to waste—surely such a saving which means that the owner will have plenty of feed to carry him through the winter and that he will not have to get down on his hands and knees to the local banker for a loan—surely anything which will do these things is worth looking into immediately and seriously.

Every spring time as one travels around over Missouri he sees corn stalks raked into wind rows and burned upon every hand—and this means not only the burning up of feed which, in the aggregate is worth millions of dollars, but it also means a wanton waste of soil fertility at a time when this is one of the most serious problems confronting American Agriculture.

There are thousands of farmers in Missouri who could have saved the cost of a good silo during the recent winter. In other words, they borrowed as much money for feed as a good silo would have cost them last summer—and the silo would serve them in a similar way every winter for years to come. The money you make out of feeding live stock depends almost entirely upon the cost of the feed they eat and the silo cheapens it immensely—so any way you look at it we say the time is here when the average farmer can no longer afford to do without a good silo. Missouri deserves to become one of the greatest dairy states in the Union but this realization will be impossible until we take better care of the big percentage of our corn crops which are now going to waste.

On the front cover of this issue appear the picture of a silo put up last year by Mr. Marshall Gordon, of Columbia, Mo. Mr. Gordon is president of the Missouri Dairy Association and owns a number of silos and is also a prominent breeder of registered Holstein cattle. This new silo is fully described in the advertisement on the back page of this issue and merits the fullest investigation of all our readers. It is manufactured by Walter Dickey of Kansas City—a man well known throughout Missouri and whose reputation is of the highest. Built out of the best quality of vitrified glazed tile, this silo should last a lifetime and we suggest that those who are in the market write the company for full particulars at once.

Interested in an Automobile?

The Studebaker Automobile Co. of Detroit, Mich., is in the market with several of the best low priced cars that have ever been offered to farmers—cars which are big and roomy and which will stand up under years of hard usage. Drop them a postal card and ask them to send you their big catalogue. Be sure to mention The Missouri Frmer when you write.

The "Old Oaken Bucket"

The " old oaken bucket" has its picturesque place in the cherished memories of childhood. It has little place, however, in the present-day scheme of hygienics. For it must be admitted that the stagnant well and the moss-covered pail are first-rate breeding places for disease.

Nowadays, the up-to-the minute captain of farm industry is looking out carefully for his water supply—not only for his family and himself, but for his stock. And he is the one to take especial interest in the announcement in this issue of an auto-oiled windmill that "works by a breath"—that runs in the slightest of air currents—busy practically all the time keeping the well pumped out—keeping the water in motion. The manufacturer says it requires but a political argument in the near vicinity to make it run industriously!

The gears and bearings are flooded with oil, which is used over and over again. Two quarts of oil will keep it running a year or more.

Surely here is a new height of efficiency reached in the construction of farm machinery. It merits a place with the auto-plow, the motor-churn and the 8-cylinder "buzz-wagon!"

A Splendid Almanac Free

With a wealth of information and more attractively gotten up than in former years, the Studebaker Almanac for 1915 is being rapidly distributed to the thousands of American farmers to whom the name Studebaker is a household word.

Contained within its covers is information dealing with the care of live stock and pages of well worked out instructions as to the care of soil, the time of planting, rotation of crops, fertilizers, hot beds, cold frames and all the knowledge that experts can give to aid the farmer.

There is also much useful discussion of household problems, health and first aid, implements and tools, poultry, pruning, silos and silage. In fact, the Studebaker Almanac is a compendium of useful information for the farmer in all parts of the country. It is in line with the life long policy of the Studebakers to win and retain the good will of the farmer.

Studebaker wagon dealers all over the country can supply you with this Studebaker Almanac. In the event of their supply running low, a postal card addressed to Studebaker, South Bend, Indiana, will bring you a copy free of charge. Alway mention The Missouri Farmer.

How About Your Automobile Tires?

Every farmer who owns an automobile should write to the Firestone Tire and Rubber Co. whose advertisement appears elsewhere in this paper and ask for their "Service Bulletins" which tell you how to get twice as much service out of your tires as you ordinarily get. A postal card will bring you this very valuable information. Always mention The Missouri Farmer.

Eddie Collins Drinks

Coca-Cola

TRADE MARK REGISTERED

—considers it the premier, all-'round wholesome thirst-quencher for athletes. This comes well from one of whom Comiskey said, after paying $50,000 for him—"I secured him for the White Sox fans because I believe he will prove that he is the greatest exponent of quick thinking and the brainiest player in the game."

Demand the genuine and avoid disappointment

THE COCA-COLA CO.
ATLANTA, GA.

5-F

Classified Advertising

Single Comb White Orpington Eggs for hatching, from my famous English strain. Best pens $2 for 15 eggs; utility stock, $1.50 for 15 eggs. Fertility guaranteed. Order from this ad. E. L. Andrews, Maryville, Mo. tf.

Pure Bred Buff Rocks. My pure bred Buff Rocks beat the Leghorns, try a setting. 18 eggs, $1.50. Sarah Houston, Mercer, Mo.

Barred Rock Eggs from extra choice, high-class stock. Deep, clear barring. Large and vigorous. $1 per 15; $5 per 100. M. D. Porter, Vandalia, Mo. 314

Thoroughbred S. C. Reds, bred for heavy egg production and standard points. Deep red. Healthy flock. Eggs: 15, 75c; 105, $4. Mrs. Geo. Gerhart, Glensted, Mo. 3154

Barred Rocks of Quality. Eggs: Settings, $1.50; 100, $5. Stark Farm, Arcadia, Mo. 3152

White Plymouth Rock Eggs.—Good laying strain, 100, $3.50. R. J. Lambert, Laclede, Mo.

Barred Plymouth Rocks, Black Langshan. Better than ever. Cockerels, $1.50 to $3 each. Eggs from pens, $2.50 for 15. Range flocks, $1 for 15. Harry L. Brown, Stephens, Mo. Mutual Phone. 316

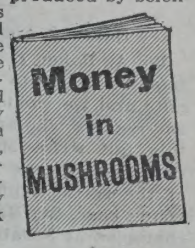
Single Comb White Leghorns, Yesterlaid-Vannoy winters layers. 30 eggs $1.50; 15, $1, postpaid. Have been running 93% fertile. W. C. Carver, Vandalia, Mo.

Schreiman's S. C. Anconas. Winners at at Concordia and Jefferson City. Eggs for sale. Send for mating list and photos. Dr. Ferdinand Shrieman, Concordia, Mo. 512

Desirable Farms for Sale. Attractive from every standpoint, including price. Write me. A. A. Hess, Jonesburg, Mo., Montgomery County.

Get This Book FREE

Tells how you can now grow mushrooms at home in spare time, in cellar, barns, sheds, etc. Spawn now produced by scientific methods makes crop certain. Small beds which cost little to start often produce $40 to $60. No experience necessary. I tell you how to grow. My instructions, based on 20 years' experience, used in State Agricultural Colleges. Remarkable opportunity to add $5 to $20 a week to your income.



A. V. JACKSON,
Falmouth Mushroom Cellars, Inc.
420 Gifford St. Falmouth, Mass.
Only Scientific Mushroom Farm in U. S.

SWEET CLOVER SEED White and large biennial yellow. Prices and circular on request. Bokara Seed Co., Box F., Falmouth, Ky.

Strawberry PLANTS **FREE** To introduce our *Pedigreed Everbearing* strawberries we will send 25 fine plants free. PEDIGREED NURSERY CO., St. Louis, Mo.

Holstein Bull Calves

A fine lot of very high grade Holstein bull calves out of grand daughters of the famous Missouri cow, Chief Josephine, and sired by a son of the premium state fair cow. These calves are in fine condition ready to ship now at $25 each. This is a rare opportunity to get a bull of the best breeding to improve your milk stock. Better order now as I have had to return money for orders I could not fill.

D. D. MOSS & SON

Hereford Bulls For Sale

A few registered Hereford Bulls ready for service, priced to sell. Satisfaction guaranteed. Can ship from McBaine or Columbia, Mo.

W. D POWELL, McBaine, Mo

LIVE STOCK NOTES

R. P. Royce, Fieldman

Spotted Poland Boars and Jersey Bulls

The Ennis Farm, Horine Station, Mo., is now offering a dozen big boned Spotted Poland China November boars. The boars are of strictly spotted breeding and are the type that has made spotted hogs so popular. This farm also has a big lot of spring pigs coming on that will be ready to ship before long and orders are being booked now for June and July shipment.

Mr. Ennis advises us that he also has a nice lot of Jersey bulls that are just old enough for light service that he is making very low prices on.

The Sunset herd represents a very choice collection of richly-bred, high producing Jerseys. It will be recalled that this herd was headed by the $5000 Blue Bell's Golden Roseboy, half brother to the great Noble of Oaklands, and over thirty of his daughters are now in the herd. Young bulls sired by Rosebay's Golden Fern, another grandson of Golden Rosebay, are now in offer. The dam of this bull was Fern's Usefulness, with a yearly record of 10,000 pounds of milk, and a seven-day record of 24 pounds of butter.

Mr. Ennis is not asking high prices for this stuff and any of our readers who are interested in adding new blood to their dairy herds will find it to their interest to correspond with Mr. Ennis.

Holsteins Wanted

W. F. Phelps, Aurora, Mo., is in the market for about twenty-five head of pure bred Holstein cows. He would be pleased to hear from any of our readers who are in a position to fill this order. Give price and full particulars in the first letter.

Thomson's Durocs

George Thomson, of the firm of W. H. & Geo. E. Thomson, Columbia, Mo., advises us that their sows are farrowing and saving excellent litters and that they will be ready to book orders for spring pigs before very long. Messrs. Thomson seem determined to build up one of the leading herds of Durocs in the Corn Belt and the past winter they have been contending bidders for the better sorts at most of the leading sales in this state. They have succeeded in getting together a very high class, uniform, lot of big sows and are mating them for the most part to Col. Wonder II, one of the best sons of the champion Col. Wonder. Readers of The Missouri Farmer are urged to keep this herd in mind when they are in the market for Durocs with size and quality.

Baker & Sons' Poland Chinas

W. A. Baker & Sons, Butler, Mo., will soon be ready to ship spring boars and gilts and we would suggest that those of our readers who are going to need a boar this fall write Messrs. Baker and ask that they reserve you a good one. Most of the spring stuff is sired by the good young boar, Big Bone's Son Jr., the junior champion at Sedalia last year. This boar was bred and shown by W. E. Willey, the Nebraska breeder whose herd attracted so much favorable attention at the important shows last year. He was sired by Big Bone's Son, and his dam was Anna Price 11th by Pawnee Lad. Last year, besides winning at Sedalia, he was first at Lincoln, first and champion at Topeka, second at St. Joseph, and third at Des Moines. He has about everything that a good boar should have; one knows that he is right individually by his winnings; his pedigree is strictly big type breeding, and he is proving to be an excellent sire.

Peabody Shorthorns

Last week we had the pleasure of spending a day at Peabody Farm, Marshall, Mo. This is the home of June K. King & Sons, and on this magnificent farm is maintained a very high class herd of Shorthorns and an equally high class herd of Berkshires.

Quite a story could be written about this farm, and if one was looking for evidence as to the soundness of the doctrine of maintaining the fertility of the soil by keeping good livestock in connection with farming operations, one need not look any further than Peabody Farm. For years, indeed, ever since the farm was purchased by the father of the present owner, it has never been without a sufficient number of cattle and hogs to consume the feed produced, and this farm is producing more today than it ever did. Since 1876 pure bred Shorthorns have been a fixture on the farm. It was in that year that the first purchase was made, and let it be known that the first Shorthorns were good ones and since that time nothing but good ones have found a home at Peabody.

At present Messrs. King are offering seven head of yearling bulls, some straight Scotch, and some Scotch topped, that are just right to go out and do the buyer a world of good. These youngsters have been handled well and are big, strong, lusty fellows. Besides these yearling bulls there are a number of younger ones offered. About eleven head of extra nice heifers and several good young cows are also for sale. All of this stuff is the Peabody kind, which is another way of saying that it is good. The prices are very reasonable. Here is a chance to start in the pure bred cattle business with a comparatively small outlay of cash and the buyer is bound to make some money.

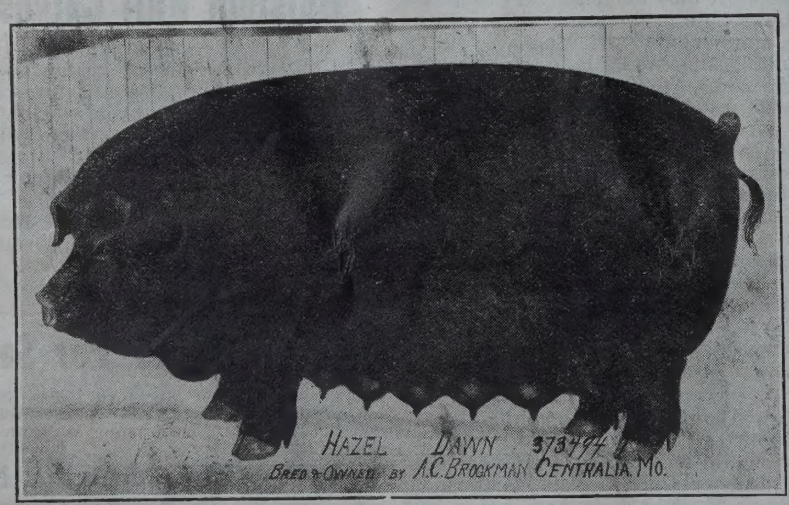
Mr. King would be glad to have a prospective buyer come and look over his herd.

Taylor's Champion Durocs.

Chas. L. Taylor, of Olean, Mo., writes that he is having exceptionally good luck this spring in saving his crop of pigs and that his sows are farrowing large, uniform, thrifty litters. Mr. Taylor has built up a very high class herd by using as good blood as he could find and then taking care of it. He was particularly fortunate in selecting Col. Wonder for a herd boar. From his first show as a junior yearling his record has been a series of winnings that attracted much favorable comment, and if further proof is wanted as to his bid for fame one has only to learn that a daughter of his was made grand champion sow at the Missouri State Fair last year. Anticipating a keen demand for Col. Wonder blood, Mr. Taylor very wisely mated the majority of his brood sows to this great boar and will therefore be in a position to furnish a high class lot of spring boars and gilts to the trade. Orders will be booked now for delivery beginning in June. Mr. Taylor also has on hand quite a number of yearling boars, many of them sired by the champion, that should be out in herds over the state. You will find the prices very reasonable.

Bland Sells Polands September 16th

Halleck Bland, Centralia, Mo., claims September 16th, as the date of his first public sale of Poland Chinas. At that time Mr. Bland plans to offer a very high class lot of boars and gilts.



Hazel Dawn, the 810-pound Duroc sow, owned by A. C. Brockman, Centralia, Mo. Hazel Dawn is one of the largest Duroc sows in the state. She is the dam of several spring boars and gilts offered for sale.

CLYDESDALE HORSES FOR SALE

MISSOURI FARMERS, DO YOU RECOGNIZE THE OPPORTUNITY?

The war in Europe means that the United States will furnish the Draft Horses and Draft Breeding Stock for the world for years to come. There was never a better time for you to get into the game and Missouri farmers should take advantage of the opportunity. I have Prize Winning Stallions and Mares of all ages for sale at lowest prices.

F. L. CROSBY, Highview Farm - - - - - - - Mexico, Mo

Duroc Jersey Fall Boars and Gilts

We still have a number of choice fall boars and gilts sired by Beauty's Model, first prize Senior Yearling at the Missouri State Fair. Priced to sell, as we need the room.

W. O. & B. A. SMITH - - - - - Thompson, Mo.

DUROC SOWS BRED TO CHAMPION

CRIMSON COL I AM for March and April farrow. Bred gilts sired by him, stretchy, good bone and color. Choice fall or spring boars $25 each. Guaranteed as described. Come see them.

A. WHITE, JR. Box 422 PALMYRA, MO.

ADENHILL DUROCS--BRED GILTS and SOWS

Sired by Champions Tatarrax Again, Crimson Col. I Am and Col. Wonder II. Priced reasonably. Also a few serviceable spring boars of same breeding. Priced to sell. A fine lot of fall pigs sired by Col. Wonder II.

R. L. HILL - - - - - - - - Adenhill Farm, Columbia, Missouri

THOMSONS' BOAR BARGAINS

Duroc Jersey spring boars. Splendid individuals from a $1500 sire and $100 dams. Satisfaction guaranteed or no sale.

W. H. and GEO. E. THOMSON, Columbia, Mo.

DUROCS WITH SIZE AND QUALITY

15 May boars and gilts. Must sell in next 30 days. I have the size combined with quality. Prize winning blood. Pric ed to sell. Come or write.

A, C. BROCKMAN, Route 2, - - - - Centralia, Mo.

WELLER'S IMMUNE DUROCS

I am offering a choice lot of boars, bred sows and gilts. Priced reasonable. Customers in 48 Missouri counties.

J. E. WELLER, FAUCETT, MO.

15 DUROC SPRING BOARS & GILTS

We will have 15 boars and a number of open gilts which we will price to sell quick, and are booking orders now for 25 pigs, farrowed November 10th.

J. C. Garrard & Son McBaine, Mo.

Champion Col. Wonder Durocs

A few yearling boars and bred gilts. Booking orders for spring pigs either sex. Col. Wonder sires my champions—he will sire champions for you. Write or come.

CHAS. L. TAYLOR - - OLEAN, MO.

MEGOWN'S SPOTTED POLANDS

No matured stock for sale but booking orders for pigs to be shipped later. Have length, bone, size and big spots. Sired by two of the biggest boars in the State for their age.

B. B. MEGOWN - - - - - - - - - - - - - - New London, Missouri

FOR SALE—MAMMOTH POLAND CHINA SPRING BOARS and BRED SOWS

All safely immuned by double treatment vaccination. The biggest of big type breeding. Spring gilts weighing in moderate flesh 250 lbs. Tried sows bred for early farrow. Mature sows weighing (in flesh) 650 to 750 lbs. All from litters of 7 to 16. Gilts by Mastodon Price and Gritter's Longfellow, bred to Ellerbrock's A Wonder. 25 big spring boars of serviceable age. See or write CLARENCE DEAN, Weston, Mo.

P. O. Weston, Railroad Station, New Market. Electric line from St. Joseph and Kansas City. Station, Dearborn, Mo.

POLAND CHINAS AND SHORTHORNS

Bred sows and yearling gilts bred for May farrow. Extra good fall boars and gilts. Several choice young bulls and heifers.

Satisfaction Guaranteed.

H. S. WILLIAMSON, R. 6 Centralia, Mo

SUPERIOR HERD BIG-TYPE POLANDS

We have at all times anything you want in strictly big-type Polands. Special prices on spring boars and gilts in pairs or more—not related. Write us your wants.

Freeman & Russ Kearney, Mo.

LOCKRIDGE'S GIANT POLAND CHINAS

In my recent sale gilts bred to my great young boar THE GIANT 72083 averaged $57. THE GIANT is conceded to be one of the greatest boars of the breed. You will want some of his blood. Booking orders for spring pigs. Write at once.

WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

BAKER'S REAL BIG-TYPE POLANDS

Our winnings at the State Fair prove that we "have the goods." Spring boars and gilts of excellent breeding and individuality at very reasonable prices. Also a number of fall boars, big, stretchy fellows.

W.A. Baker & Sons, Butler, Mo.

Dooley's Spotted Polands

Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pairs and trios no relation. Also registry furnished. Send check with first letter.

Edgar Dooley Etterville, Mo.

RAUSCHER'S CHESTER WHITES!

One of the Oldest Herds In the West

A few choice spring gilts bred for early farrow. Several richly bred big spring boars. A fine lot of fall pigs. Size, quality, and bone. Prices reasonable and every pig guaranteed.

H. Rauscher & Son, Kahoka, Mo.

Maple Grove O. I. C's

Over 100 spring pigs from 2 to 3 months old at the following prices: Choice of litter, $12; litter average, $10; fall gilts, $15. Bred gilts $20 to $25. Bred sows, $30 to $35. Prize winning blood and the most popular strains. Each individual guaranteed to give satisfaction.

F. J. GREINER, BILLINGS, MO.

Megown's Spotted Polands

B. B. Megown, who advertises Spotted Polands in this paper, has a nice lot of spring pigs coming on that are going to be very attractive by fall. Mr. Megown believes that the Spotted Poland is the most profitable hog for the farmer, and he would like the chance to prove to any prospective buyer that the kind he raises are as good as can be found. Write him and kindly mention this paper.

White's Durocs

In a recent letter from A. White, Jr., Palmyra, Mo., he says: "I have ninety-four spring pigs now and have six more sows to farrow. Trade has been exceptionally good with me for bred sows and gilts but I still have a number of extra good ones left that are bred to farrow the last of this month. Select Col. II, the boar I bought at C. C. Boyd's sale is doing fine in his new home and I like him better every day. Indeed, I think I have in him one of the greatest boars of the breed. I don't know of a larger boar and certainly none are any nearer the desired type than Select Col. II. When I mate him to such sows as Missouri Lady, Lady Olean, and others I could name, I am going to look for championship material in every litter." Mr. White is one breeder that has the courage of his convictions and when he makes up his mind that a particular sow or boar is needed in his herd he usually buys or the other fellow goes home with a high priced hog.

Adenhill's Durocs

R. L. Hill, owner of the Adenhill herd of Durocs, still has several extra good fall boars for sale. These boars are sired by Col. Wonder II, the prize winning son of the champion Col. Wonder, and are out of sows carrying the most popular blood of the breed. Mr. Hill has a large crop of spring pigs coming on and is therefore anxious to move these boars as soon as possible, accordingly he is pricing them extremely reasonable.

Wm. H. Bruns & Sons, Concordia, Mo., offer the readers of The Missouri Farmer excellent values in Jersey bulls of serviceable age, and heifers from high producing dams.

IDLEWILD SHORTHORN CATTLE

Milk and Beef Type. Dual purpose in name and in fact. Herd 50 years old. In one family, on one farm. The type is fixed. I have a strain that I believe rivals the famous Duchesses. Fine beef cattle that are heavy milkers. And deep milkers of fine beef type. Call, or this blood is safe by order.

W. P. Harned, Vermont, Mo.

Shorthorn Bulls and Heifers

PEABODY FARM now offers 12 choice young bulls and 20 heifers. Good individuals; reds and roans. Priced to sell. Also 20 open BERKSHIRE gilts. Get our prices.

June K. King & Son Marshall, Mo.

GALLOWAY CATTLE

Young stock for sale at all times. Herd established 25 years.

J. & W. R. CLELLAND, New Hampton, Mo.

ChoiceAberdeen-Angus

Established 30 years. 100 head in herd. We are offering good useful Bulls, and Heifers of excellent individual merit and breeding. Prices reasonable. Our customers make them popular.

D. L. Sutherland & Sons Windsor, Mo.

Aberdeen-Angus

I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.

J. D. Blackwell Fayette, Mo.

ANGUS CATTLE

HERD FOUNDED 1904

Seven early calves—3 BULLS and 4 HEIFERS, sired by Dean's Eric 139686. Every one the right kind, and priced to sell.

V. E. LAWRENCE, SALISBURY, MO.

Angus Bargains

Registered bulls and heifers. The market topping kind. Leading families represented. Priced worth the money and satisfaction guaranteed.

Also Poland China hogs.

J. M. JONES, R. F. D. 3, EVERTON, MO.

Weller's Duroc Bargains

J. E. Weller, Faucett, Mo., whose ad has appeared in The Missouri Farmer since February 1st, reports a number of sales made through this paper. In the last six weeks stock from his Legal Tender herd has been shipped to the following points: Appleton City, Langdon, Malden, Westboro, Maryville, Clark and DeKalb. Mr. Weller still has for sale a limited number of choice bred gilts and a corking good bunch of boars that he is pricing way down the line. This stock was all immuned last year with the double treatment, and is the sort that will please our readers.

Breeding stock from this herd has been shipped into fifty counties in Missouri, and for a number of years a nice trade has been carried on with old customers, testifying that the kind Mr. Weller is producing give satisfaction. If you are in the market for Durocs don't overlook the Weller herd. Take special advantage of the prices he is quoting for May and write him for further particulars.

Holstein Bulls and Cows

M. E. Moore & Co. have several very choice young bulls and heifers to offer the trade. This herd is one of the oldest in the middle west and for years it has been maintained on a production basis. At present over eighty per cent of the cows have A. R. O. records and this young stuff referred to in the advertisement is backed up by these official records.

Augus Bulls and Heifers

J. D. Blackwell, Fayette, Mo., reports the sale of two young bulls to customers at Poplar Bluff, Mo. Mr. Blackwell is breeding a class of Angus that meet with ready sale to the farmers of this state and he is making very attractive prices on young stock of either sex.

Large Yorkshires

Frank Gildow, Jamesport, Mo., is offering a nice lot of Large Yorkshire boars and gilts. The Yorkshire is the acknowledged bacon hog, and most any farmer can well afford to own a sow and boar just to furnish a supply of bacon for the family.

POLAND CHINA BRED SOWS GET HIGH PRICES

Reports from nine leading auctioneers selling Poland China bred sows during the winter of 1915, show that over 8500 head were sold, with an average of $60 per head.

Two auctioneers gave reports of selling 2500 and 2700 head each with averages of $65.50 and $67.80 respectively.

Number of sales called off due to quarantine regulations from the entire nine reports were 22, and called off for other reasons, 20.

MILK SPREADS TUBERCULOSIS

Milk may convey the active agents of some of our transmissible diseases. Cows having tuberculosis of the udder give off tubercle bacilli in the milk. This milk may be sent to a creamery and there be mixed with the milk coming from a large number of herds, which may be free from tuberculosis. All the milk is then contaminated. Hogs are frequently fed on skim milk from creameries, and this may be the reason why so many hogs are condemned by the meat inspectors every year for tuberculosis. During the year 1912 the Bureau of Animal Industry condemned 42,267 hogs and parts of 314,581 other hogs as tuberculous.—H. Preston Hoskins, Assistant Veterinarian, University Farm, St. Paul.

A HISTORY OF HEREFORDS FREE

The American Hereford Cattle Breeders' Association has just issued a 40-page booklet entitled "Herefords: A Short Story of Their Early History." Numerous requests have been received by the association from breeders, instructors and students in agricultural colleges, public school teachers, county agents and farm demonstrators for a condensed history of the Hereford breed, and this booklet was prepared to meet these requests. In addition to a history of the breed from its origin until it was firmly established in this country, the booklet contains the chapter on Herefords from Farmers' Bulletin No. 612, recently issued by the U. S. Department of Agriculture; a review of the four-year breeding and feeding experiment with the beef breeds conducted by the Kansas Experiment Station at Ft. Hays; and the Official Score Card for Herefords adopted by the association. Copies of the booklet will be sent free on application to the American Hereford Cattle Breeders' Association, 1009 Baltimore Ave., Kansas City, Mo.

POLLED HEREFORDS

The Polled Hereford breeders are making considerable progress in getting their breed established on a good basis. Last year there were nearly 1200 cattle recorded in the association's Herdbook. About 400 new herds have been established making 1277 herds. Iowa leads in the number of herds, 352, and Missouri has 106 herds. J. E. Green, Munice, Ind., is president of the Polled Hereford Breeders' Association and B. O. Gammon, DesMoines, Iowa, is secretary-treasurer. Literature concerning the breed can be had from the secretary.

THE OX WARBLE

This species has been known for more than a hundred years as one of our most injurious animal parasites, especially those working upon cattle, and yet but very little is known about it by the general farmer and stockraiser.

The losses caused by this insect each year aggregate millions of dollars. Not only is the hide of the infested animal punctured by the emerging larvae, causing a reduction in value of one-third, but the presence of the grubs in the animal's back is a source of loss which can not be neglected. The latter is very often overlooked. The poor condition of the animal, its inability to take on flesh, or poor showing at the milk pail, are factors attributed to other causes. Most uninformed cattlemen attribute these conditions to poor care, lack of proper nourishment, or physiological troubles. The presence of fifty or sixty burning, running ulcers on the back of the animal seems a matter of small importance, and is considered lightly by most people. But, Mr. Farmer, how much would you accomplish if you had fifty or sixty boils on your back? The two conditions are analogous and conductive to the same results.

The insect causing all of this trouble is one resembling, in the adult stage, the horse bot fly, or as is sometimes called ,the "nit" fly, but somewhat larger. The adult is seldom seen about the cattle. It is timid and appears only when everything is quiet. The eggs are deposited upon the hairs during the spring and summer, and the animal, upon licking them, carries the egg or larva into its mouth. The young maggot passes into the gullet. From the gullet it migrates slowly through the tissues toward the back. It arrives beneath the skin, and a lump or excrescence begins to appear about mid-winter. This lump gradually grows larger until the middle or latter part of April, when the full-grown grub, which caused the lump, emerges through a hole cut in the hide some time previous, and falls to the ground. It then burrows into the ground and transforms to a pupa, and the adult, two-winged fly, appears from three to six weeks later. This completes the life cycle, which occupies about one year.

There is a prevalent, erroneous notion that the eggs of this warble are laid upon the back of the animal, and the larvae bore beneath the skin to develop. There is no definite proof that such is the case. Also, the large, black horse fly, often seen on the backs of horses and cows, is not, as is often supposed, the parent of this grub. They are separate and distinct species and quite different in habits. These are smaller and more hairy than the large horse flies.

This is one of the easiest insect pests to control that we have. In the winter and early spring, all the insects are in the larval stage in the backs of the cattle. If every one owning cattle would squeeze the grubs from the backs of his animals, and destroy them, there would be no nucleus for a new generation, and consequently, no ox warbles the next year.

When the grub "ripens," i. e., when it matures, a large hole appears in the lump, bordered with pus. This condition usually appears in April and May. When it comes, wrinkle up the hide containing the grub, get the two thumbs and first two fingers on each hand beneath the lump and squeeze. The grub usually flies to the ceiling like a wad from a pop gun; now tramp on it, and the job is completed.

J. Troop,
Entomologist, Indiana Experiment Station.

Don't Sell the Young Calf

BLATCHFORD'S CALF MEAL Will Raise It Without Milk

There's big money and little trouble for you in raising your calf the Blatchford way.

You can save all the milk of the cow for market. As soon as the mother cow's milk is ready to sell, the calf is ready for

Blatchford's Calf Meal

—For over a century the Recognized Milk Food for Calves, at One-Fourth the Cost of Milk

Composed of eleven different ingredients carefully apportioned and thoroughly cooked, producing a scientifically balanced ration for the young calf. Successfully used on thousands of American farms for over thirty years.

The Only Milk Equal Made in an Exclusive Calf Meal Factory. Unlike any of the So-Called Calf Meals Made of Raw Cereal By-Products.

Blatchford's Pig Meal insures rapid, sturdy growth of young pigs. Write us about it.

Write for Free Illustrated Book on "How to Raise Calves Cheaply and Successfully Without Milk."

Blatchford's Calf Meal Factory
18 Madison Street (1) Waukegan, Ill.

THOMAS E. DEEM

AUCTIONEER

Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased.

Dependable service at a reasonable charge. Address, Cameron, Mo.

Harry W. Graham

AUCTIONEER

PURE BRED LIVE STOCK

Seventeen years experience with America's best breeders.

Chillicothe, Missouri

W. D. ROSS

Auctioneer

Pure bred live stock. Sales made anywhere on reasonable terms. Write for dates.

Otterville Missouri

Glenvarloch Large Yorkshires

The prolific, growthy and gentle bacon hog. Closing out entire herd at private sale. Bred sow, boars and pigs either sex. The produce of one Yorkshire sow will keep your family in delicious meat all next winter. Everything at bargain prices. All immune.

Frank Gildow, Mgr., Jamesport, Mo.

DUROC BOARS

Extra good fall boars. Plenty of size and bone. Prices right.

C. D. CALDWELL, Milan, Mo.

JERSEY CATTLE

Bulls ready for service. They are sired by the Owls Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

SPOTTED BOARS-JERSEY BULLS

We have a dozen Big Boned Spotted Poland China November Boars and a dozen Jersey Bulls ready for light service that we will price very low for quick sale. Also spring pigs and bred heifers to offer.

The ENNIS FARM, Horine Station, Mo.
(Just south of St. Louis)

Jersey Cows

I want to sell 20 head of registered cows and heifers that are either fresh or soon will be. Also four young bulls.

J. B. SMITH Platte City, Mo.

Holsteins Wanted

Wanted, a herd of about 25 registered Holsteins, over 2 years old. Give price and full particulars first letter.

W. F. PHELPS, Aurora, Mo.

HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndyke Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

M. E. Moore & Co., Cameron, Mo.

IMPORTANT

We want representatives for the Dickey "Tight as a Jug" Glazed-Tile Silo in every community. If you are interested and wish to establish a pleasant, profitable business that will require only some of your spare time, write us for our proposition. The option is yours if you act at once

I Personally Guarantee the Quality of the Material in the Dickey Jug Tight Silo. It is the same high quality as the Dickey Vitrified Salt Glazed Well Pipe and the Dickey Vitrified Salt Glazed Sanitary Sewer Pipe that I have been manufacturing in Missouri for 30 years.

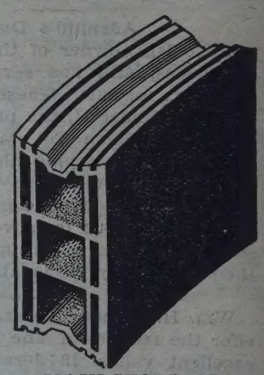
Walter S. Dickey

Buy a Dickey Jug Tight Vitrified Salt Glazed Tile Silo Now — Pay December 1st

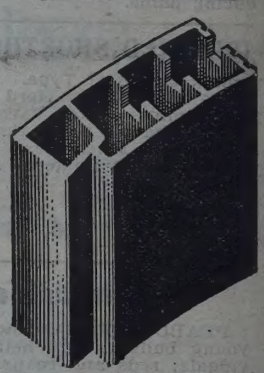
The Dickey "Tight as a Jug" Silo is made of Vitrified Salt Glazed Radial Clay Blocks, each having 4 walls and 3 dead air spaces. The clay is thoroughly vitrified, hard as flint, and each block is salt glazed which gives it a glass-like surface both inside and out. The 4 walls and 3 dead air spaces guarantee you three times the protection of the ordinary silo against extreme heat and cold, compel a perfect and even temperature to every part of the silo area, and insure fresh, crisp, juicy silage regardless of season or conditions.

The Dickey Silo is air-tight, water-tight, storm-proof, acid-proof, gas proof and leak-proof. It won't warp; it won't twist; it won't crumble; it won't decay. The smooth glass-like surface inside causes the silage to settle even and solid and thereby eliminates mold, rotten spots and bad layers.

Once up the **Dickey Silo** stays up and in perfect condition. It requires no painting, guy wires or supports and will last a lifetime. First cost is last cost, which makes it the least expensive as well as the best silo possible to erect.

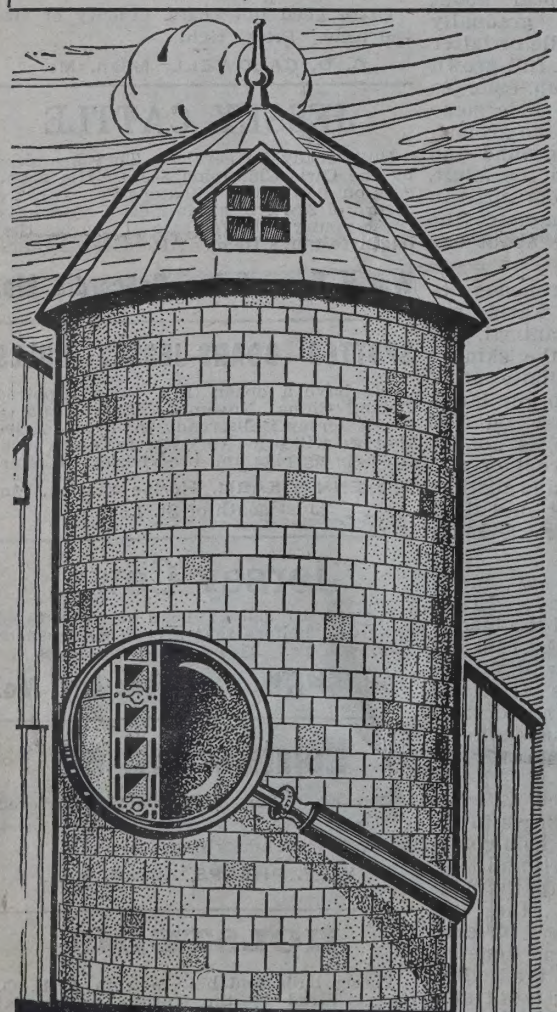


MAIN WALL OR CHANNEL BLOCK

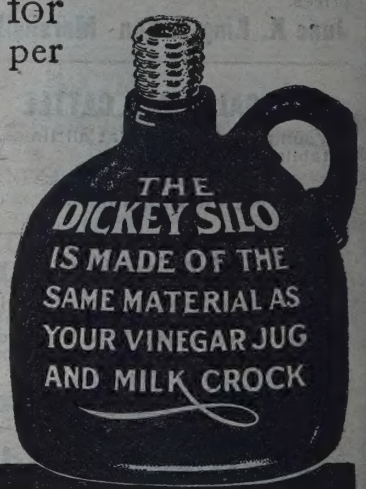


DOOR JAMB BLOCK

WE CANNOT OVERSTATE THE ADVANTAGE TO YOU OF THE THOROUGH AND COMPLETE VITRIFICATION AND SALT-GLAZE OF THE DICKEY JUG TIGHT SILO. WE COULD SELL THEM CHEAPER IF THEY WERE MERELY HARD BURNED, BUT THEY WOULD NOT BE GOOD ENOUGH FOR YOUR FARM.



Buy your **Dickey "Tight as a Jug" Glazed Tile Silo** now. You can pay for it next December if you wish, or save 12% per annum by paying cash. Build your silo now and have it ready when your crop is ready for your silo. Have it ready for such emergencies as hot winds, backward seasons, drouths, etc. Order and build now while you have the time. Remember you do not have to pay until December.



SEND US A POSTAL OR MAIL COUPON TODAY FOR YOUR FREE CATALOGUE

If you expect to build a silo this year you owe it to yourself to investigate the Dickey "Tight as a Jug" Silo. The catalogue which we will send you not only tells the story far better than we can tell it in this advertisement, but it tells you what those who have used it say about it.

Walter S. Dickey,
doing business as
The W. S. Dickey Clay Mfg. Co.,
(NOT INCORPORATED)
216 New York Life Bldg.,
Kansas City, Missouri

MAIL THIS COUPON NOW

W. S. DICKEY, Pres. W. S. Dickey Clay Mfg. Co.,
216 New York Life Bldg. KANSAS CITY, MO.

With no obligation on my part, please send me your **FREE** Catalogue—and full and complete information regarding your new selling plan and how I may become your representative in this locality. I am interested in a silo and if I should build one, it would be of about.....tons capacity.

Name .....

Town .....

State.....R. F. D.....

I have.....Feeders;.....Dairy Cattle; and have lived in this locality.....years.

Address, WALTER S. DICKEY, President
W. S. DICKEY CLAY MANUFACTURING CO.,
216 New York Life Bldg. Kansas City, Missouri

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE MISSOURI FARMER

COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE AND THE MISSOURI EXPERIMENTAL STATION

Over There and Here

We believe there are few, if any spots n Missouri which are better barometers of how the farmers of this state feel than the office of The Missouri Farmer. If something is wrong with the wheat up in Carroll, if the peaches are in a bad way down in Oregon, if the pigs are sick up in Scotland, if high water is playing havoc down in Mississippi, or if the corn-root louse is off the reservation up in Nodaway—in a few hours the word comes vibrating into this office and it is no exaggeration to say that those who perform its daily tasks are elated or despondent in proportion as the news is good or bad—for while they are bent down over their desks early and late, getting ready for the "next paper," their hearts and thoughts are out in the myriad corn and wheat fields which stretch from Iowa to Arkansas and from the Father of Waters on the East to where the wild sunflowers wave in the breeze across the Kansas border.

And thus it is that these beautiful May days find us up in the "crow's nest" anxiously scanning the horizon. That just now we are a bit nervous there is no denying—for here we know what a crop failure means. We have not forgotten the pitiless sun and the onslaught of insects which, during the last several years, have played sad havoc with many a good farmer's dreams. Here we realize that once more the farmer is steering his "good ship" amid the reefs of drouth and pestilence and that upon whether he safely reaches port with a bounteous cargo depends the happiness of thousands of farm homes and bread and raiment for the toiling millions of the city.

But, after all, let us not borrow trouble. Let us not weep until fate has dealt the last card. Let us thank the good God on high that we and our loved ones are healthy in mind and body and that we are at peace with our neighbors and with the World. The Hessian fly is sapping the vitality out of your wheat, you say? Yes, I know it's hard—but maybe you will have a half or two-thirds crop and isn't that a thousand fold better than if every blade of it had been trampled into the Earth and if your fields, like those of Belgium and France and Poland had been dug full of trenches and dotted with rude crosses—marking the last resting place of a lot of stalwart men who have fallen before the cannon's wrath? You are afraid of an "invasion" of chinch bugs? Well, maybe old Jupiter Pluvius has something up his sleeve we don't know about. Maybe he intends sending them on a long voyage down the Mississippi river. And, even though it is decreed that the chinch bugs shall come, wouldn't such an invasion be preferable a thousand times to the kind which is now holding the sad fields of Europe in its merciless grip?—armed hosts which stretch away as far as the eye can see—which trample into the dust every sprig of grass and green thing in their paths—whose great engines of war clang and crunch by day and by night—an invasion whose crimson trail will be in evidence when the Earth is rolled into a scroll and there is an end of time!

For aught we know now, the year may be good or bad. Except for insects here and there, things never looked better. If the beauty of Missouri could be transferred to canvas at this moment, it would produce a picture worthy of the greatest master who ever wielded a painter's brush. So let's not cry until we are hurt. Maybe there are golden harvests just a little way ahead. But, in any event—come what may and let fickle nature play what caprice she will, should not you and I thank the Master from the bottom of our hearts that peace reigns in your humble home and mine? Down in the woodland the quail and the thrush shout for joy and their melody is not disturbed by the sullen roar of distant guns. No cannon's smoke obscures the kindly sun or makes the Earth tremble from its anger. Out in the quiet pasture the lambs frisk and play while the rooster—supreme egotist of the barnyard—struts with accustomed insolence and pride. The patient old work horses are pulling plows and cultivators instead of ugly transport wagons—and, as our little families gather around the frugal supper table there are no stifled sobs for a father, son, brother or sweetheart who sleeps beneath a rude wooden cross on some distant battlefield.

—The Author of After-Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VII MAY 15, 1915 NO. 10

WILLIAM HIRTH
PUBLISHER

MISSOURI LIVE STOCK AT THE PANAMA EXPOSITION

The Missouri Commission to the Panama-Pacific Exposition has set aside twenty thousand ($20,000) dollars to be used in encouraging and assisting in the exhibition of Missouri live stock at the Panama-Pacific Exposition.

With this liberal state aid this Exposition should furnish an opportunity not frequently had by Missouri live stock breeders. Attention may well be called to the following which are a few of the advantages to be derived from an exhibition at this great world competition and display:

Missouri breeders can compete:

1. For $175,000 in premiums offered by the Panama-Pacific Exposition. Over $125,000 in premiums offered by breed associations and where they they can receive a portion of the $20,000 set aside by the Missiouri Commission for assisting live stock breeders who exhibit at the Exposition.
2. Before vast throngs of people among whom will be a large number of prospective live stock buyers.
3. In a territory which is at the dawn of a great period of live stock production.
4. At a time when live stock production, as a means of food supply and source of labor and pleasure animals, is receiving more attention than ever before and when numbers handled, prices received and net profits resulting are more satisfactory than ever before.
5. At a period when live stock farming has been conceded to be the most satisfactory system of permanent agriculture practice on the average form.

For the distribution of the appropriation for the benefit of the live stock interests the Missouri Commission plans to pay on all worthy Missouri owned animals exhibited in breeding classes and mules a definite sum, the amount of which for the various classes of animals appears below:

Cattle (over 12 months of age)	$12.00
Cattle (over 3 months and less than 12 months of age	8.00
Horses (breeding) over 12 months old. (Shetlands excluded	14.00
Horses (breeding classes) over 6 and less than 12 months not including Shetlands	7.00
Shetland ponies (over 6 months of age)	7.00
Jack stock and mules (over 12 months of age)	14.00
Jack stock and mules (over 3 and less than 12 months)	7.00
Hogs (over 6 months of age)	6.00
Pigs (over 2 months and less than 6 months of age)	3.00
Sheep and goats (over 6 months of age)	5.00
Lambs and kids (over 3 months and less than 6 months)	2.50

From its appropriation set aside for this purpose the Commission plans to duplicate all prizes offered by the Exposition which are won in breeding classes and on mules by Missouri owned and exhibited animals. Should this sum be insufficient to duplicate premiums won, the money will be prorated among the exhibitors in accordance with the amount of money won.

In order to care for the poultry interests the Missouri Commission has arranged to pay the transportation charges of a carload of our choicest poultry to and from the Exposition. They have also agreed to send a poultry expert along with the car to see that the poultry is kept in proper condition, that it is watered and fed, properly cared for, and exhibited in the best possible manner and then returned to the owners. The poultry will be assembled at Kansas City and there passed on by a competent judge. The birds worthy of being sent from Missouri will be included in the car and all transportation charges will be paid from that point to the Exposition and return. All that Missouri exhibitors will be required to pay will be their entry fee and the express to Kansas City and return. With this liberal offer on the part of the Commissioners, hundreds of fine fowls should be sent to represent Missouri in this World's Poultry Show.

The dates of the live stock competition at the Panama-Pacific International Exposition have been set as follows and are listed in the official premium list of the Exposition,

Horses, mules and asses—Thursday, Sept. 30 to Wednesday, Oct. 13.
Cattle, beef and dairy—Monday, Oct. 18 to Nov. 1.
Sheep, goats and swine—Wednesday, Nov. 3 to Monday, Nov. 15.
Carlots of live stock—Thursday, Nov. 11 to Sunday, Nov. 14.
Poultry and pigeons—Thursday, Nov. 18 to Sunday, Nov. 28.
Dogs, cats, pet stock—Monday, Nov. 29 to Wednesday, Dec. 1.
Children's pets—Wednesday, Dec. 1, to Friday, Dec. 3.

The official prize list of the Exposition has been issued. It contains the complete prize list offered by the Exposition, breed associations and statement of the state aid for most states. Besides this it includes "Rules and Regulations" regarding shipping, feed, exhibition, selling and such other information as a prospective exhibitor would desire.

The Missouri Commission has issued a pamphlet covering its activities in the live stock and poultry division. Copies of these have been sent to over two hundred breeders and to all of the country papers in Missouri. Those in charge will be more than pleased to be of any service possible to prospective exhibitors or visitors at the Exposition. Such parties will make possible greater service to them by writing to the below named individuals. Persons desiring a copy of the Missouri pamphlet or information regarding Missouri live stock at the Panama-Pacific Exposition can secure any service which can be rendered by writing.

W. A. Dallmeyer, Jefferson City, Commissioner in charge of Live Stock, or
E. A. Trowbridge, Columbia, Supt. of Missouri Live Stock for the Missouri Commission.

IT SAVES THE FARMER'S THRESH BILL

The Red River Special saves enough extra grain to pay the thresh bill. It saves the bushels that poor threshers pour into the straw pile. Compared with ordinary threshers, the threshing costs the farmer *nothing!*

BUY OR HIRE A

RED RIVER SPECIAL

And Save the Farmer's Thresh Bill

Built on an entirely different principle of separation from other makes. It *beats* the grain out just as you would by hand with a pitchfork—instead of *expecting* it to drop out.

Protect your profits this season by selecting a Red River Special Thresher. It makes more money for the thresherman and saves the farmer's thresh bill.

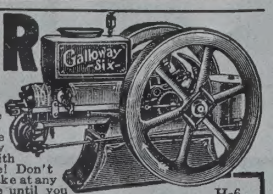
MORE BUSINESS FOR THRESHERMEN

The thresherman owning a Red River Special can work faster—save grain—save time—save money—*hold* his customers—because of its superior quality.

Send for new Red River Special Paper, FREE

NICHOLS & SHEPARD CO.
(In continuous business since 1848)
Builders of Red River Special Threshers, Wind Stackers, Feeders, Steam Traction Engines and Oil-Gas Tractors
(12) BATTLE CREEK, MICH.

POWER



Economical, reliable, steady, satisfactory engine service built into every Galloway gasoline and kerosene engine. Heavy weight, large bore and long stroke low speeded. Compare it with any engine! Then decide! Don't buy an engine of any make at any price until you know all about Galloway engines. H-6

17.95 1½ h.p.

ENGINE PRICES LOWER

Great volume, perfected design and simplicity make Galloway prices possible. Built from best material on modern automatic machinery, all parts standardized. Sold to you at one small profit. No unnecessary parts. Built-in quality steadily increases our volume. All styles and sizes from 1 1-2 h. p. to 16 h. p. at proportionate prices. A postal gets big Galloway engine book free. Engines shipped from Minneapolis, Council Bluffs, Kansas City, Waterloo or Chicago.

WM. GALLOWAY CO., Box 595 WATERLOO, IOWA

THROUGH THE ALLEGHANIES IN DAYLIGHT

After finishing the campaign for more and better alfalfa in the three northeastern counties of Ohio and around Cleveland, I planned a daylight trip through Pennsylvania, Maryland, Virginia, West Virginia, Kentucky, Indiana and Illinois.

I went from Cleveland to Pittsburg, Pa.—and here I had an opportunity to study one of the greatest steel manufacturing centers in the whole world.

Here the great gigantic furnaces send forth their liquid fire, the flames seem to lap the very sky, day and night—and the roar and din approaches that of Niagara Falls—and the clang and clatter of the ponderous steam hammers reminded me of the deafening sound that greets the ear when going through the stamping mills at Lead, South Dakota.

I said, some years ago, describing the tremendous pandemonium that pervades the air, day and night, at those stamping mills that Gabriel would have some competition when he comes to warn the men who toil amidst those deafening, nerve-racking mills that crush and grind the adamantine rock into finest powder.

I had seen the West when her harvest of wheat and corn was on. Looking over the broad expanse of those western agricultural plains, whose limits seem to have no bounds save the horizon made up of the blue vaulted dome of the azure sky, and watching the innumerable animals of farm and ranch, you ask yourself and others "Who will consume the loaves of bread made from this wide expanse of waving fields of grain, or who will eat or use the pounds of pork and beef and mutton, the products of the rich, fertile soil of the West, the Middle West, the Corn Belt states and the Mississippi Valley, the poultry, the eggs, the potatoes, the countless millions of tons of those things that go to keep soul and body together?" Certainly not the people who dwell on these plains that (like the ancient shepherds on the silver plains of Judea), produce these field crops and feed them to the cattle of a thousand hills, to sheep, to hogs and to poultry—no indeed!

To do this and no more would be to live a narrow selfish life—a life absolutely foreign to these brave and energetic humanitarians that by dint of industry and magnamimity of spirit peopled and subdued the once "wild and wooly" west. But when you travel for miles and more miles through this, the second great range of mountains in the United States (the Appalachian system), the home of the immense beds of iron and coal, and study a country in length and breadth almost if not equal to the food producing section described above, the answer is forthwith and coming, the veil is lifted and the mystery is cleared away.

The products of the farm in an unknown stream passing the products of the mine and factory in an unbroken stream—when you see this with your own eyes you get a clear conception, a fuller and a more complete understanding of what the political economist means when he devotes pages to the great questions of production, consumption, distribution and transportation; why those who labor in the factory and mine are intensely interested in crops and rain and sunshine—the factors essential in producing large yields and plenty—and in turn how those who live upon the land are so deeply concerned as to almost pray without ceasing that the spindles may be kept turning that the fires may not smouler or die out in the furnaces and that the coke ovens may continue to glow and the sky to give off that wierd aspect caused by the lurid flames of the melting pots.

I do not say that it had that effect upon me for that would smack and savor too much of the born "bostes furioso," but to a person of a thoughtful observing turn of mind, after studying the conditions of the agricultural sections, and then inspecting the manufacturing portions of these same United States, it would tend to widen and broaden and deepen his vision and his conception of his own country and magnify his appreciation of that wholesome doctrine that man can not live to himself alone but that those of one section are dependent upon those of another and that the expression the Fatherhood of God and the brotherhood of man was not spoken or written by some idle dreamer but that it is sound teaching and will abide among the children of men until Gabriel sounds the last trumpet and time is no more!

W. D. McKee.

The Missouri Farmer

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Why Not High Schools for Farm Boys and Girls?

By Geo. B. Ellis, Managing Editor

Why should the boy and girl who happen to be born in a town be given a better chance to go to a good school than is given to the boy and girl who chance to be born in the country? Is it because townspeople love their children better than do country parents? Oh, no, hardly that. Is it because the man or woman who lives in town really needs more school training to succeed in business and to enjoy life than does the farmer or his wife? I think there are some people who believe that the man who sells plows requires a good education but that it makes little difference about the education of the man who uses that plow, although in the use of the plow the man should know something of the deep and dark mysteries of the soil; of bacterial life and its relation to soil improvement and crop growing; of drainage and the cultivation of the soil to make it give up its plant food; how to protect his crops against the ravages of plant diseases and injurious insects, both of which have caused failure and famine in the past ages and are sure to repeat their processes for ages to come unless men learn how to eradicate or control them; of the feeding of his crops to farm animals in such a way as to get a profit on his labor (the smartest of us have not yet learned how to always do this); of the prevention of live stock diseases which annually cause a loss to farmers of more money than they spend for high schools and good roads. Do you not think that the man who should know something of all these and a thousand other things should be equipped with a better education than the man who merely buys and sells farm implements, coffee and sugar or who stands behind the wicket in the bank and cashes your check or approves your note when you want a loan?

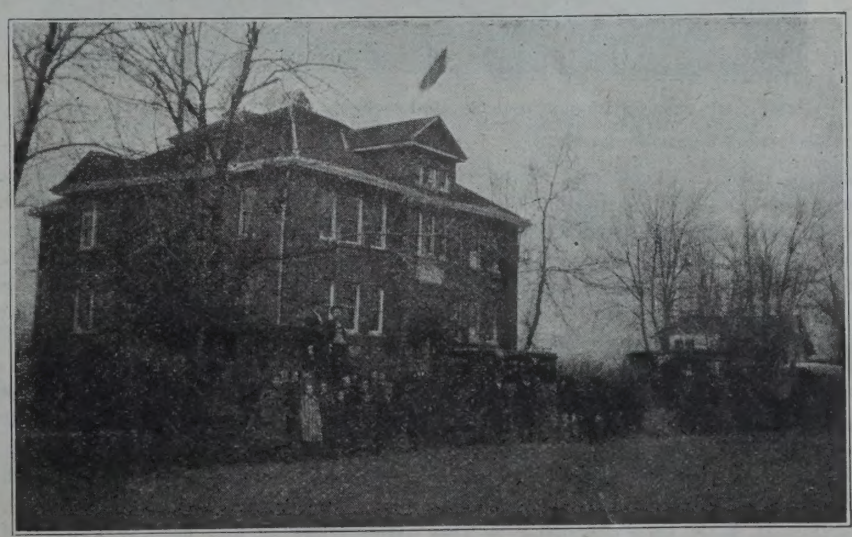
Then who is it so ignorant of the duties of the woman who presides over the farm home that he would say that the responsibilities and duties of the country woman are not as great as—are not much greater than—those of the woman who presides over the home of the merchant, the banker or the professional man? The time has come in the life of this nation and in the development of the world's civilization when just as much attention must be given to the intellectual and spiritual life of country people as is given to city people, or else we must be content to see farmers reduced to the position of the most common laborer like the European peasant. There is no other alternative and it is up to us as intelligent men to say whether we will stand idle while our city brothers in the towns and cities are providing the best high school training for their children, thus giving them a decided advantage over our country boys and girls who have but a very poor elementary school education. This is a serious matter, my friends, and one that concerns the future welfare of our children and perhaps the future welfare of the country. Shall we provide for the proper training of our children, contribute to their ability to earn a competency and enjoy life or shall we for the mere saving of a few dollars of school tax money give to our children and their children cause to say that we failed to look into the future and to see anything beyond our own personal and selfish needs?

Orchestra Wyaconda Consolidated High School. What a refining influence an orchestra like this would have in any school district!

"In Missouri, as far as the rural schools are affected by this problem and its solution, the matter appears very simple," writes W. A. Evans, former State Superintendent of Public Schools. "There should be such schools within reach of the children that they may remain on the farm during the period when they may learn the art of farming and get the necessary cultural preparation for venturing into some other field if preferred. Thousands of parents in the country are now debating what to do about the future education of their children. The children are finishing the country school and four choices are open to the parents: to let the children stop school, to board them in town while going to school, to dispose of the farm and move to town, or to get a school near home.

"It is well known that few of the children who go away from the farm to school ever return and this should be no surprise, as they have not had opportunity to learn the art of farming. This art can be learned between the ages of fourteen and eighteen, and if not learned the young people can not return with reasonable hope of success if they would. On the other hand, it is useless to maintain that all the young people must be kept on the farm, as their vigor, economy, and good blood is needed still and always will be needed in the cities.

"What may be hoped for is to retain a larger portion of the progressive, aggressive young people on the farm with a reasonable hope of success. This may be done by providing high schools within reasonable distance, so that the boys and girls may go to them and remain at home under the care of parents.



The Wyaconda Consolidated High School, a $10,000 building—four years of high school work. The four wagons seen in the picture transport the children over dirt roads without difficulty.

"When all is summed up the remedy is leadership, more money and adequate supervision. Leadership is placed first, as it is the prerequisite of the others. For many people a great charm in country life is the isolation, the imagined independence, and the opportunity for the indulgence of selfishness of individualism. To a great many this is a positive luxury and is indulged freely. To overcome it leaders must arise to convince the farmer that if he wants any of his children to settle around him he must loosen his heartstrings and pocketbook. The lack of money is the root of all evils in the rural schools in spite of the fact that the rural districts in a large part of the state have more wealth per teacher than the towns, and are consequently more able to provide fine, sanitary buildings, good teachers and high school advantages."

The ex-superintendent further writes that while it has been the tendency of rural districts to economize unwisely there are some shining exceptions and these will develop others. Many think it is only a dream to talk about steam-heated and ventilated rooms, indoor toilets, running water, and gas for light and laboratory and other modern and necessary equipment for country schools. But there are a few districts where such progress is a reality.

In Strafford, Green County, only a small village, may be found "a four-room building with a high basement where manual training and domestic science may be taught. The two upper rooms are separated by folding doors forming an auditorium lighted by Blau gas. The basement contains toilets with running water supplied from a deep well, pressure tank and engine. Septic tank disposes of sewage and bubbling fountains on both floors are supplied from the same water supply. The auditorium will provide a community center and the five-acre plot of ground will furnish a community play ground and an agricultural plat to exemplify the studies in agriculture."

One of the most successful examples of what a rural community can do to provide first-class high school facilities for farm boys and girls is the Wyaconda district in Clark County, Northeast Missouri. The village of Wyaconda has a population of about 500 people surrounded by an agricultural community typical of a thousand other similar communities in the state. There are no rock roads but the ordinary dirt road fairly well graded, culverted and kept up with the drag. There are included in the consolidated district the village and the three surrounding school districts. The assessed valuation of the district is only $265,000 and any good farming community in the state can get approximately that much wealth in a district

from 4½ to 5 miles square. The school levy in this district is only one dollar on the hundred of assessed valation which makes a tax of not more than twenty to thirty cents on the hundred of the actual wealth of the district and the rate is about the average of what the towns pay where good high schools are maintained.

There are 230 school children in the district and there were 67 pupils in the high school for the year just closed. The school maintains four

Superintendent M. F. Beach, Wyaconda Consolidated High School

years of high school work with three teachers and four grade teachers making in all seven teachers. The building shown on previous page is fitted up with library and laboratory, etc., and cost $10,000 to build. Agriculture is taught and is a popular subject.

Some have urged as an objection to the enlarged consolidated district the impracticability of getting the children to school in bad weather but the Wyaconda district proves this can be done without difficulty. In any consolidated district a great many of the pupils will live close enough to walk to school and it is only necessary to provide transportation for those living farther away. The greatest hindrance to consolidation is our prejudice against a change, but when a few of these schools are organized and a few years time demonstrates their superiority, then we will see consolidation spread just like other improved conditions have made progress in the past. Without the self-binder today there would be a great shortage in the wheat crop and millions of people who now enjoy white bread on their tables would have to use a coarser substitute. But the introduction of the self-binder was opposed just as violently as the consolidated school is opposed. Near where I lived in 1879, only thirty-six years ago, at least three binders were burned that I knew of because laborers thought the improved machines would take away from them a chance to work. Others opposed the binder because they feared the wire used for binding and left in the straw would kill the cattle and while there was some danger on that score it was soon removed and twine was substituted for wire. And so it will be with the difficulties we now think are in the way of consolidated schools—we will find a way around them. Bad roads, the greatest obstacle in the way, can be gotten rid of without much trouble when we make up our minds to do it.

A well drained dirt road, properly graded, with good culverts and the road drag used when it is needed, will make it possible for one wagon to haul twenty to twenty-five children and get them to school with less exposure and with less tardiness than where the children have to walk. Then, too, roads kept in this fashion will contribute to the better success of the church, the Sunday school, the social clubs and every other activity of farm life. Good roads and good schools will do more than all other things combined to stop the trend to town which has proved disastrous to so many good farmers.

In writing to The Missouri Farmer about the success of the Wyaconda consolidated school, Superintendent Beach says the "school was organized under the Buford Law three years ago. It was not done without strong opposition by some patrons of the rural districts. These kickers offered dozens of reasons for their actions, all of which were ficticious except one—the increased taxation. And though they are spending more money for schools than before no reasonable person will deny that they are getting infinitely more dollar for dollar, than under the old way. In a word they are getting the advantages of an excellent high school, which by reason of the wagons, are brought right to their very gates, at a very reasonable cost. However, the opposition is fast fading away. No one—not even the kickers—would be willing to go back to the old one-room school with its inefficient teacher.

"The school is simply a typical high school like that of any small town. The stranger, unless he should see the wagons, would never suspect that this is a Consolidated School. Transportation has offered no serious difficulties. Not one of the wagons has ever been more than fifteen minutes late. Any community in the state can have as good roads as we have if they will give them a little care.

"It seems to me that the progress of our school proves without a doubt that consolidation is one of the great factors to be considered in uplifting the rural communities of our state."

Another successful consolidated district is in Cooper County, the Prairie Home district. The village population here is only 300, and there is no railroad in the district, which embraces 27

Camp Fire girls Wyaconda consolidated school. A group of girls joined together for some noble work of this kind will wield a good influence on the whole community.

square miles. There are about two hundred children altogether, with twenty-five in the high school. The assessed valuation of the district is $357,000, and the school levy is only 60 cents, which is not above what many one-room school districts now levy to keep up an inferior school. They pay their principal $800 salary and he is the only high school teacher employed. The building cost only $3,000, and a good start on a library has been made, costing $150. The Principal, E. E. Carey, writing to The Missouri Farmer says, "There has been considerable opposition to consolidation, but I think it will abate as the officers understand better how to manage it and the people become accustomed to the new order of things."

A consolidated rural school with a five-acre plot of ground can have plenty of room to conduct some demonstration work in plant propagation but its greatest use will be as a central playground for young and old of the community. Many a boy could be saved from the evil influences of the town pool hall and other evil associations if there was a good playground maintained at the schoolhouse and baseball, football, basket-ball and other health giving sports were encouraged and properly directed.

Suppose we farmers look at this question for our own good and in the interest of our children and if a consolidated school will give our boys and girls equal opportunity with the youth of the city then let us do our duty.

THE SUMMER SILO

A few years ago the prediction was freely made by pioneer silo builders that a silo would soon be considered as necessary as a barn on every Missouri stock farm. While this prophecy has not as yet been fully realized, few farmers now doubt that the time is not far distant when it will be an accomplished fact. Ten years ago the writer found that it was necessary in most parts of the state to explain what was meant by a silo when speaking at farmers' meetings. Five years ago the nature of the silo was generally understood but the farmer was not convinced that he needed one or that it was a practical thing. Now practically every reading and thinking farmer in the state not only knows what a silo is but is convinced that he needs one and if he is not already among the many thousands using one he is only waiting until conditions enable him to build one.

Time was when it did not worry many farmers if forty per cent of the feeding value of the corn cut was lost, as feed was plenty and cheap. Conditions now are different. About two and one-half tons of silage are equal to a ton of timothy hay for feeding purposes. When we consider the price of hay this year it is easy to understand why the silo owner is enthusiastic over his good fortune in having provided a means to preserve all that he raised.

The Summer Silo

The next stage in the development of the silo is now beginning. This is the use of silage for summer feeding. In the past we have depended too much upon grass alone for summer feeding without having any reserve supply of feed for periods of short pasture which come only too often. Almost every year there is a period sometime during the summer when the pastures are short. Young cattle are checked in growth and dairy cattle fall off in milk flow for lack of feed. The man who has a silo filled with good silage to open at this time certainly appreciates it.

Two years ago a farmer built a summer silo at our suggestion and last summer when his neighbors were compelled to sell their stock for lack of feed he was in a position not only to feed his own but to buy theirs. Another farmer, a dairyman of my acquaintance, also had a silo half full of silage and he kept his milk cows up to a good flow all summer with his silage while his neighbors had almost no milk to sell.

The Things to Do

The practical plan is to have two silos on the farms where much stock is kept. One for winter feeding and one, smaller in diameter, for summer feeding. If the season is such that the silage is not needed it can be kept over until the next year or if partially used it can be refilled in the fall. The reason for having a small diameter is that a deeper layer has to be taken off daily during the warm weather to prevent spoiling. For a herd of 20 to 30 animals a silo 14 feet in diameter is large enough for winter while for summer one 10 feet would be recommended for the same herd.

Such a provision for feed during times of temporary shortage in feed due to a lack of rainfall will make it possible to keep a large amount of stock and to maintain it in better condition at all times. The few farmers who have been fortunate enough to have silage for summer feeding during the past few years are just as confident now in their prediction that sooner or later most farmers will have summer silos, as the first silo users were that the silo would come into general use for winter feeding.

C. H. Eckles,
Dairy Department,
University of Missouri.

FIGHTING CHINCH BUGS

Since the first of May the chinch bugs have been doing great damage to wheat and other crops in various sections of the wheat belt. Two days inspection in Carroll County has revealed one of the most threatening outbreaks of the pest that has occurred in years in this state. The old bugs were so thick in places, that they were actually sapping the plants over much of the worst infested fields. I have never before seen the old bugs so abundant in the spring. Conditions in Carroll County are no worse than in other counties of central and west-central Missouri. If weather conditions do not help to reduce the young crop of bugs before the first of June much of the infested wheat will be a complete failure.

The old bugs which pass the winter are seldom abundant enough to do much damage to the wheat but their hordes of young, which this year will probably appear and begin work by the 20th of May, are the ones which usually destroy the wheat. For every old bug, which has been injuring the wheat there will be a hundred young ones by the first of June, at work on the wheat if the weather favors the pest. An abundance of rain and especially a heavy dashing rain after the eggs are laid and the young begin to hatch, is about the only hope the farmers have of saving badly infested wheat.

What Can Be Done Where the Wheat Is Already Destroyed?

Where the wheat is so far gone that it will not be worth threshing, the farmers should first look to the complete destruction of the bugs and then to the use of the injured wheat for pasturing or hay. It must be kept in mind that these old bugs have wings and can fly and if they are driven from the wheat before they lay their eggs they may collect in corn or other crops to lay their eggs. As soon as their eggs have been laid and the young bugs begin to appear in the wheat, however, steps can be taken to exterminate the pest. Where there is no clover in the wheat simply turn stock in and by the 25th of May plow under deeply and thoroughly work the ground. This will bury most of the young bugs and with the crop gone those left above ground will soon starve. Cowpeas or similar legumes may be planted at once, since the bugs will not attack such crops, but if corn is planted in the field make sure the bugs are all dead before planting or the crop is sure to be destroyed. Where there is a good stand of clover in wheat fields, which are ruined by the bugs, simply plan to mow the wheat as close as possible about the 20th or 25th of the month. The old bugs will be mostly dead and gone and the young bugs will soon find themselves without food and will either have to migrate or starve. Make sure that they do not migrate to pastures or green crops. They will be small and cannot migrate like the old or more nearly mature bugs, though they may crawl some distance. A barrier for corralling them may be necessary.

The above treatments are for fields which are hopelessly infested, but where the wheat has not suffered much by May 20 it should not be cut or plowed under. By all means think twice before you cut or plow under or pasture wheat, for with wheat at present prices a partial crop will be worth saving; but many fields are already so completely sapped that there is no question about their being worth saving for cutting and threshing.

What Can Be Done Where Wheat Is Less Severely Attacked?

Where the injury is slight, simply depend on rains for improving conditions and harvest the crop or partial crop and be ready to maintain barriers as soon as the wheat is cut or the bugs begin to migrate. It is up to every farmer in the state to see to it that he does not permit bugs to leave his wheat to attack his own or neighbor's corn and to give rise to an abundant fall brood in corn, which will pass the winter and cause the trouble all over again. This can be done if a little thought and effort is given to the maintaining of barriers. In place of simply keeping them from reaching corn by means of barriers between the wheat stubble and corn, the barrier should be run entirely around the wheat field so as to corrall the bugs. Few have wings when the wheat is ripe, but a few days feeding on the first rows of corn or on grasses in meadows or pastures will enable the bugs to mature and get wings, when they fly everywhere.

The dust barriers are most practical and economical, and of these the log and ditch is simplest and best. A furrow should be plowed around wheat fields soon while the ground is moist. Later it may turn dry when a good ditch with dust mulch cannot be made. The moment the bugs begin to move, start the log and keep it going continuously while the bugs move. They are most active from about 9 o'clock in the morning until 5 or 6 in the afternoon and they seldom continue to migrate more than 10 days if food is kept from their reach.

In case of rain dust is out of the question and then a chemical line is necessary. Tar, road-oil, crude carbolic acid, creosote or stock dip are used most. The stock dips are too expensive to use where the cheaper ones can be had, and each infested community should arrange with the county farm adviser, in those counties where farm advisers are employed, or with some local dealer to handle road-oil or tar so it can be had without delay where needed. In fact it might be well for each farmer to order and have on hand plenty of road-oil or tar for use if needed. These materials are not expensive if ordered in quantities for community use.

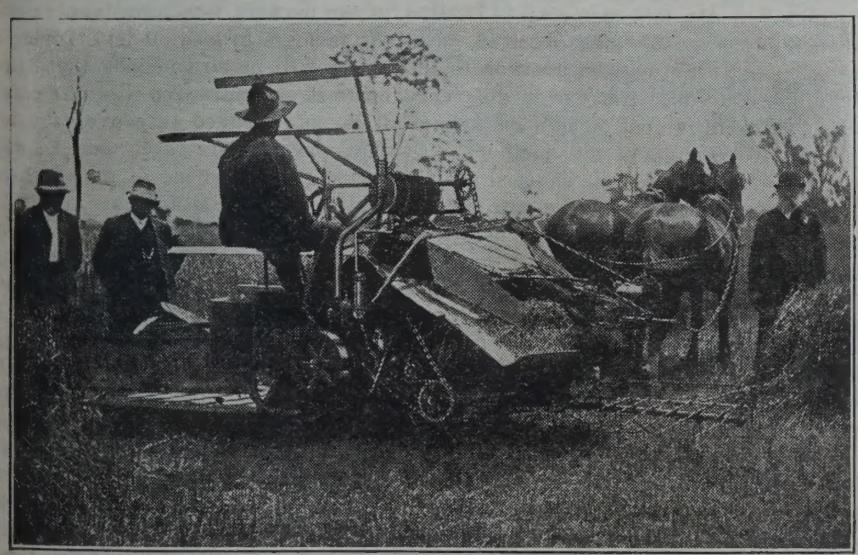
The chemical is applied after a smooth firm path has been made with a hoe. A cheap pail or powder can with a hole in the bottom, made by driving an eight-penny nail through, is convenient for distributing the material as one walks along the path. A narrow line is sufficient though it must be renewed to keep it fresh so that the bugs will not cross. After a couple of days it is not necessary to renew it so often.

Coal-Oil Emulsion as a Spray

Post-holes are used as traps along the chemical line for reducing the swarms of bugs, and an emulsion of coal-oil can be used for the same purpose or for killing those bugs which get onto the first few rows of corn before the barrier is put in operation. The emulsion is made by thoroughly churning 1 gallon of strong hot suds with 2 gallons of coal-oil, and when the oil is broken add water to make twenty gallons. This is about the best solution for this purpose, as it will not hurt corn or grasses but will kill the bugs.

The spring and summer campaign this year should be carried out so thoroughly, by all Missouri farmers, that the pest will not be able to reappear again next year. This is entirely possible if each one will do his share, but without co-operation an effective campaign against the pest is hopeless.

L. Haseman, Entomologist.



AN ENGINE ON THE BINDER

One of the most interesting uses to which gasoline engines are now being put on many farms is their application to moving machines, such as grain binders, to drive the sickle and elevator, leaving the horses nothing to do but pull the binder.

By the use of such an engine, two horses will handle an 8-foot binder in heavy grain without trouble. It is thus a saver of horseflesh.

Besides saving horses, the engine makes it possible to cut lodged or wet grain, which often cannot be done without it. In lodged grain, if the binder becomes clogged, it is only necessary to slow down the team, and the sickle and elevator will clear themselves, as they keep on going as fast as ever, being driven by the engine.

In a wet field, if the bull-wheel slips, it has no effect on the sickle, consequently it does not get clogged. Many a farmer has saved his crop during a wet season by the use of an engine, when it would have been impossible to cut without it.

Engines used for this purpose are of the light-weight, high-speed, throttle-governed type. Such engines are now being adapted also to a similar use on hay balers and other machines, besides all general farm work.

Another item to be considered in the use of an engine on the binder is that of less wear and tear. The greatest wear on the binder comes from the bull-wheel falling into holes or dead furrows, or when the team jerks ahead, speeding the entire mechanism very suddenly and putting a terrific strain on chains, bearings, castings and reel. With the engine, the power is applied continuously in a smooth steady stream.

Neighborizing the Farmer

One of the most significant facts of our telephone progress is that one-fourth of the 9,000,000 telephones in the Bell System are rural.

In the days when the telephone was merely a "city convenience," the farms of the country were so many separated units, far removed from the centers of population, and isolated by distance and lack of facilities for communication.

But, as the telephone reached out beyond cities and towns, it completely transformed farm life. It created new rural neighborhoods here, there and everywhere.

Stretching to the farthest corners of the states, it brought the remotest villages and isolated places into direct contact with the larger communities.

Today, the American farmer enjoys the same facilities for instant, direct communication as the city dweller. Though distances between farms are reckoned in miles as the crow flies, the telephone brings every one as close as next door. Though it be half a day's journey to the village, the farmer is but a telephone call away.

Aside from its neighborhood value, the telephone keeps the farmer in touch with the city and abreast of the times.

The Bell System has always recognized rural telephone development as an essential factor of Universal Service. It has co-operated with the farmer to achieve this aim.

The result is that the Bell System reaches more places than there are post offices and includes as many rural telephones as there are telephones of all kinds in Great Britain, France and Germany combined.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy *One System* *Universal Service*

The Last Shall Be First

The Missouri Farmer:

I have just finished reading the May 1st issue and I want to say that it is a hummer. I take three farm papers—the Wallace's Farmer, the Breeders' Gazette and The Missouri Farmer—and I have been valuing them in that order, but I think I will have to change that order so that "the last shall be first." I am glad that you are giving so much time and space to the Gardner Rural Credit Bill as I think it is of vital importance to the farmers of Missouri, and I know it will be a great help to me if it passes. If you will send me one of the initiative petitions for the purpose of getting this amendment on the ballot I will be glad to circulate it.

E. V. Jewett, Butler, Mo.

The State Board of Agriculture is going to issue a new road bulletin later in the year. One of its features will be a newly revised form of D. Ward King's internationally famous Road Drag Bulletin as brought down to date by Mr. King himself. It will also carry other Missouri features.

OPPORTUNITIES FOR PIGS

There has been much discussion as regards the ability of swine to balance their own ration when a variety of feeds is placed before them. Does the hog have sense sufficient to know what he wants to eat? Can a hog balance his own ration successfully from a physiological standpoint? Is the appetite of swine an indication of their physiological needs? These are live questions and their correct solution should mean much to Iowa swine husbandry.

The forage crop system of summer swine production is most excellent because of one big reason: namely, that the hog has some opportunity to balance his own ration. If the pasture be alfalfa, or rape, or red clover he can eat much or little of it, and in this way vary the proportion of "side-dish" protein which he eats along with the corn which is thrown over the fence to him. If both corn and high protein pasture are supplied at free will then he has even a greater opportunity to make his ration efficient. Of course when the pig runs out on forage he can eat of the soil; this is of advantage in that complex mineral substances are supplied thereby. Of all the systems of "swine production in the summer time" the forage crop system is the most economical under present existing commercial conditions.

"Hogging-Down Corn" is nothing more nor less than a self-feeding system, and a most natural one at that. If the hogs are allowed free access to rape in the corn field, with possibly alfalfa alongside, then the scheme becomes a "Cafeteria" one in that the hogs have a choice of several feeding stuffs. Corn is hogged-down successfully in every corner of Iowa; as a self-feeding scheme hogging-down is a physiologic and economic success.

Many of you believe that swine know more about how much water they should drink than men do, hence you allow it at free will. You have faith in the hog's ability to balance his liquid ration. So, too, many of you supply salt at free will, thinking that this is the best way; and from the experimental data we secured at Ames recently it would seem that your thoughts are about right in this regard. Then again, thousands of feeders place such condiments as these before swine: limestone, cob charcoal, slacked coal, wood ashes, and others; with the faith that pigs will mix these in with their daily diet in much more economical fashion than when these are mixed with the feeds and "doped out" as so much unwelcome hash. Truly the hog does not like hash any more than does the average human layman.

Now it is a peculiar commentary upon the good judgment of feeders that they should have utmost faith in the hog as regards his ability to choose some feeding materials, but yet should hesitate to trust him with grains, usually high priced, such as corn, oats, tankage, meat meal, oil meal, etc.

Man himself is a self-fed animal; this has been true since the average man's earliest recollection. You have made the "Dairy Lunch" or the "Cafeteria" system of eating popular by you patronage simply because it was efficient in adminstering to your needs. You have believed soup to be an appetizer, and uniformly eat it at the beginning of a meal. Science has shown that you are largely right in this. Disregarding expense you prefer the a la carte method to table d' hote because in the former you choose, and in the latter you do not. You do not relish hash even as a side-dish ordinarily, hence why should you expect swine to relish it as the one and only dish?

Surely appretite is governed by the state of the bodily needs. Appetite has been defined as the desire for food based upon the resultant of past experiences. There is much truth in this. Of course we must remember that even though appetite is a reliable guide as regards bodily needs for feed that the hog which manifests it is using as a basis, physiology and not economy. The hog is a physiologist, not an economist, therefore he chooses his feeds regardless of their monetary value.

Eight months, four days old pigs fed in dry lot weighed 316 pounds at Ames last fall. How were they fed? The following feeds were placed before these pigs shortly after they were weaned and when they weighed about 45 pounds on the average:

Shelled corn
Meat meal (60% protein)
Whole oats
Linseed oil meal
Maple wood charcoal
Finely ground limestone (ground rock)
Common rock salt
Water

Three groups of pigs which have been fed according to the "Iowa System of Self-Feeding Swine" show quite clearly the possibility of this method of feeding in dry lot. The recorded figures on these groups are given to you to awaken and arouse you to the fact that the appetite of pigs should be catered to if greatest gains are to be secured. Of course the economy of gains is an important consideration, but nevertheless when we understand clearly that the appetite is a guide as regards the physiologic needs of pigs then we will have a basis upon which to build more economic gains.

A comparison of these three dry lot groups with pigs self-fed corn and salt upon most excellent alfalfa pasture is typically suggestive of the great possibilities which lie in the judicious and economic use of forages for swine. These forage-fed pigs were given all of the corn they could possibly eat, night and day, together with salt at free will on luxuriantly green alfalfa pasture until November 24th; when after a period of 140 days of feeding they were placed in dry lot (the forage being gone) and fed corn in one self-feeder, meat meal in another, with salt continued as before.

The entire record of the "Free Will" dry-fed pigs and the pasture-fed pigs during the 162 days of feeding is presented in the following table:

Prices of Feeds: Corn 40, 50 and 60 cents; whole oats 30, 38 and 45 cents; meat meal $2.50; oil meal, O. P., $1.50; wheat middlings $1.45; charcoal $3; limestone 60 cents; salt $1 a cwt., and alfalfa pasture $10.75 an acre.

GROWING AND FATTENING PIGS OF 45 POUNDS FROM WEANING TO MARKET

July 7 to Dec. 16, 1914—162 Days of Feeding

The Feeds	S. Corn Meat Meal Oats .... Charcoal Limestone Salt	S. Corn Meat Meal Oats Oil Meal ..... Charcoal Limestone Salt	S. Corn Meat Meal Oats Oil Meal Middlings Charcoal Limestone Salt	S. Corn Meat Meal* .... Salt Alfalfa pasture
Av. Final Wt.	288.6	299.3	289.32	288.2
Total Daily Feed Eaten—Lbs.	6.01	6.55	6.32	5.96
Feed Eaten for a Hundred Pounds Gain:				
S. Corn	361.91	379.62	372.40	391.5
Meat Meal	30.55	25.65	27.57	.....
Oats	6.38	5.17	2.53	4.81
Oil Meal	.....	6.21	1.15	.....
Middlings	.....	.....	14.54	.....
Charcoal	.07	.12	.10	.....
Limestone	.04	.20	.14	.....
Salt	.11	.14	.13	.37
Alfalfa pasture	.....	.....	.....	.0101 acre
Total	399.06	417.12	418.55	396.69 plus pasture .0101 acre
Cost 100-lbs. Gain:				
Corn 40c.	$3.41	$3.50	$3.61	$3.03
Corn 50c.	4.07	4.19	4.28	3.73
Corn 60c.	4.73	4.88	4.95	4.42
Return for a bushel of corn $6 hogs	78.8c	.75.7c	74.9c	81.6

*Last 22 days of 162 day period—finished in Dry Lot. Pasture gone.

The important consideration is, that after all is said and done, the forage fed pigs produced gains at the least cost. When corn costs 60 cents the gains here cost $4.42 a hundred pounds as compared to the cheapest gains produced in dry lots, namely; $4.73, this being where the pigs received corn, meat meal and oats in addition to the mineral feeds. Here is a difference of 31 cents in cost of gain in favor of forage over dry lot methods. Of course the alfalfa was charged at only $10.75 an acre which may be not enough under some local conditions. Where hay is exceptionally high in price a higher cash value is attributed to said alfalfa. However, as much as $41.44 could have been paid for this alfalfa an acre, and still produce gains at the same cost as the best dry lot, or $4.75 a hundred pounds. Really this would mean, therefore, that pasture is superior to dry lot feeding. Under the conditions given alfalfa would be worth for hog feeding $41.41 an acre.

When it comes to the production of gains at the same cost, putting all of the profits upon the corn, hogs selling at $6 we have returns for a bushel ranging from 74.9 cents to 78.8 cents in dry lot as compared to the somewhat greater return of 81.6 cents on the forage of alfalfa,—but in all cases the pigs grew up under the "Iowa System of Self-Feeding Swine."

John M. Evvard,
Iowa Experiment Station.

FARMING THE FARMER

I have been thinking for sometime I would write to The Missouri Farmer and ease my mind a little for fear of it becoming over-charged. Now you know that the teachings of by-gone days were that "any fool could farm" and so I took up with the profession. Since I am many years older than when I was born I have found out that that teaching was false. A successful farmer cannot know too much about his business, but it seems that he is a fool when it comes to being "farmed." This is so apparent that many parents are teaching their children that any fool can farm the farmer and the reason for it is that the farmers are too individualistic, something the farmers seem to be very proud of. They think that as individuals they can stand against the organized strength of other enterprises and under this delusion are robbed of their just share in what they produce.

They take pride in the fact that they are called the back-bone of the nation by the press, but did it occur to those using that word in connection with farmers that it is a very poor figure of speach? Why, just think of calling a lot of scattering bone a back-bone. If the farmers really represented a back-bone they would be strung together on a spinal cord and could say ,'come" and people would come or "go" and the people would go. Were they a combined force like the backbone they could say to the packers who have been causing the farmers to lose money, "Divide up or we will make you look like fifteen cents in an undragged road." Of course it is not intended to convey the idea that the farmers are united when called the back-bone of the earth but just to jolly them up that the term is used. Those who farm the farmer wish to make him swell up with individual pride like a toad under a burrow so that he will not unite with his fellow farmers in demanding a just return for his labor in producing the necessaries of life. They tell the farmer to raise bigger crops but leave him to find out that he gets less money and more work out of a bumper crop than out of a smaller one. The railroads are examples of this class and now we find the papers flooded with advertisements purporting to come from farmers asking a raise in rates.

I think the business of farming the farmer has gone too far and farmers have begun to think for themselves. They are losing some of their individual pride and are becoming more cohesive, looking to the good of all, or in other words, the farmers are beginning to see the need of organized effort and the time is not far distant when it may be possible to farm some of the farmers some of the time but not all the farmers all the time. The Missouri Farmer is right in saying "There is need for the farmers to organize now." The fool farmer will be the one who fails to join a good organization of farmers.

A. W. Sarty,
Moscow Mills, Mo.

Canada is Calling You to her Rich Wheat Lands

She extends to Americans a hearty invitation to settle on her **FREE Homestead lands of 160 acres each** or secure some of the low priced lands in **Manitoba, Saskatchewan and Alberta.**

This year **wheat is higher** but **Canadian land just as cheap,** so the opportunity is more attractive than ever. Canada wants you to help to **feed the world** by tilling some of her soil—**land similar to that** which during many years **has averaged 20 to 45 bushels of wheat to the acre.** Think **what you can make** with wheat around **$1 a bushel** and land so easy to get. Wonderful yields also of **Oats, Barley and Flax. Mixed farming** is fully as **profitable an industry as grain growing.**

The Government this year is asking farmers to put increased acreage into grain. Military service is not compulsory in Canada but there is a great demand for farm labor to replace the many young men who have volunteered for service. The climate is healthful and agreeable, railway facilities excellent, good schools and churches convenient. Write for literature and particulars as to reduced railway rates to Superintendent Immigration, Ottawa, Canada, or to

GEO. A. COOK,
125 W. 9th St. Kansas City, Mo.
Canadian Government Agent.

SHOULD THE STATE AND FARMERS CO-OPERATE IN SOLVING THE RURAL CREDIT QUESTION?

Written for The Missouri Farmer by Frederick D. Gardner, author of the Missouri State Land Bank Bill.

The press of the United States has been discussing at great length recently the question of rural credit, and particularly the addresses delivered at the Southern Commercial Congress at Muskogee, Okla., a few days ago, by Gov. Myron T. Herrick, of Ohio, and Mr. George Woodruff, president of the Woodruff Trust Co., of Jolet, Ill. Let us discuss the plans of these two gentlemen briefly, together with a brief outline of the Missouri State Land Bank Act passed by the 48th General Assembly, and compare them.

I think it will be shown that Mr. Woodruff's plan would be thoroughly unacceptable to the Trust Companies of the State through whom he says it should be operated. That being true, his plan naturally falls to the ground.

I believe I can show that Mr. Herrick's plan would be unacceptable to the farmers, and hence his plan would fall to the ground. If, therefore, we eliminate these two plans, do we not come back to the principles of the land bank, as embodied in the bill passed by the Legislature?

What is Mr. Woodruff's idea? It does not represent a system of rural credits at all, but merely Mr. Woodruff's own personal idea of how he wishes to lend his own money. I agree that it is a good idea and that if, as stated above, the four large trust companies of St. Louis will do as Mr. Woodruff's Trust Company has done, then state aid would be utterly useless.

Mr. Woodruff's plan is simply this: his Trust Company lends its money to farmers at 6%, divided into 40 semi-annual payments. No commission is charged, and the Trust Company pays all expenses out of the 6%.

Now, after using up his own capital, Mr. Woodruff issues bonds against the loans which he previously made and sells the bonds at 5%. In other words, Mr. Woodruff is content to pay his taxes, all of his running expenses, the cost of collecting the semi-annual payments, the risks of doing business, and the profits for one per cent because if he lends the farmer the money at 6% and sells the bonds at 5% he must take out of this one per cent all kinds of taxes, expenses and profits. He makes a further charge of 2% commission.

Are the Trust Companies of Missouri or of any other state willing to adopt this idea? Mr. Woodruff's example is held up far and near as a demonstration of the fact that private capital is the machinery through which rural credit should be transacted, and not state aid. If that be true, then why have not other Trust Companies in the whole United States followed Mr. Woodruff's example? It does not require any sort of legislation in any state of the Union to do so.

The capital and surplus of the four large Trust Companies of St. Louis is 27 million dollars. According to Mr. Woodruff's idea they should issue 15 dollars of bonds to one of capital, these bonds to be endorsed by the Trust Company and the money loaned to the farmers on 20 years time at 6%. This would mean a total issue of bonds by these four trust companies of 405 millions. This would be quite a help, wouldn't it? What do our four St. Louis trust companies say about it? Can they afford, and will they agree to handle the business on the basis Mr. Woodruff does? If the trust companies themselves say they will not follow his example **then does that not eliminate his idea from further discussion?**

Faults of Herrick's Plan

What is Mr. Herrick's idea? No law is necessary to put his idea into operation. He advocates the co-operative credit societies on the order of the German Landschaft system. He demonstrates his idea by illustrating how it would work in six counties in the State of Kansas. We will transfer the six counties in Kansas to six counties in Missouri.

Every farmer in that district of six counties who wishes to borrow money in that district would join this co-operative society. In order to make the bonds sell at a low rate of interest, every member of the society becomes immediately liable for his unlimited wealth. In other words, the bonds issued by this district would represent the unlimited liability of every farmer in the district who belongs to the organization. Therefore, it would follow that if the bonds are to be made salable at low rates of interest, not only the poor farmers but the wealthy farmers must join the organization.

Now, is the farmer who is worth, we will say, $50,000, and who wishes to borrow $5,000, willing to assume unlimited liability on his remaining $45,000 wealth so that John Jones, located perhaps 75 miles from him, and one may be a German and the other an Italian; or one may be a white man and the other a colored man, may make a loan? I have spoken to hundreds of farmers and not one has said that he would be willing to become responsible to the extent of his unlimited liability for all of the money borrowed in six counties of the state.

In order to make the plan workable, it would be necessry to borrow five million dollars in six counties, and every man who joins that society would assume a liability of 5 million dollars. How Mr. Herrick can imagine that the American farmer would assume this liability under our existing conditions I can not understand. It is true they do this in Germany, but conditions there are different. They are all of one race, one color and one religion. Families have been living there hundreds of years intimately associated in business, religion, etc. Not only that, but they seem to take a different view of the whole proposition, to what we do in America. For instance, Herr Gwinner, President of the Deutsche Bank, told me his family had carried a loan of $5,000 with a co-operative farmers' society for fifty years which he could have paid off any moment, but that he had given this society the benefit of the great wealth of his entire family so that the bonds of the society could be sold at a low rate of interest. Could we expect that to be done in America for at least 100 years to come?

If only the poorer farmers were willing to join the society, which, no doubt, they would be, because if a farmer would figure that if he could borrow through the society an amount equal to his worth, and that his unlimited liability amounted to nothing beyond the money he was borrowing, then what would be the result? The bonds would be unsalable and the whole proposition would fall flat.

The idea carried out by Mr. Woodruff represents what might be termed the private capital idea; and, in my opinion, would be unacceptable to the trust companies who would be expected to handle the business.

The idea advocated by Mr. Herrick represents the co-operative plan, which would be unacceptable to the farmers and to the buyers of bonds.

The Missouri Plan

These two eliminated leave only one other plan, and that is the plan embodied in the Missouri State Land Bank bill as passed by the last Legislature, and which provides for a moderate system of state aid. The bill is not thoroughly understood but really is very simple. It means this: that approaching the subject from the standpoint of the general welfare, and the fact that the cities are over crowded, and that the rural districts are becoming gradually depopulated, and that food supplies are becoming out of all reason in price, that something must be done to finance the farmer on long time at low rates of interest. An emergency, therefore, arises and the state is justified in organizing a corporation known as the Missouri State Land Bank; and in order to start this corporation, the state is justified in making a temporary loan of one million dollars as capital stock, the first $500,000 to be loaned at a fixed rate of 4.3% after, to this 4.3% is added ½ of one per cent to provide for a sinking fund and to care for all expenses; and there should be practically no expense as all the machinery and all work is done by state officials now in the state's employ without further compensation. To this we add 1⅞% on account of principal and we have a total of 6⅓% per annum, which will retire the loan in full in 25 years. (No commission).

Now, after having loaned $500,000 of the original million dollars capital, retaining always $500,000 cash on hand, the bank issues debenture bonds for $500,000 against the $500,000 loans previously made. These bonds are sold wherever money is cheap in any market in the world; and at whatever price is realized for the bonds the money is to be loaned to the farmers at that same rate, plus always ½ of one per cent sinking fund, and enough added to the principal to make the loan amortize or retire itself within the number of years desired by the farmer, the maximum being 25 years.

This ½ of one per cent, it will be noted, will accumulate quite rapidly.

It is provided that at the maturity of the loan whatever amount is left over and above the expenses shall be **returned to the farmer in the shape of a dividend.**

It is provided that bonds may be issued at the rate of 40 to 1 of capital.

It is provided that when the reserve fund has accumlated to a sufficient amount that it will no longer be required that the one million dollar loan is to be returned to the state.

There is no possibility of the plan costing the taxpayer a penny. It would mean bringing millions of dollars of unused capital into the state for developing our great agricultural resources. The money would be spent by the farmers for capital purposes, and, therefore, would in itself become additional security for the loans. This money spent in the rural districts by the farmer would help the merchant in the towns and would help the local banker. It would help all classes of people.

Relating to the question of state aid, I call attention to Mr. Herrick's own statement which is as follows:

"At the inception of land credit institutions on the continent of Europe the tendency of legislation was and still is toward governmental subsidy and control where the borrowers are exclusively farmers or small holders."

I also call your attention to the statements of three other disinterested parties who have perhaps given this question more study than any other men in the United States:

"The function of the State should be somehow to raise these obligations above the credit of a simple farm loan and to give them a large market at a low rate of interest, practically as municipal and state bonds."—F. A. Fetter, Professor of Economics, Princeton University.

"Frankly, my criticisms are all petty details. You are right in principle, when you say that the state must enter this field in order to get something done."—J. F. Ebersole, Professor of Economics, University of Minnesota.

"Long time loans at low rates of interest are an absolute necessity for the American farmer. Private capital does not seem to be willing to undertake this task. The study of the systems in vogue in all nations of the world prove conclusively that it has been a success in the greatest and largest sense where it has been fathered by the state. And my opinion is that it must come to that point, as provided in the modified form outlined in your bill."—C. R. Atkinson, Professor of Economics, Lawrence College, Appleton, Wis.

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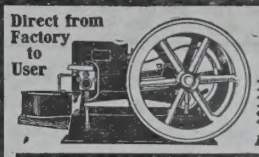

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Ed. H. Witte, Witte Engine Works, 1841 Oakland Ave., Kansas City, Mo.

The Auto-oiled Aermotor.

The windmill that wears a hat.

With one feed of oil for a year it will toil.

A gentle breeze will whirl it—a gentle pull will furl it.

DUPLICATE GEARS RUNNING IN OIL

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EVERY BEARING FLOODED WITH OIL

This Aermotor is more than great—its gears are balanced in duplicate.

In any breeze it leads with ease.

Oils itself, pumps the water, just exactly as it oughter.

No climbing of towers in ours.

Built to shed the dust and rains. Built to stand the windy strains

With its hat on its head, its oil in its pocket, its a charm to the farm, and no one can knock it.

Aermotor Co., 1146 S. Campbell Ave., Chicago

The Tractor on the Farm

There has been a very marked increased use of tractor power on the farm during the last two years. When the automobile first appeared it was thought it was only a play thing for the rich but today thousands of families in only very moderate circumstances enjoy the use of an automobile. It is estimated that 70,000 automobiles will be registered in Missouri this year. It is our opinion that tractor power for farm work will show the same rapid progress in the next few years. Some men who own threshing outfits have found it profitable to use the same tractor to do plowing for wheat farmers and others who need to hire a great deal of work. The very large farmer of course can afford to own a large size tractor. Several farmers might co-operate and own a tractor together. Then we have the small tractors which cost no more than a four-horse team and will do a great deal more work that are practicable for the medium size farm, and while they are not at work they are not a dead expense like horses are.

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Devoted to Better Farming, Better Farm Homes and Better Citizenship.

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THE PEOPLE ARE WAKING UP

We are receiving a number of responses from farmers who see the great need for a better system of farm loans and who offer their services for circulating petitions to put the rural credit amendment on the ballot for the election in 1916. Already we can see some beneficial effects of the campaign we have been making in The Missouri Farmer for cheaper farm loans. We have lately seen some advertisements in our local papers from agents offering money at 5 per cent and while this is due in part to large reserves held in city banks we can not help but believe the principal cause is the general demand for co-operative credit.

Owing to short crops in the southwest part of the grain belt for the last two years there has been a heavy demand by farmers from their local bankers for money to buy feed and other purposes and it is reported that some banks have paid as high as six per cent on deposits. And this condition exists in spite of the fact that there is too much idle money in the big city banks and it is seeking safe channels for investment.

Just as we write these lines we are in receipt of a letter from the author of the Missouri credits law, Col. F. D. Gardner of St. Louis enclosing copy of the following telegram which gives some light on the subject:

(duplicate)

New York City, May 3, 1915.

Banner Buggy Co.,

St. Louis, Mo.

Will discount at once one hundred thousand dollars your paper, three and one-quarter per cent.

(Signed) **E. Naumburg & Co.**

What does this show? It is plain that the wealth created by farmers in growing big crops has been piled up in the cities where it is available for business men and manufacturers at a very low rate of interest. And until the farmers can mobilize their credit so as to make farm loans more attractive they must go on paying a rate of interest fifty to one hundred per cent more than is paid by city borrowers, offering no better security than farm lands.

When the Missouri Land Bank Bill is put into operation these bonds will sell anywhere in the big cities to people who have idle money, there will be money available to drain our wet lands and to clear the timber lands and to buy better live stock to provide better barns, silos and other improvements, and that means the employment of more labor and machinery, all of which are necessary to a prosperous condition of agriculture.

THE OUTLOOK

No one can look into the future and tell what will be the outcome for the season, but a reasonable basis is to figure prospects on the experiences of the past. It is not always safe to count on a bumper yield for a crop which starts out at one hundred and neither will it do to put down as a failure the crop that is started out poorly, but it is at least a safe guess to figure on a better yield for a crop well started than for one poorly started. Diversification of crops has put the country on a much safer basis than it was a good many years ago and especially is this true of Missouri. Back in 1881 the drouth and chinch bugs together destroyed the corn crop and it produced a very serious situation, particularly in newer parts of the state where corn was about the only crop raised. Since that time crops more drouth resistant and immune from bugs have been introduced and it can not be said that our eggs are now all in one basket. It took some very severe lessons like those taught by the drouth years of 1881, 1901 and the more recent ones to demonstrate to farmers the supreme importance of diversification of crops, good cultivation and proper fertilization just like the destruction of cotton in the South by the boll weevil was necessary to teach farmers of that section the danger of a one-crop system. The farmers of Missouri have not all learned the lesson yet but many of them have, as shown by the occasional field of alfalfa and frequent fields of cowpeas and soybeans that may be seen in most any part of the state.

According to the report of the state board of agriculture the wheat outlook on May 1 was considerably above a ten-year average condition. The state report gave the condition of wheat at 90 as compared with an average of 86. The U. S. Government report made one week later estimated the wheat condition in Missouri at 92. Just about this time last year when wheat was showing up very fine, even better than it is now, press reports commenced to circulate telling of losses on wheat of 25 to 75 per cent and for a while it looked like there would be a very poor crop, but the final estimates after harvest showed one of the best crops harvested for many years. The same reports are beginning to come in again and it is evident that about the same area that was infested with Hessian fly last year is being damaged seriously this year. The wheat being so much later this year the fly will have even a better chance to cause loss than last year and some farmers will find it necessary to plow up the wheat and plant corn or some other crop. Another menace which looks worse for the wheat crop this year than last is the chinch bug, which is more numerous than for several years. It is seldom that chinch bugs destroy a crop of wheat entirely and with plenty of rain they may be quite numerous and not injure the wheat greatly, but the situation as it is now demands our best effort to prevent loss.

One factor that will cause most men to hesitate this year before plowing up a wheat crop is the price. If wheat should bring farmers $1.25 a bushel, and there is at least a good chance that it will. a yield of ten bushels will bring the grower about as much per acre as a yield of eighteen bushels did last year at 70 cents a bushel. It is always more or less serious to have to plow up a crop and plant anew, but sometimes it pays. By the first of June it will be apparent what the wheat will do and if it shows by that time that it can not make a paying crop the land can be plowed and put in corn, soybeans, cowpeas, sorghum, kafir, millet or some other crop that will produce feed. If the field plowed up is infested with chinch bugs the plowing should be close and thorough and immediately worked down so as to destroy the bugs. Where planting is done immediately after plowing a bug infested field there is considerable danger of the bugs killing the young corn soon after it comes up, but if the green wheat is turned under closely and the land worked down so every green thing is destroyed, the bugs which do get out of the furrow will have nothing to feed on and will soon die or migrate. So when the plowing can be done a few days before planting there will be little danger from the bugs after the corn is up. This precaution should be taken when planting corn, sorghum, kafir or millet but for cowpeas or soybeans there is no danger for chinch bugs do not live on them.

Corn or other crops planted on wheat ground will be easy to cultivate because of the fine condition of the soil and in normal seasons good crops are grown planted as late as June 15 or 20 and good roughage may be grown planted a month later. It pays to make every acre count.

BREAKING A WORLD'S RECORD

Men who doubt that agriculture is making progress should read the official report of the production of a young Holstein cow which has produced in 365 consecutive days 24,612.8 pounds of milk testing 1,116.05 pounds of butter fat, equivalent to 1302.06 pounds of butter. The cow that has this honor is Finderne Holigen Fayne, registered number 144551, a three-year old cow weighing when the test began about 1200 and had gained 250 pounds in weight when the test was finished. The test is official, having been made under the supervision of the New Jersey Agricultural College. This record is about equal to ten average cows and fully equal to four good dairy cows. If all the cows in Missouri, approximately 800,000, were just one-fourth as efficient as this young Holstein this would be the greatest of all dairy states in the Union.

The making of this world's record was not a mere matter of chance but was the work of science in breeding and feeding. There are thousands of cows kept for dairy purposes which will not produce 200 pounds each of butter annually and according to the census reports there are a great many which produce under 150 pounds. In fact the average farm cow not counting the special dairy breeds will more often come under 100 pounds than otherwise.

The foundation stock will cost a little more to start with well bred stock but why stop for that if it will bring a better profit? Feeding a balanced ration of the best feeds may take a little more study and cost a little more than haphazard methods but if it pays better is it not worth while to do it?

The man who recognizes the fact that the world's knowledge of agriculture is getting a little larger every year and that he must make some effort to get hold of that knowledge if he would keep up with the progress of farming, is the one who stands the best chance to win. We would rather break the world's record by growing the biggest yield of corn or wheat, the finest horse or the largest producing cow than to share in the honor of winning the greatest battle of all history.

ALFALFA FOR EVERY FARM

On May 10 the writer examined a field of alfalfa on Boone County upland soil that looked like it was good for one ton to the acre for the first cutting, and it was about ready to harvest. With normal weather this field will yield three more cuttings, four in all and make a gross return of four tons of dry hay per acre. What other crop will give the farmer a ton of good dry hay by the middle of May and a promise of two or three more crops of equal value? What do you think it would be worth to Missouri if every farm in the state had a small field of alfalfa, say one-tenth the area of the cultivated land? Do you not think it would reduce the anxiety about loss from chinch bugs, Hessian fly, drouth and other crop menaces?

Too many farmers are of the opinion that alfalfa is not suited to their land and just let it go at that without trying to grow it. But a plant that will produce a ton of rich feed, worth nearly as much, pound for pound, as wheat bran and do that by the middle of May and without cultivation is worthy of a thorough trial even though you may fail a few times. There may be a few farms in Missouri where no alfalfa land may be found but comparatively speaking they are few. A crop that affords insurance against drouth, chinch bugs and Hessian fly, in the light of our experience for the last four years is worth a great deal of expense and many trials to get it started.

But alfalfa is not difficult to grow on land in a good state of cultivation and well drained. A few days ago we saw a field showing a fine stand of alfalfa that had been sown on wheat last spring and the alfalfa now shows a growth of several inches and stands good for one or two good cuttings after the wheat is harvested.

For the farmer who has no alfalfa on his farm, now is the time to plan for sowing it. Any field of fallow land or where a crop of small grain is now growing that will be harvested in July or early in August will afford the opportunity for a trial and the man who wants to be on the safe side had better plan to put his farm into the alfalfa class this year.

MAKING MISSOURI KNOWN

We are always ready to give due credit to good work no matter where it may be accomplished, but as a matter of state loyalty we get just a little more pleasure out of it if it is done in Missouri. We know of no institution organized for the study and teaching of poultry husbandry that is doing better work or that is getting more and well deserved praise than is being given the State Poultry Experiment Station at Mountain Grove, Missouri, which is under the efficient supervision of T. E. Quisenberry, a practical Missouri poultryman.

The National Egg-Laying Contest which has been conducted by this station for four years is to be repeated for next year and the fifth annual contest will begin November 1, 1915. The world's record for a two-year old hen is held by "Lady Show You" with 281 egs to her credit for twelve months. We need not go outside Missouri for a great many of the best things to be found and Director Quisenberry is making our poultry superiority known to the world.

BARNYARD GOSSIP

We are very largely creatures of habit and after we have done a thing a certain way for a few times it is pretty hard for us to change the way even though we may think there is a better way. Then habit soon shuts our eyes to investigation and we just take it for granted our way is right and we do not investigate to find out. Take the fellow who in youth gets it into his head that the "signs of the zodiac" will govern plant growth or animal life and he just goes through life believing he is right, in fact he "knows" he is right but he has never made a real investigation to find out. If he should for once plant his potatoes or sow his flax on Good Friday and get a good crop he forever holds that Good Friday is the time, the best, possibly the only time, it is worth while to plant potatoes or sow flax seed. Had he investigated the truth of this or any other old tradition by an earnest effort to find out the truth he might have found out, but he just could not get away from the habit of following tradition and so it goes.

—o—

Too many of us farmers have the corn and wheat habit for our own good. For a long time these have been the leading crops and on some farms nearly the only crops grown, but they are not always the best money crops. The other day I drove through a beautiful hill country along the north bank of the Missouri river, and I saw thousands of acres of this fertile and picturesque land planted to wheat and corn just as it has been for sixty years or more. The chinch bug and Hessian fly were in the wheat and after the wheat is harvested or, may be, destroyed the bugs will take the corn unless there is an unusual amount of rain. Great ditches have been washed in these hillside farms as a result of constant cultivation. The same condition of damage from insects existed last year but the force of habit was so great these farmers followed up the same old methods they have been practicing all their lives and their fathers before them had been in the same rut, and up to this time not one in forty has broken away from the habit of wheat and corn. Here and there is a man who has cut down his grain acreage and has sown some alfalfa or planted an orchard, but it is the rare exception.

—o—

A few years ago one man planted a large apple orchard on some of this same hill land, such as thousands of acres I saw, and the trees were well cared for, pruned and sprayed and the owner has grown rich, while about three out of four of his neighbors, who have stuck to wheat and corn, have made a bare living. A few years ago a half dozen professional men without experience in orcharding, but with enough good business judgment to employ an experienced man to advise them, planted a few thousand apple trees on some of these worn-out hill sides where growing wheat and corn will bring a man in debt half the time, and for their crop of apples last year they received a draft for $16,000 and not all the orchard is bearing. I am told that the sales have already paid for the land and from now on the profits should be greatly increased, or at least when the trees all get into bearing.

—o—

One farmer I know who lives in this belt got out of the wheat and corn habit several years ago and he raised sheep and cattle and sowed alfalfa. Today this man owns his farm, has a good bank account, and his land is not all washed in gulleys. Last spring when so many farmers were hauling hay from the railroad station to keep their poor stock alive until grass grew, this man was selling alfalfa and piling up a bigger bank account. This is just a plain old-fashioned Missouri farmer, but seventy acres of nice alfalfa looked good to him.

—o—

I do not mean to convey the idea that everybody should quit raising grain and go to planting orchards or that every farmer should plant his whole farm in alfalfa, but I do mean that we should get away from doing things just becuse of the habit and try to take up those things that pay. There is a lot of land in Missouri that is not adapted to apple growing at all, but on the other hand, we have some of the finest apple soil in the world, and when this has been demonstrated as above indicated, why do men stick to their old habitual methods? Neither would I advise putting all the wheat and corn land in alfalfa, but when we have hundreds of instances all over the state where farmers have demonstrated the superiority of alfalfa over other forage crops, I can not for the life of me, tell why farmers do not sow more alfalfa.

—o—

Let us shake off this old barnacle, habit and look about us for better methods. Let us take advantage of the experiences and success of our neighbors, or of the farmers of other sections that we may learn about through the farm papers. If a neighbor is milking cows and getting more milk than we do, why not talk it over with him and find out how it is he can beat us? It may be in the kind of cows he keeps, or in the kind of feed they get, or it may be only in the better care he is giving them, but whatever it is, let us find out and get away from our old methods if we are wrong. We believe that just following along in the same old rut is the one cause that is doing farmers more harm than all other things combined. A few farmers are making money and we would like to see all of them doing it, but if they do they must try to follow the methods of the successful ones. Let's get out of our old worn-out habits.

OF INTEREST TO FARMER GIRLS

For every bright and ambitious farmer girl in Missouri who would like to have a beautiful piano all of her own, The Missouri Farmer has a mighty interesting message. We don't ask you to engage in any "contest." Furthermore, the pianos we offer are of the highest quality and beauty. We cannot go into details here. All we will say now is that if you would like to own one of these beautiful instruments all through your own efforts, write to The Missouri Farmer at once. **I appeal to every good housewife who reads this paper to bring this matter to the attention of at least one bright and ambitious farmer girl in her community.**

—The Author of After-Thoughts.

PRACTICAL FARM PAPERS—No. 12

Mention of the Carroll county man who was cutting all the shade trees in his pasture, reminds me, that years ago I took the stand that we waste altogether too much pasture and crop land by allowing shade trees to grow. I know one spreading elm that has in the past fifty years caused the loss of more than a car load of manure, yes, more than three carloads. It is by no means certain that shade trees in a pasture ever added a pound of butter, wool, fat or flesh, to a farm animal, and some of the best herds and flocks I ever saw, were in shadeless pastures. "Whither are we drifting?" Nebraska farmers are claiming that alfalfa roots so deeply, and loosens up the subsoil to such an extent, that future crops of other kinds do not grow well where it has been grown, and the firms that make dynamite claim that it pays to use "canned thunder" to thoroughly break up the subsoil.

H. J. Waters used to say, that there is usually a good safe middle ground between these extremes, and this will apply as well to the soil question as to the controversy in regard to soil toxins, or to their non-existence.

April was the dryest on record, less than one and a half inches of rain falling in the Ohio Valley, but at dusk this May 2, a rain has set in, that looks as if we will get the land soaked now.

Some corn is planted, a few small fields up well, tobacco plants scarcer than in many years, rye heading at two feet high, oats very poor, wheat worse. Buyers have begun to offer $1.25 for new wheat, and I hear that a few sales have been made, but we will not contract ours for a time at least.

Sheep men are discouraged as shearing time draws near and dealers say wool will be lower than in years.

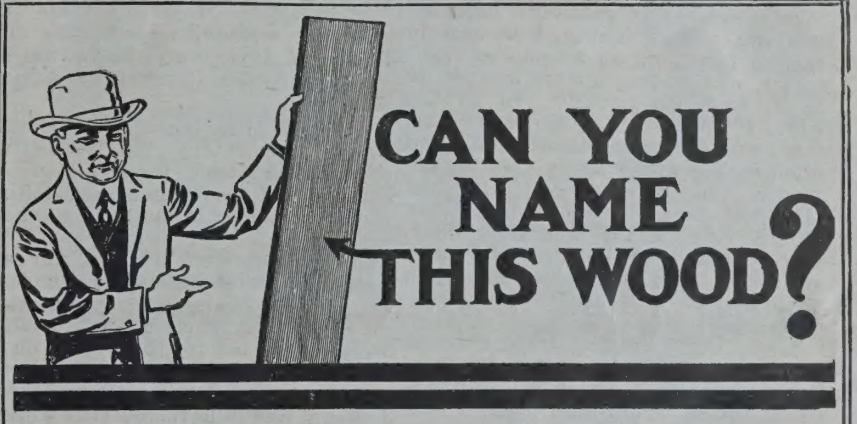
If I was in the sheep business I would borrow money at 8 per cent to hold on to my wool, as it is not a perishable article, easily stored, does not lose in weight, and I think will surely be higher. In some sections of Kentucky the farmers have a wool pool, setting a price on their clip and holding to that price until they get it. They have always succeeded in getting better prices than those who did not pool, and have adopted the same plan with lambs. I imagine that the average wool buyer makes a pretty good profit, even when he buys on his own account, but a great many buy on contract for big firms.

Some forty years ago I bought a little fur, coon, possum, mink and skunk selling to an old fur and wool man of Hebraic genealogy. He told me to buy at just half quoted prices, and from the way he graded my furs down I had to, in order make any money.

Years afterward, the same old fellow wanted me to buy wool for him, and said I could make $25 a day at it, but the offer looked as if it carried trickery with it.

Right here is where we farmers lose out. If wool is worth 16 cents, and a good profit besides, to a dealer, it ought to be worth as much to the farmer, and if 100 sheep men, clipping on an average of 250 pounds each, would get together in selling, they could entirely eliminate the country wool buyer, crooked weights and all, for I have heard of such weights being used.

C. D. Lyon.



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Missouri Home-Makers' Conference.

This Department is Edited by Miss Alice Kinney, New Franklin, Mo.

THE FARM WOMEN OF THE WORLD

Mrs. Bell vanDorn Harbert, president International Congress of Farm Women, Manzanola, Colorado. Abstract of address delivered before Missouri Farm Women in State Meeting at Columbia.

The farm women of the world have been a mighty army coming down through the different stages of civilization, always the burden bearers of the race to which they belonged; the conservers, the builders, content to live and die in isolation if only their sons could arise and take an active part in the world's great work.

They have been unknown and unreckoned with in the social history of the race and as silent as the force of gravity. Their work in bettering humanity has been as unseen as the slow solidification of gravel that the centuries change into rocks.

They have been the sentinels of civilization, forever holding back in God's quiet places the human material that only in the free pure air of the country home could be molded into perfection. Much of this has been the result of instinct rather than philosophy, but it represents the inherent character of the farm women of the world.

On my recent trip through Continental Europe, where I went to study the conditions of farm women in other lands, I invariably found the finger of progress exactly opposite to the mark of refinement and culture reached by the home life of the people.

I found the splendid, stalwart home loving peasant women of Belgium, working and planning how best to raise a family on an income so small that it would seem utterly inadequate to an American mother. In France while I found some splendid farmers, the women seemed dissatisfied, and often looked with longing eyes toward Paris. The girls were leaving the farm for the gayer life in the larger cities. I found old women hitched, with regular yokes, to carts filled with vegetables from their gardens, while a younger girl or boy accompanied the cart to sell its contents.

I saw the women of Italy, bending under jagged bundles of sticks from the vineyards, step aside on the roads, to let the hurrying auto pass; I saw them stooping all day in the lettuce fields of Austria, only stopping long enough to feed and scold and slap the babies who were left under the friendly shade of a tree near by. I saw them eat their black bread and shuffle into the excuse for a home whose blackened walls continued to frown upon them while they slept.

It was different in Servia, the women there are considered the equal of men and while they worked and bravely shared their husbands' poverty yet their faces showed the results of recognition. The silent peasant women of Russia, gleaning the fields as Ruth gleaned them in Bible times, stopping wherever night overtook them and after eating a small measure of the wheat they had gathered and drinking from a brook or a stagnant pool of water nearby they rested on the ground (with no pillow except a bunch of straw and no cover except the fleecy clouds until the dawning of a new day bids them arise and go to work again.

The farm women of Poland seemed to carry a hope in their very countenance, that no matter how hard they had to work under a Russian or German master, there would come a time when they would revive the old civilization and throw off the yoke of their oppressors and their beloved Poland would be free again, and I have often wondered if this awful war would make it possible for Poland's prayers to be answered.

According to my notebook written in Germany, July 25th, 1913, my impression of the German farm women was that they were in the business of raising soldiers, feeding soldiers. Their splendid stalwart sons were sent out to do military duty as freely as their daughters were sent to a school of music and art, and they seemed content to work for food and clothing for both. There was no complaint of taxation which seemed to me to be the greatest burden of the rural people.

In Holland and Denmark the women have the utmost freedom, they often manage their own farms, selling their own produce. Every advantage gained by co-operative buying and selling has been worked out to the smallest detail, and I was surprised to learn that 90% of all co-operative institutions in the world was copied after the little country of Denmark.

It is hardly fair to make any comparison of those farm women of Europe with our own American farm women only as we try to assimilate them into our rural population. They often bring with them a spirit of thrift and a willingness to work that is well worthy of our emulation.

Everywhere I went I found the women looking to America for all that is highest and best, and when I told that great convention of farm women assembled at Ghent, Belgium, that, while we did not inherit titles in America, we were all queens and princesses in our own homes and that it was common for a farm woman to cook and wash and iron and sew for her own household and to be an invited guest at the Governor's ball, they marvelled at the state of American society.

Every country in Europe had some kind of an organization for the rural women but in most countries the emphasis was placed on the **"For."** Ladies of title and wealth had awakened to the need of better conditions in rural districts and were giving large sums of money and spending much time superintending the work for rural betterment. Madam La Baron Resart and Countess T'Kint of Belgium were spending twelve thousand a year for trained nurses, domestic science teachers and traveling schools. Much of the contentment and refinement in the peasant homes of Belgium was due to the excellent work of these two splendid women assisted by that Prince of Agriculture, Hon. Paul De-Vuyst, Director General of Agriculture.

Queen Wilhelmine of Holland gives every support to the agriculture, dairying and poultry raising in her country and the women's agricultural societies seemed to me to be the nearest pattern of our own of any I visited. Women were studying the same problems which interest us and the farm women themselves were carrying on the work. Their organized efforts were by and not for the women on the farm. This was true of the women's co-operative societies in Denmark and I should like to have you visit with me that most wonderful of all schools, The People's High School of Denmark.

The one handicap that the workers in European countries do not have to contend with is distance between farms. Even here in Missouri you can not fully relaize the loneliness of the Western ranches. Imagine the lonely woman in her doorway looking across the straight still prairies watching for a possible speck of animate existence. Organization is for her a dream in the far away future and yet I have found brave pioneer women on these plains who love the silence better than the company of the frivolous women who might come in to break it; women who have chosen the country as the better part, to whom the hills and rivers have called and they have answered, following the vocation of the fields as instinctively as a bird calls to its mate. But these are the exceptions, and most of our isolated women are not content, and when I look over the little unkempt homes all along any of the great railways stretching over the Western plains I feel that the women in those homes are like the wild flowers, crushed by the wheel of necessity.

Pioneer life always falls hardest on the women. The husband often meets his neighbors while in town marketing his crops and attending to the business connected with the farm. The childre attend the district school and find companionship with the children of the neighborhood while the mother stays at home filled with loneliness and often with rebellion. Is it any wonder that she becomes an habitual scold and in many cases a nervous wreck?

Where the distances are not too great much is being done by organization and co-operation to relieve the lonelieness of the women. Social centers, consolidated schools, better roads in rural districts, improved methods of travel, the telephone and the automobile are all doing their part to make farm life more pleasant.

The woman on the plains is becoming acquainted with the woman in the little towns, she feels the bond of sympathy with the women who are less fortunate. The science of being a woman is displaying its wholesome rewards. The farm woman feels instinctively that she is soon to become a recognized citizen of the world, a recognized part of the great economic progress, and after all, the rights and privileges for which women have been struggling to attain, have been granted and woman stands shoulder to shoulder with the man of her choice, she will find that the pleasure of being a home maker and raising a family of strong healthy, happy children is the crowning glory of her life.

During the lecture on "The Farm Women of the World, Mrs. Harbert, showed more than a hundred pictures of farm women of the different countries, taken by her own camera. All classes and conditions of rural homes were vividly portrayed, and after the lecture, every farm woman was glad that her lot was cast in the midst of plenty and in the "Land of the Free."

PETTIS COUNTY HOME-MAKERS

Usually the first question asked about a club or organization is, "What is the object or purpose of the club?" The very name of this club speaks for itself.

We read a great deal about the many similar clubs in Missouri; each striving to better the home life of farm women and to bring about a better understanding between the farm woman and the city woman; each club bringing up and discussing subjects best suited to its locality.

The Pettis County Homemakers have accomplished a great deal since its organization two years ago.

Mrs. Harry Sneed, our president, attributes the success of this club to the fact that she has never had a refusal from any member who has been asked to assist in any way. If you knew our president, as we know her, you could easily understand this loyalty; as president of the State Home Makers' Conference we are especially proud of her and feel that while in this office her wonderful personality will win her many friends and bring about a closer fellowship among the Homemakers' clubs of the State.

The January meeting of the Pettis County Homemakers was a social session, preceding a reception. Miss Mildred Henton, Pettis County's Domestic Science Teacher, gave a cooking demonstration and a detailed outline of the work she is trying to accomplish. Several men interested in the outcome of this work were present, one a farm adviser of Virginia.

A paper, "Poultry Raising," read at the February session, came at a most opportune time and brought forth a full and instructive discussion; many enthusiastic chicken raisers of the country were present and the meeting proved a very profitable one.

The March meeting was a full program. Papers on "Garden Flowers," "Vegetable Gardening and Transplating of Celery Plants" and "Tomato Culture" were read. The keen interest shown by the members proved how desirous they were to learn and help each other.

To return to the purpose of this association, the one big thing accomplished by this band of Pettis County women is the placing and maintaining of a Domestic Science teacher in the rural public schools of the county.

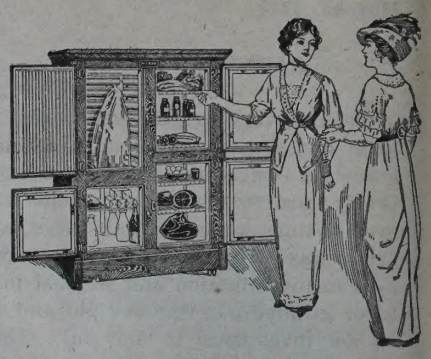
It is not necessary to enumerate the many obstacles that were overcome in accomplishing this, as every new venture brings forth an army of skeptics, However, Miss Henton is busy in this new field, going from school to school in all kinds of weather, teaching our boys and girls cooking, sewing, manual training and many other things in touch with the home and yet not included in the regular curriculum of the home schools. This training will surely fit them to meet life, with ready hands and head.

Only one school in the county has a fully equipped kitchen and manual training room. Some schools have absolutely nothing with which to work, but Miss Henton shows her skill and adaptability by being equal to every emergency or handicap.

In one school she has over fifty pupils to cook for on a one-burner stove, which the Home Makers have furnished her with, also a few of the most essential cooking utensils which she takes in her buggy to the schools having no equipment.

While the girls sew the boys are busy at their manual training and the cooking lesson is given to both boys and girls.

In the cooking lessons, arithmetic, agriculture, history and other regular school studies play an important part, for instance, if tomatoes are to be served, the pupils are called upon to tell all they know of the tomato—its origin, places where it is found, the many plants related to it; and in measuring the ingredients a test in arithmetic is given, thus the old studies are not neglected while entertaining the new ones. Not only the school children are deriving a great benefit from these lessons but the older women of the districts are privileged to attend and learn and many are taking advantage of this opportun-



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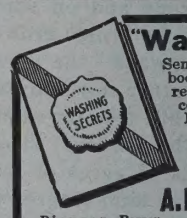

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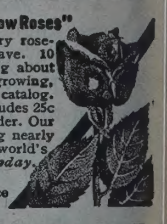

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ity and show the warmest interest in the lessons.

The program committee of the Pettis County Home Makers always gives us a treat of one or more musical selections, which precede papers on subjects chosen to do the most good to the greatest number, and try to suit the subject to the season of the year and of the most interest to farm women. Meetings are held in Sedalia, that being the most central place, at 2 o'clock the last Saturday of each month. The meetings are adjourned promptly at 4 o'clock, giving the women ample time to do their shopping before returning home.

Many capable women of the city are associated with this organization and we are all working together in harmony and accomplishing good and lasting results.

An invitation is extended to anyone interested and wishing to know more of this work to visit the rural schools of Pettis County and attend our monthly meetings.

Mrs. M. D. Norton,
Rt 1, Sedalia, Mo.

SOUR MILK SAVES CHICKS

One of the main causes of death among chicks is white diarrhea. This is very prevalent and investigations have shown conclusively that the original source is often from parent stock. Many chicks have the disease when hatched, and others contract it from them, through feed and forage in infected litter or grounds. This transmission from chick to chick is common during the first three or four days, and this is the period of great danger, especially among chicks of low vitality.

The symptoms are a whitish discharge from the vent, which results in "pasting up behind." The chicks become listless and sleepy, lose appetite, the feathers become ruffled, breathing labored, and they constantly peep or chirp. They may die suddenly or gradually waste away.

This disease is being most carefully investigated by the Agricultural Experiment Station at Storrs, Connecticut, and the third report of their investigations has been published. This report recommends the feeding of sour milk as the best thing to use for a preventive of this disease. It advocates feeding sour milk from the very first and keeping it before the chicks constantly. The acidity of the milk acts as a germicide. Moreover the milk is an animal product which chicks require in some form and it is a great factor in the growth and vigor of the young flock. Of course the commercial chick feeds now so common are fed and pure water supplied, but in addition sour milk is kept before the chicks constantly, the vessels being cleaned and refilled daily during the first few weeks.

Farmers and poultry raisers should feed sour skim milk constantly, at least after chicks are a few days old, as a preventive of this dread disease, and to stimulate their growth. It also increases egg production in the laying flock. Numerous experiments have demonstrated that skim milk and curds, or cottage cheese, are among the most stimulating feeds for poultry of all kinds, except very young chicks. Many claim that sweet milk is much safer until the chicks are at least a week or ten days old. There is a constant supply on nearly every farm and it should be universally used for the farm flock.—N. E. Chapman, Poultry Specialist, University Farm, St. Paul.

WATERFOWL

Ten years ago the interest in waterfowl was, and had been for some time, decidedly on the decline in this state. If we were to call the roll of Missouri fanciers and breeders very few could be found who had anything in waterfowl ten years ago.

True, some of the farmers' wives had some mongrel geese. From them the housewife stripped the coarse, gray feathers in order to get a bed for John and all the other boys, just as her mother and grandmother had done.

Any woman in those days who would pay a dollar for a pure-blood drake or change the male stock every year was "terrible high notioned," and general sympathy was expressed throughout the community for the husband's finances. So when Missourians began to fancy something nice in waterfowl, and began to appreciate their beauty and earning power, they found it necessary to order stock from other states and were fortunate to find that their sister state of Illinois had flocks of great snowy geese and ducks for reasonable prices, the quality considered. Then came the Standard of Perfection, admitting enough varieties that none of the breeds were overdone, and living prices have prevailed since.

Now, on many farms are found waterfowl, almost beyond price. This field is not at all crowded yet, but it is a very important one. So little is written regarding it as compared with the hen and her product that people are likely to think that this branch of the poultry business is unimportant.

Still waterfowl are much less liable to disease and are much more remunerative. Thus they are rapidly gaining in popular favor. In ten more years many of the chicken cranks will realize where they stand, when hundreds of their breeds are entered at each show and they fail to get marked up, thus losing advertising and many sales. Then their fever rapidly dropping to normal, they will cast about for a field that is not crowded and promptly settle on a yard of ducks or geese.

There are many beautiful breeds not yet tried in Missouri. The Penciled Runner is a thing of beauty. It gives an egg a day for three-fourths of the year. Yet it is questioned if there is a farm of them in extensive numbers in this state. People want something new and when you buy, whether to supply market eggs, green duck flesh or breeding stock, study first the demand of your nearest market. Then get something to fill it, different from the general run in the community. The field is wide and competitors few.

Mrs. Benj. Daelhousen,
Oakwood, Mo.

TIME TO SPRAY APPLE TREES

A correspondent from Lathrop, Missouri submits the following questions:

When is the right time to spray apple trees after they have bloomed?

There have been a lot of little green bugs apparently sapping the leaves on my apple trees. Now they seem to have hatched out a progeny that looks like little flying ants. Are they harmful, and if so, how can I get rid of them?

Answered as follows by Dr. J. C. Whitten of the State University:

It is best to spray apple trees as early as convenient after they drop their blossoms, while the blossom ends of the little setting fruit are open to receive the spray and before the apples begin to turn downward, which makes it more inconvenient to fill the blossom ends with the spray.

For this spraying I would recommend commercial lime sulphur 1½ gallons, arsenate of lead paste 2 pounds (or if you use the dry powdered arsenate of lead, 1 pound) to 48½ gallons of water, making 50 gallons of spray. The lime sulphur is for the purpose of preventing apple scab and other fungous diseases; the arsenate of lead is for the purpose of killing apple worm, curculio and other biting insects.

The green bugs described are undoubtedly the green plant louse or apple leaf aphis. These insects do not usually occur in sufficient numbers or persist for a sufficient length of time to justify a spraying for them. If they occur in sufficient numbers to virtually cover the buds of young leaves at the growing points, and if the weather remains cool, it may in certain seasons be desirable to spray for them, as they suck the juice from the tender growing plants and do some injury. The best spray for them in seasons when it is necessary is a tobacco decoction. The Black Leaf 40 is a good commercial brand of tobacco decoction to use for them. As soon as the spring weather gets warm parasites and predaceous insects hatch out abundantly to pray upon the plant lice and very soon thin them out. The present spring has now gotten warm enough that the parasites and predaceous insects will very rapidly destroy the plant lice and for that reason it is not generally recommended to spray for them this year.

Lady Beetles Are Farmers' Friends

A correspondent from Barton County, R. A. Patterson writes he has observed that lady beetles are often found with chinch bugs and asks what their relation is to the spread of the bugs. Professor Haseman replies as follows:

The lady beetles, as you no doubt know, are among the farmers' most beneficial friends. They feed on the flesh of soft insects and insect eggs. The common green lice furnish most of their food, though some of the lady beetles feed on the eggs of such insects as the potato beetles, chinch bugs, leaf beetles and many other forms. From this you will see that very probably the lady beetles where found associated with the chinch bugs will be found feeding on the chinch bugs, as well as on the young active stages of the chinch bug. When the chinch bug first hatches from the egg it is a very small red object and soon begins to suck sap from the wheat and other plants. You will probably find where the lady beetles are exceedingly abundant that they will help you greatly in the campaign against the pest. It is also very probable that you will find some of the green lice on wheat and corn, and these, of course, will furnish part of the food for the swarms of lady bettles which you have noticed along with the chinch bugs.

Learn Neighborhood Laundering

Every student enrolled in the winter dairy course at the University of Wisconsin is being taught how to operate a community laundry and should the occasion later arise undoubtedly would be in a position to install and operate a similar plant in connection with a local creamery.

In washing their own dairy suits and machine shop overalls the students learn the operation of the laundry machinery used in connection with the creamery. The equipment at the dairy school is suited only for rough drying. As the cost of equipping such a laundering plant is but about $300 it is not beyond the possibilities for any community.

The rough drying of plain material would constitute the bulk of the work for neighborhood laundries, and hence the practice given at the dairy school is of the utmost practical value in furthering the cause of "sunny Mondays" on the farm.

One of the greatest labor-saving conveniences in the farm home is one of the most neglected and that is running water. If every woman knew how cheaply water could be brought into the kitchen and bath room she would not rest until the good man of the house made this improvement, if a pig had to be sacrificed to do it.

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CO-OPERATION IN LIVE STOCK BREEDING

Co-operation in the breeding of live stock is a comparatively new undertaking in many sections of the United States. Where it has been adopted, it has been a decided success and offers many opportunities for systematic improvement of live stock. What co-operation has done to make possible a success along other lines it is capable of doing for the live stock breeding industry. There are a number of factors that make co-operation along the line desirable, and all should be carefully considered in starting a movement of this kind. One of the greatest drawbacks to improvement in live stock breeding has been the apparent initial cost of good pure bred stock, the result of which is that many farmers have continued breeding scrubs and have made little or no progress in grading up their herd. This one obstacle is readily overcome by co-operation or community breeding, in that the initial cost of a pure bred sire will be divided among several farmers, all of whom will have the benefit of a good sire.

The success of the live stock industry of England and Scotland has, in a large measure, been due to the co-operative tendency among the breeders and farmers in one locality. Certain counties are noted for the quality and amount of live stock of one kind or another produced and bred along a particular line for many years. These people have worked together and developed one or two breeds in a community and raised it to a high standard of perfection. Such practice has not only made it possible to produce a large amount of high class stock but it has been done at the minimum expense to the breeders.

There are similar communities in the United States where such breeding has been practiced and in each case it has done much to develop a certain class of live stock. Lake Mills, Wisconsin, has become known as one of the greatest Holstein centers of the central west. Buyers go there from all points of the country to buy Holstein cattle. This place, like others, had a small beginning and developed gradually. Certain sections of Ohio have become noted for breeding one breed of beef cattle. Certain other regions have developed either hogs, sheep, or horses.

This system of breeding is not only a great aid in improving the live stock in a locality, but it attracts buyers from a distance who would otherwise not consider coming. When a buyer of pure bred cattle, hogs, sheep, or horses selects a place to visit, with the intention of purchasing a number of animals, he first makes certain that he can visit several breeders, breeding the same kind of stock on the one trip. He is attracted to places where he knows that he can purchase a carload if he so desires. He is willing to pay a higher price for a carload of stock under such conditions as compared to a place where he must spend a considerable amount of time driving about the country and then not securing enough to supply his needs. In such localities he is further assured that much of the stock is bred along similar lines and possesses greater uniformity. These conditions will not only attract the buyers of pure bred live stock, but also the dealers in grade stock will seek such places, because of the presence of high grade animals, when good pure bred sires are used. Co-operation also reduces the cost of advertising as it is possible to advertise as an association and all members receive some benefit.

Farmers in one locality should plan, so far as it is possible, to decide on one or two breeds of dairy cattle, beef cattle, hogs, sheep, or horses, instead of breeding all breeds and not making a success of any. There is not enough difference in the various breeds of live stock to make it impossible for a group of farmers to get together on any one breed.

After the breeds that are to be developed have been decided upon it is important that they are not changed from year to year. Changing of breeds is not conducive to successful breeding when practiced by individuals and less so when done by a group of farmers. Uniformity of type can only be established where the breeding is conducted along one line for a period of years. Keeping to one breed will further have the power of creating greater interest among those who do not belong to the association, but who are watching the results obtained and the improvement made on the grade stock.

The simplest way to organize a co-operative breeding association or club is for one to six farmers to form a club and purchase a pure bred sire. The number of members necessary will depend somewhat upon the number of animals owned that must be bred during the year. It is generally a good plan to get the farmers as near together as possible so that the sire may be kept in the center of the block. This system of breeding can easily be extended beyond a local club and made a town or county organization. It is better to have a number of small clubs held in common by a large organization such as district or county association. This will make it possible to transfer the sire from one block to another every year so as to avoid in-breeding. This will make it possible to keep good sires in a community a longer period of time than where owned by an individual.

When organizing, a constitution and by-laws are adopted in which the general plan of the club and duties of its members are stated. A committee of two or three farmers should be appointed and delegated to purchase the sires and such other animals as are desired for the club. A maximum price to be paid for such animals is agreed upon at the general meeting and each member is taxed pro-rata. The place to keep the sires for each club must be determined by the members. It frequently happens that some member is willing to keep and care for the sire for the privilege of having him on the farm for breeding his stock. Other member should contribute some feed so that the entire cost of keeping will not fall on one person.

The changing of sires from one block to another should be done every two years so as to avoid in-breeding. If there are five sires of one breed in the association they would represent five blocks. The sire of Block No. 1 would be transferred to Block No. 2 and sire from Block No. 5 would come to No. 1. This would establish a rotation so that each sire would be used until he has passed his state of usefulness.

W. H. Tomhave,
Professor of Animal Husbandry, Pennsylvania State College.

Service that serves!

With its own rails reaching all the principal cities in Oklahoma and Texas, the Katy Lines can serve you best, either as a traveler or as a shipper of freight.

I seek the opportunity of serving you and will cheerfully furnish any information desired about rates and service.

W. S. George, G. P. A., St. Louis, Mo.

Seed and Livestock for Sale

The Missouri Farmers' Exchange has unlimited quantities of **Seed** and **Livestock** for sale.

Just now we would be glad to interest more Missouri farmers in growing cowpeas and soybeans from home-grown seed, which our member are offering for sale.

This is the season when some definite work should be done in starting in new lines of live stock breeding. The Exchange is ready to be of service to you in locating livestock for this purpose, and in giving general information to readers of The Missouri Farmer who have questions to ask.

We would have you remember that in dealing with the members of the Exchange you are sure to get a "Square Deal."

Co-operating in this way this spring, we have found a market for thousands of bushels of seed and a considerable quantity of livestock. Practically all of this seed has been raised in Missouri, and has been placed in the hands of Missouri farmers. There is no doubt but that this home grown seed will be of special value to those purchasing it, and we consider that it has done a special service in promoting the production of cowpeas and soy beans. We have made it possible for every farmer wanting cowpea and soy bean seed to locate and secure home-grown seed. With the soy bean this is the first essential to look to if success is to be expected. We feel responsible for securing this first requirement for the many hundreds of farmers who are making their first start in the production of this comparatively new crop with seed secured through the Exchange. Our work with the cowpea and soy bean stands out most prominent.

The Missouri Farmers' Exchange,
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You never did have the opportunity to visit **two** world ex- This extra low fare and the special privileges it gives you positions for **one** fare—and at the same time see California. should induce you to make plans now to take this splendid trip. You can go

via Portland, Vancouver, Seattle and Tacoma, in one direction, for approximately only $17.50 extra.

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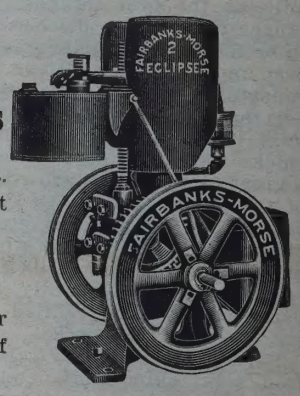

Each engine complete with all accessories. Ready to run. Furnished with or without pump-jack attachment.

No. 1—ECLIPSE ENGINE

Will pump 570 gallons of water per hour against a 125 ft. head, using about 1 pint of gasoline per hour.

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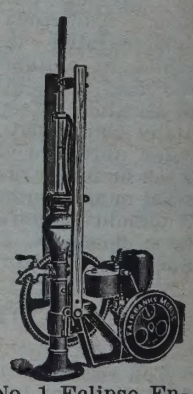
No. 2—ECLIPSE ENGINE

Will pump 900 gallons of water per hour against a 150 ft. head, using about 1 quart of gasoline per hour.

Strength, weight, durability, workmanship and fuel economy all guaranteed by Fairbanks-Morse quality.

Wherever there is a pump there should be an Eclipse Engine. The **price is so moderate** that every farmer can afford to have one. May we send you a catalog?



No. 1 Eclipse Engine and pump-jack attached to windmill pump.

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BROODY HENS

This is the time of the year when much attention should be given to the broody hens. They will incubate and spoil any fertile eggs left in the nest over night and are getting farther from a laying condition each day they remain broody.

The question of broodiness and its relation to egg production and the question of the relation of egg production to broodiness have been discussed many times both pro and con. One party says he wants the hen which does not go broody while another thinks it is a sign of a good layer.

Regardless of what we wish in regard to whether hens go broody or not, we are compelled to admit that both egg production and broodiness are parts of Nature's plan to reproduce the fowl, and are therefore very closely related to each other.

In order to give a better idea of the relation of egg production to broodiness, the following table is given. This table is the record made by 1040 hens in the National Contest here at this Station in 1913-1914. The table gives breed records instead of pen or variety. For example, all varieties of Wyandottes are considered together, etc. The table shows the average number of eggs laid by all hens in each breed which went broody a certain number of times. The total average is secured by arranging the averages of each breed.

No. of eggs laid by—	No. of times broody								
	0	1	2	3	4	5	6	7	8
Wyandottes	147	139	165	159	155	171	173	175	152
Orpingtons	127	133	134	135	170	146	160	163	142
Plymouth Rocks	158	155	164	179	149	162	143	163	
Leghorns	154	147	125	156	215	163	165	162	
Rhode Island Reds	153	177	163	156	153	141	144		
Langshans	121	159	100	164	167	150	139		
Anconas	155	148	146	163					
Minorcas	138	176	143	138					
Campines	135								
Averages	143	154	142	156	168	155	154	165	147

By studying the table it would indicate that the best hens lay 168 eggs and go broody four times per year.

It was noted in compiling this table that many of the high laying hens came in the first column, but it was further noted that many low producing hens were in the same class, which brought the average down to the second from the lowest in the list.

The principal point to be noticed here is that it is not a safe rule to select the non-sitters as the best layers.

Looking at it from another point of view, we find all hens that laid less than 100 eggs, averaged going broody once and three-quarters times each, those laying between 100 and 200 eggs, averaged going broody 2½ times each, and all laying over 200 eggs averaged going broody twice each.

Taking the highest laying hen from each pen, the average was 199 eggs each and also averaged going broody 2.2 times each, while the lowest producer from each pen averaged 83 eggs, and went broody 1.8 times each.

There is an idea generally prevalent that when a hen begins to lay that she has a certin number of eggs to lay, after which she goes broody. This idea has been proven incorrect, as the production of eggs has been proven to be an endless chain, which contines according to the ability given the hen by Nature unless it is interrupted or broken by broodiness or some outside influence such as change in weather, location, etc.

From the investigations we have made so far, we are convinced that broodiness is a condition of the brain and not of the body, for at the time the hen goes broody, she is in a laying condition, having the different parts of the egg partly developed, but because of staying on the nest, lack of exercise, loss of appetite, and lack of nourishment, the hen takes the egg material back into her own system and uses it as nourishment just as hens do when a sudden change in weather stops them from laying.

A hen is one of the most jealous creatures on this earth, and if placed in a wire-sided coop where she can see the rest of the flock ranging about the yard, she is very restless, especially if there is a male with the flock frequently calling his mates to partake of a choice morsel of food, and if plenty of food and water are supplied, she eats often, thereby keeping her body built up so she goes to laying again in a short time.

The plan followed here at the Experiment Station is to place the hen in this kind of coop on the day after she remains on the nest and does not lay. She is kept in the coop four days and then released. During the time she is left in the coop, she is given all the feed and water she wants. About 4,000 hens are treated in this way each summer at this place. The records show that hens broken in this way begin laying again as follows:

The time from the laying of the last egg till the hen began laying again was 10 days in March, 8 days in April, 10 days in May, and 12 days in June. There were more broody hens in June than in April, but for practical purposes we might say the average is 10 days.

These coops can be easily built by anyone out of scrap lumber and a little wire.

This point is well worthy the consideration of the producer, not only from the standpoint of production, but from the standpoint of quality of the eggs, for the broody hen is the cause of many spoiled eggs going to market during the summer season.

C. T. Patterson,
State Poultry Experiment Station,

Holstein Bull Calves

A fine lot of very high grade Holstein bull calves out of grand daughters of the famous Missouri cow, Chief Josephine, and sired by a son of the premium state fair cow. These calves are in fine condition ready to ship now at $25 each. This is a rare opportunity to get a bull of the best breeding to improve your milk stock. Better order now as I have had to return money for orders I could not fill.

D. D. MOSS & SON
Columbia, Missouri

Spotted Poland Chinas

The big boned, thrifty kind. We have a number of boars now ready for service. A choice lot for only $25 each f. o. b. Rocheport.

HALL & RAPP, Rocheport, Mo.

Single Comb White Orpington Eggs for hatching, from my famous English strain. Best pens $2 for 15 eggs; utility stock, $1.50 for 15 eggs. Fertility guaranteed. Order from this ad. E. L. Andrews, Maryville, Mo. tf.

Barred Rock Eggs from extra choice, high-class stock. Deep, clear barring. Large and vigorous. $1 per 15; $5 per 100. M. D. Porter, Vandalia, Mo. 314

Barred Plymouth Rocks, Black Langshan. Better than ever. Cockerels, $1.50 to $3 each. Eggs from pens, $2.50 for 15. Range flocks, $1 for 15. Harry L. Brown, Stephens, Mo. Mutual Phone. 316

Schreiman's S. C. Anconas. Winners at at Concordia and Jefferson City. Eggs for sale. Send for mating list and photos. Dr. Ferdinand Schreimann, Concordia, Mo. 512

Rose Comb Rhode Island Reds. Eggs, $1 for 15, $4 for 100. Mrs. Robt. L. Phelps, Musselfolk, Mo. 5151

Houston's Buff Rocks outlay the Leghorns. From Poley's $7,000 stock. 20 eggs $1.50. Sarah Houston, Mercer, Mo.

A Bright Boy, a Wise Father and Bigger Crops

My son, 14 years, was studying Agriculture at the country school. One night he came home from school and asked, "Papa, did you ever have a wheat field that looked pretty good until it was about time for it to get ripe and then the heads would turn white and not fill?"

I had to say "Yes" for that had always been my biggest trouble in growing wheat.

"Well, Papa, the land needs phosphoric acid and potash to make those heads fill well and to cause the wheat to ripen."

I looked at the boy again, for it was a new experience to have my small son tell me how to farm, and before I thought, retorted, "What do you know about it?"

"We had it in our lesson today. That's what the book said," came the quick reply.

By that time I was feeling that it was about time I kept pace with the lad as regards modern agricultural methods, so I told him we would try out some phosphoric acid and potash. Right away, I began to read up on commercial fertilizers with the result that I concluded that a little ammonia would give my wheat a quicker start and enable it to winter better. Since that time, I have been applying 125 pounds per acre of a high-grade fertilizer on wheat on my farm in Kansas and have obtained an average increased yield of 10 bushels per acre. Each year, the fertilized wheat is plump and of the best quality. The fertilization of wheat has paid me well and I expect to continue it.—Albert Cuthbertson, Girard, Kansas.

The Missouri Farmer is offering a beautiful piano to some bright, ambitious farmer girl in every community in Missouri. By putting in your spare time for a few weeks you can easily earn one of these handsome instruments. Please write us for full particulars at once. Delay means that some other girl will get your territory.

Of Interest to Hog Men

Elsewhere in this issue will be found the advertisement of the Rowe Hog Oiler—a device which enables hogs to divest themselves of all kinds of vermin. Look up the advertisement and drop the company a postal card and ask them to send you full particulars. It is a matter worth looknig into. Be sure to mention The Missouri Farmer.

Treatment for Cutworms

Among the familiar pests which the experienced gardener expects to meet this season, if he has not already, are the various kinds of cutworms. One of the remedies suggested by the College of Agriculture is the poisoned bran mash. To make it, mix 20 parts dry bran to one part Paris green; add the juice and chopped pulp and peel of orange or lemon fruits to give perceptible flavor or odor and enough water to make a thoroughly dampened mash. A tablespoonful of the mixture may be placed near the bases of the plants. In the small garden it may often be easier to pick and destroy worms or brush them into a pan of oil and water than to poison them. Clean culture, of course, is important.

How to Dehorn a Calf

Possibly the most satisfactory way to dehorn a calf is to apply caustic potash. Caustic potash can be obtained at almost any drug store. It usually comes in the form of sticks about the size of a lead pencil. The calf should be treated when one or two days old or as soon as the starting horn can be located.

To dehorn the calf, clip the hair from the spot where the horn is starting. Then wet the end of a stick of caustic potash and rub on the budding horn until a soft spot about the size of a dime is produced. The operation can be hastened by breaking the skin before rubbing on the potash. The calf should not be turned out into the rain immediately after caustic potash has been applied, as it may be washed down into the calf's eyes.

Caustic potash should be handled by wrapping a piece of paper around the stick. It must be kept in a tightly stoppered bottle, or it will absorb water from the air and dissolve.—Bulletin 149, Agricultural Experiment Station of Nebraska.

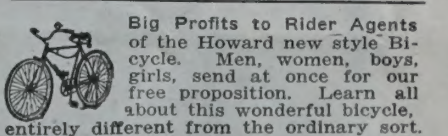
It Spoiled Him

Editor Missouri Farmer,

Dear Sir: The few copies of your paper you sent me while my alfalfa seed ad was running has spoiled me. You will please find one dollar on subscription account. I already take three farm journals, "good ones," and learn from all of them. In fact, I do not know of any investment that will give a farmer the returns that a few dollars in the best farm journals will—at least this has been my experience. Wishing you the best, I am,

S. E. Morey, Piedmont, Okla.

This paper stands for the farmer's interest, always.



Beautiful Post Cards. For 10c I will send you 20 beautiful Post Cards—all kinds and the prettiest you have ever seen. Send at once before they are all gone. Joe Janousek's Art Shop, Columbia, Mo.

LIVE STOCK NOTES

R. P. Royce, Fieldman

MISSOURI STATE DUROC-JERSEY BREEDERS' FUTURITY

At the second annual meeting of the Missouri Duroc Swine Breeders' Association held during Farmers' Week at Columbia, plans were made to hold a Futurity Show at the Missouri State Fair in 1915.

Under the plan adopted $405 will be offered for male and female pigs of March, April and May farrow. Of this amount the directors of the Missouri State Fair and the National Duroc Jersey Record Association have subscribed $200. The balance, $205, is to be made up of nomination fees of Missouri breeders. In addition to the above sum there will be no less than six special trophies offered.

This will be the first Duroc Jersey Futurity ever held and indications are it will be a success from the start. The value of such a show is very great, and the Missouri Duroc Jersey Swine Breeders' Association is to be commended for undertaking to stage such a show. Every Missouri Duroc breeder can nominate his herd and he should do so by all means.

Full details of the Futurity together with a list of herds nominated may be had from the secretary, R. L. Hill, Columbia, Mo.

MISSOURI HAMPSHIRE SWINE BREEDERS MEETING

The Missouri Hampshire Swine Breeders' Association will hold their summer meeting at the St. Francis Hotel, St. Joseph, Mo., Saturday, May 22.

The program begins at two o'clock. E. C. Stone, Secretary of the Hampshire Swine Record Association will deliver an address. Leading breeders and feeders of the state will discuss topics of interest and importance. Special inducements will be offered Missouri breeders to show Hampshires at the Missouri State Fair and it is also planned to have Missouri Hampshires well presented at the Panama Pacific International Exposition.

Any information regarding Hampshires in Missouri will be furnished upon application to the secretary, Isom J. Martin, Lancaster, Mo.

Rauscher's Chester Whites

H. Hauscher & Son, Kahoka, Mo., have one of the oldest and best herds of Chester Whites in the West and at all times are in a position to furnish prospective buyers young stock of either sex at prices quite within keeping with the quality offered. For years Messrs. Rauscher have been breeding for size and bone, prolificacy and quality, and by the use of high class boars on the sows that they have retained in the breeding herd they have succeeded in producing Chester Whites of a very high order. They still have a few fall boars for sale, and are now getting ready to offer the fall trade a very desirable lot of spring boars and gilts. Keep this herd in mind and if you want something good at a reasonable price you will find it to your interest to buy from the Rauchers.

Faulkner's Famous Spotted Polands

Beginning with this issue of The Missouri Farmer H. L. Faulkner calls attention to his well known herd of Spotted Polands. Mr. Faulkner is perhaps the foremost breeder of the "old, original big boned spotted kind," having been engaged in the business for over twenty years. The statement is made, and is true, so far as we know, that there is not a herd west of the Mississippi that does not contain some of the blood that made Faulkner famous.

Mr. Faulkner sells between four and five hundred head a year and the most of them are sent out on mail orders. Every hog sold is guaranteed to be as represented and every one is guaranteed to be a breeder. Just now a few big husky fall boars, just right for service, are in offer. Orders are being booked for spring boars and gilts sired by some of the best known boars in the breed. Mr. Faulkner owns Spotted Mike, Good Enough, Lucky Judge and other well known and proven sires and is therefore in a position to furnish pairs, trios, or more of unrelated stock. Many of the spring pigs and several of the fall boars are out of some of the best sows in the herd.

Each year Mr. Faulkner holds two sales—one in February and one in August. The date of the coming August sale is August 11th and breeders and farmers are urged to write Mr. Faulkner and have him place their names on his mailing list for his catalog.

Mr. Faulkner will be glad to have any prospective purchaser visit his herd and see the kind he is producing.

A Great Litter

The great sow Miss Crimson Col. I Am, owned by W. H. and Geo. E. Thomson, Columbia, Mo., farrowed a litter of sixteen pigs last week. It will be recalled that this was the top sow of Chas. L. Taylor's February sale. Messrs. Thomson are expecting great things of this litter as they are sired by the champion, Col. Wonder.

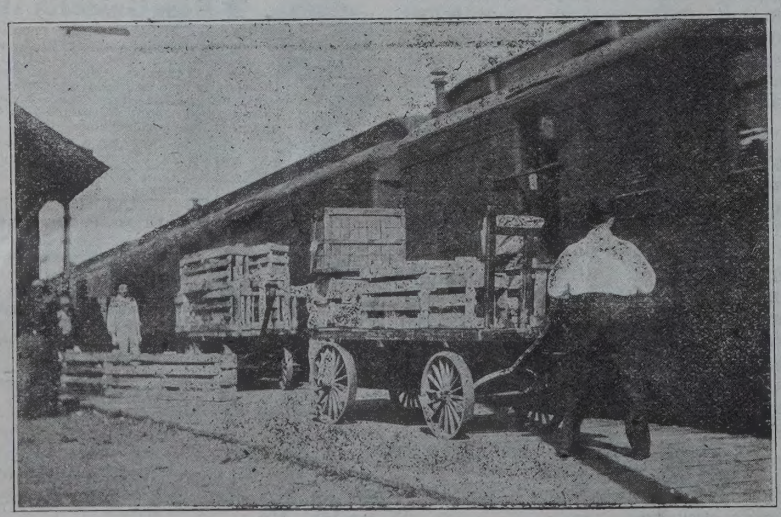
Smith Bros. Durocs

In a recent letter from W. O. and B. A. Smith, Thompson, Mo., they have the following to say regarding their herd: "Our fall gilts are doing fine, a number of them will weigh around 150 pounds or more. They are sired by Beauty's Model, the first prize senior yearling boar at the Missouri State Fair in 1914, and are out of sows sired by Col. Bob. It begins to look as though Beauty's Model would be a great sow sire as his gilts have a great deal of finish, plenty of stretch and are always smooth. We will make a very low price on these at present. We have two fall boars left which are extra good that we are pricing at twenty-five dollars each. They are also by Beauty's Model and out of Col. Bob dams. We sold five boars last week, one going to A. M. Cheek of Lathrop, Mo., one to Ben Spencer, of Thompson; one to E. L. Tuepker of Rush Hill; one to Dr. Tincher and one to C. D. Heinline of Mexico. The crop prospect was never better at this time."

We feel sure that our readers will find good values in the boars and gilts referred to and would suggest that you write as soon as possible. Please mention this paper.

Jersey Cows for Sale

J. B. Smith, Platte City, Mo., is offering a nice lot of young Jersey cows for sale and our readers who are interested in securing proven blood to add to their herds will surely find it to their interest to correspond with Mr. Smith. This herd has been one of the prominent winners at the mid-West dairy shows and State Fairs for the past several years, and many of the young cows referred to in the advertisement have for their sire and dam prize winners of note. You will be surprised how reasonably Mr. Smith is pricing the stock. In writing please mention this paper.



A Monday morning shipment from H. L. Faulkner's Highview Farm. Mr. Faulkner has shipped Spotted Poland Chinas to every State.

CLYDESDALE HORSES FOR SALE

MISSOURI FARMERS, DO YOU RECOGNIZE THE OPPORTUNITY?

The war in Europe means that the United States will furnish the Draft Horses and Draft Breeding Stock for the world for years to come. There was never a better time for you to get into the game and Missouri farmers should take advantage of the opportunity. I have Prize Winning Stallions and Mares of all ages for sale at lowest prices.

F. L. CROSBY, Highview Farm - - - - - - - Mexico, Mo

Duroc Jersey Fall Boars and Gilts

We still have a number of choice fall boars and gilts sired by Beauty's Model, first prize Senior Yearling at the Missouri State Fair. Priced to sell, as we need the room.

W. O. & B. A. SMITH - - - - - Thompson, Mo.

CRIMSON COL. I AM--SELECT COL. II

Two of the greatest Duroc boars owned in Missouri lead my herd. Booking orders for spring pigs. Write me your wants.

A. WHITE, JR. Box 422 PALMYRA, MO.

ADENHILL DUROCS--SPRING PIGS

Spring pigs sired by Col. Wonder II out of sows carrying as good blood as the breed affords. Get my prices before you buy.

R. L. HILL - - - - - - - Adenhill Farm, Columbia, Missouri

THOMSON BROS. DUROC JERSEY'S

We have the best lot of spring pigs coming on that we have ever raised. Ready to ship soon. Prices moderate and satisfaction guaranteed.

W. H. and GEO. E. THOMSON, Columbia, Mo.

DUROCS WITH SIZE AND QUALITY

15 May boars and gilts. Must sell in next 30 days. I have the size combined with quality. Prize winning blood. Pric ed to sell. Come or write.

A, C. BROCKMAN, Route 2, - - - - Centralia, Mo.

WELLER'S IMMUNE DUROCS

I am offering a choice lot of boars, bred sows and gilts. Priced reasonable. Customers in 48 Missouri counties.

J. E. WELLER, FAUCETT, MO.

15 DUROC SPRING BOARS & GILTS

We will have 15 boars and a number of open gilts which we will price to sell quick, and are booking orders now for 25 pigs, farrowed November 10th.

J. C. Garrard & Son McBaine, Mo.

Champion Col. Wonder Durocs

A few yearling boars and bred gilts. Booking orders for spring pigs either sex. Col. Wonder sires my champions—he will sire champions for you. Write or come.

CHAS. L. TAYLOR - - OLEAN, MO.

MEGOWN'S SPOTTED POLANDS

No matured stock for sale but booking orders for pigs to be shipped later. Have length, bone, size and big spots. Sired by two of the biggest boars in the State for their age.

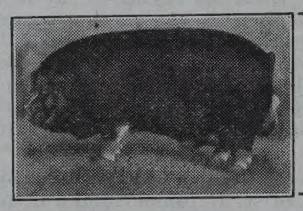
B. B. MEGOWN - - - - - - - - - - - - - - New London, Missouri

Faulkner's Famous Spotted Polands

We are not the originator, but the preserver of the Old, Original, Big-Boned SPOTTED POLANDS. Spring pigs now ready to ship. Pairs or trios not akin. A few good fall boars ready for service. Write your wants.

AUGUST 11th, MIDSUMMER SALE. Ask for Catalog.

H. L. FAULKNER - - - - Jamesport, Mo.



POLAND CHINAS AND SHORTHORNS

Bred sows and yearling gilts bred for May farrow. Extra good fall boars and gilts. Several choice young bulls and heifers.

Satisfaction Guaranteed

H. S. WILLIAMSON, R 6 Centralia, Mo.

SUPERIOR HERD BIG-TYPE POLANDS

We have at all times anything you want in strictly big-type Polands. Special prices on spring boars and gilts in pairs or more—not related. Write us your wants.

Freeman & Russ Kearney, Mo.

LOCKRIDGE'S GIANT POLAND CHINAS

In my recent sale gilts bred to my great young boar THE GIANT 72083 averaged $57. THE GIANT is conceded to be one of the greatest boars of the breed. You will want some of his blood. Booking orders for spring pigs. Write at once.

WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

BAKER'S REAL BIG-TYPE POLANDS

Our winnings at the State Fair prove that we "have the goods." Spring boars and gilts of excellent breeding and individuality at very reasonable prices. Also a number of fall boars, big, stretchy fellows.

W.A. Baker & Sons, Butler, Mo.

Dooley's Spotted Polands

Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pairs and trios no relation. Also registry furnished. Send check with first letter.

Edgar Dooley Etterville, Mo

RAUSCHER'S CHESTER WHITES!

One of the Oldest Herds In the West

A few choice spring gilts bred for early farrow. Several richly bred big spring boars. A fine lot of fall pigs. Size, quality, and bone. Prices reasonable and every pig guaranteed.

H. Rauscher & Son, Kahoka, Mo.

Maple Grove O. I. C's

Over 100 spring pigs from 2 to 3 months old at the following prices: Choice of litter, $12; litter average, $10; fall gilts, $15. Bred gilts $20 to $25. Bred sows, $30 to $35. Prize winning blood and the most popular strains. Each individual guaranteed to give satisfaction.

F. J. GREINER, BILLINGS, MO.

Adenhill Durocs

Under date of May 5th R. L. Hill, Columbia, Mo., writes:

"As per my last letter I wish you would change my ad. I am sold out of bred gilts and sows for spring farrow but will have a nice lot bred for early fall farrow. Our springs pigs are doing nicely. The sows farrowed something over 11 pigs each, on the average, this spring. Missouri Lady Again, the 1st prize sow in the six and under twelve months' class at the Nebraska State Fair of 1913, farrowed 13 pigs. She has five good boars in this litter that will make herd headers and should go to some good herd. They are sired by Col. Wonder II, the good son of the grand champion Col. Wonder. Col Wonder II is in excellent condition, and we are breeding a lot of gilts to him for fall farrow. Missouri Lady Again is by Crimson Wonder Again, grand champion of Iowa in 1906, and one of the greatest boars of the breed. Missouri Lady Again is the daughter of Missouri Lady, the $405 brood sow of 1913. Our spring pigs will soon be ready to wean and we will be in position to ship them by the middle of May to the first of June. At this time we will price them cheapest and those purchasing or in the market realize that this is the best time to buy for the express charges are light. Miss Col. Bob farrowed 11 pigs, by Col. Wonder II. She is by the first prize senior yearling, Col. Bob. Miss Defender had a litter of 13 pigs by Col. Wonder II. Columbia's Beauty by the three times champion, Beauty's Model Top, and out of Defender Girl by Defender, farrowed ten fine pigs by Col. Wonder II. She is the dam of some of our best boar pigs. Our fall boars have all been sold and every purchaser was well pleased with the animal shipped."

Greiner's O. I. C.'s

F. J. Greiner, Billings, Mo., is advertising a desirable lot of O. I. C. spring pigs at prices that should move them readily. Mr. Greiner has one of the good herds of his part of the state. Every individual sold is guaranteed to give satisfaction.

Garrard & Son's Durocs

J. C. Garrard & Son, McBaine, Mo., report that their spring pigs are coming along fine, and that they will be ready to ship out a very select lot of breeding stock this fall. Messrs. Garrard have one of the younger herds of the state but they are meeting with a nice demand. This herd was established and is being handled along very practical lines, and unless something unforseen happens it will be a marked success. Readers of this paper who are looking for good useful Durocs will be pleased with the kind Messrs. Garrard are sending out.

Milking Shorthorns

W. P. Harned, Vermont, Mo., one of the pioneer Shorthorn breeders of the United States, reports several sales of young bulls and cows from his Idlewild herd. Mr. Harned has developed his herd along dual purpose lines and he has lived to see his idea win a place.

Mr. Harned would be glad to give you full particulars regarding his herd and the young stuff he is offering if you will write him. We recommend his herd and assure our readers that they will find Mr. Harned a high class man to deal with. Mention this paper in writing.

A Hundred Per Cent Herd

H. S. Williamson, Centralia, Mo., who advertises Poland Chinas and Shorthorns in this paper, reports saving every pig farrowed. While the litters are not as large as usual, they have averaged a fraction over seven and one-half. Such a record would be very unusual in any year, but in this year, which has registered such a heavy mortality of spring pigs, a hundred per cent crop is very remarkable.

Mr. Williamson has been breeding hogs for thirty years and this is the first time he has succeeded in saving all his pigs.

In view of the above it is evident that Mr. Williamson is going to be crowded for room and he is therefore making very low prices on his fall boars and gilts. You are sure of a bargain, backed by a guarantee that everything sold will be as represented, and we suggest that you write at once. Please be good enough to mention this paper.

Lockridge's Polands

Sometime ago we looked over the herd of big type Polands owned by Will G. Lockridge, Fayette, Mo. Mr. Lockridge reports an unusually heavy loss of spring pigs this year, but notwithstanding this fact, he will be able to offer his trade the best lot of spring stuff he has ever raised.

Most of the spring pigs are sired by his mammoth young boar, The Giant. This boar is coming up to early predictions and is developing into one of the largest boars of the breed, and judging from his spring pigs he is a sire of the right kind. Last winter Mr. Lockridge added several very high class sows to his herd and will be in a position to offer an attractive lot of boars and gilts in his September sale. Above is a picture of his young herd boar, The Giant.

The Giant, Will G. Lockridge's mammoth young herd boar. Most of the spring pigs in the Lockridge herd are sired by The Giant.

Attractive Angus Offering

J. M. Jones, Everton, Mo., is offering a number of good, useful young Angus bulls and heifers. This young stuff is well bred, well grown, and priced worth the money and furthermore is guaranteed to please.

Superior Herd of Polands

The Superior Herd of big type Polands owned by Freeman & Russ, Kearney, Mo., ranks as one of the good herds of the state and buyers will do well to investigate this herd before they make their purchases. They can furnish a few big strong fall boars, ready for service, at bedrock prices.

Sutherland's Angus

Readers of The Missouri Farmer are reminded that D. L. Sutherland & Sons, Windsor, Mo., are offering several choice young Angus bulls and a number of heifers and young cows. The Sutherland herd has been in existence for 30 years and this fact alone is evidence that the kind of cattle they are producing meet with the approval of careful buyers. Kindly mention this paper when you write.

SILAGE IS INDISPENSABLE

Replying to your request asking for our experience with silos and silage: in the first place silage is indispensable in feeding stock. There can be no failures with silage if any judgment whatever is used in feednig. I have been using silage three years and I have never regretted for one minute that I built a silo. I feed to horses, cows, sheep, cattle in fattening; also stockers and milk cows. I have made silage a principal ration for fattening mules and I have sold some of the fattest mules I ever owned on silage sheaf oats and a limited amount of ear corn.

The farmer who is trying to get along without a silo is making a grave mistake, however, many are seeking various excuses for so doing.

Solomon said, get wisdom but Kelley Wright and I say build silos and prosperity will be added.

Now in regard to the kind to build. I have one 18x36 and one 16x34, one-piece Oregon fir, but a wooden silo will make you lose your religion when empty and if I ever build another—which I intend doing—I shall build concrete or tile.

I am now feeding 50 1100-pound steers on silage and cotton cake and they are making a gain of two pounds a day. This silage is made from corn which made about 15 bushels per acre.

Milt Householder,
Audrain County.

CARRYING BROOD SOWS THROUGH THE SUMMER

For three years the Minnesota Experiment Station has studied the value of pasture crops for the maintenance of dry brood sows during the summer. Each season several sows have been fed in the dry lot just enough grain to maintain their weight. Similar groups have been put on pasture and given no grain.

The efficiency of the pasture crops has been measured in two ways: First by the live weight of sows carried, and second, by the amount of grain required to equal one acre of a given pasture. R. C. Ashby, in charge of swine at University Farm, reports results as follows:

1 acre		Wt. of sows supported	No. of days
1913	Rape	1699	99
1914	Rape	3145	84
1913	Oats, peas and rape	1790	83
1914	Oats, peas and rape	3298	56
1914	Bluegrass	4205	77

Rape has proved superior as a replacer of grain. The grain in 1912 was charged at the average price for the summer. In 1913 and 1914 corn was charged at 50 cents a bushel, and tankage at $50 a ton. The results obtained follow:

Crop	Weeks of pasture for one sow	Grain replacement per acre
Rape (3 yrs. average)	75	$13.76
Oats, peas and rape (3 years average)	52	10.04
Bluegrass (1 year)	90	3.76
Oats (1 year)	30	1.69
Sorghum (1 year)	52	.63
Corn (1 year)	36	4.12

Bluegrass shows low here because all weight lost by the sows was figured at 7 cents per pound and deducted from the value of grain saved by the pasture.

Alfalfa and clover are among our best pastures but many farms do not have them. Try an acre of rape this year. Sow four to six pounds of seed per acre.

GALLOWAY CATTLE
Young stock for sale at all times. Herd established 25 years.
J. & W. R. CLELLAND, New Hampton, Mo.

Aberdeen-Angus
I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.
I. D. Blackwell Fayette, Mo.

ANGUS CATTLE
HERD FOUNDED 1904
Seven early calves—3 BULLS and 4 HEIFERS, sired by Dean's Eric 139686. Every one the right kind, and priced to sell.
V. E. LAWRENCE, SALISBURY, MO.

Angus Bargains
Registered bulls and heifers. The market topping kind. Leading families represented. Priced worth the money and satisfaction guaranteed.
Also Poland China hogs.
M. JONES, R. F. D. 3, EVERTON, MO.

THOMAS E. DEEM
AUCTIONEER
Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased.
Dependable service at a reasonable charge. Address, Cameron, Mo.

Harry W. Graham
AUCTIONEER
PURE BRED LIVE STOCK
Seventeen years experience with America's best breeders.
Chillicothe, Missouri

W. D. ROSS
Auctioneer
Pure bred live stock. Sales made anywhere on reasonable terms. Write for dates.
Otterville Missouri

Glenvarloch Large Yorkshires
The prolific, growthy and gentle bacon hog. Closing out entire herd at private sale. Bred sow, boars and pigs either sex. The produce of one Yorkshire sow will keep your family in delicious meat all next winter. Everything at bargain prices. All immune.
Frank Gildow, Mgr., Jamesport, Mo.

JERSEY CATTLE
Bulls ready for service. They are sired by the Owls Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.
Wm. H. Bruns & Son, Concordia, Mo.

SPOTTED BOARS-JERSEY BULLS
We have a dozen Jersey bulls ready for light service and a dozen Big Boned Spotted Poland-China boars of November farrow that we will price very low for quick sale. Also bred heifers and spring pigs to offer.
The ENNIS FARM, Horine Station, Mo.
(Just south of St. Louis)

Jersey Cows
I want to sell 20 head of registered cows and heifers that are either fresh or soon will be. Also four young bulls.
J. B. SMITH Platte City, Mo.

Holsteins Wanted
Wanted, a herd of about 25 registered Holsteins, over 2 years old. Give price and full particulars first letter.
W. F. PHELPS, Aurora, Mo.

HOLSTEINS
Young bulls and heifers from A. R. O. cows. Sired by Sir Korndyke Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.
M. E. Moore & Co., Cameron, Mo.

IDLEWILD SHORTHORN CATTLE
Milk and Beef Type. Dual purpose in name and in fact. Herd 50 years old. In one family, on one farm. The type is fixed. I have a strain that I believe rivals the famous Duchesses. Fine beef cattle that are heavy milkers. And deep milkers of fine beef type. Call, or this blood is safe by order.
W. P. Harned, Vermont, Mo.

Shorthorn Bulls and Heifers
PEABODY FARM now offers 12 choice young bulls and 20 heifers. Good individuals; reds and roans. Priced to sell. Also 20 open BERKSHIRE gilts. Get our prices.
June K. King & Son Marshall, Mo.

ChoiceAberdeen-Angus
Established 30 years. 100 head in herd. We are offering good useful Bulls, and Heifers of excellent individual merit and breeding. Prices reasonable. Our customers make them popular.
D. L. Sutherland & Sons Windsor, Mo

BUCKSHOT BY THE PROFESSOR

William J. Brine don't need hair cuts as bad as he used to. He's getting as bald headed as a pumpkin.

Here's hoping that old Jupiter Pluvius is onto the fact that a chinch bug hates moisture like the Devil hates holy water.

Some "greaser" took a pot shot at Villa down in Mexico the other day. Then another greaser cut loose and killed the first greaser. Any greaser who would shoot at Villa—and miss him—ought to be killed.

I am getting tired of hearing those foreigners talk so all-fired much about "culture." We can skin 'em to death on Agriculture—and that's the kind of culture that fills up the pantry and the dinner-pail.

If there is some bright, deserving farmer girl in your community who would like to win a beautiful piano, have her send in her name to the publisher of this paper at once. This is strictly on the level—an opportunity worth looking into without delay.

Some Kansas fellow with a ball-bearing tongue says, "If you'll cast your alfalfa before swine your wife will wear pearls." It's my private opinion, though, that the swine would have to sell for a little more than $6.75 per hundred weight. The biggest hogs in this Country are the fellows who buy them—and they're the kind that never get the cholera either.

There are a lot of bright little orphan boys and girls in St. Louis and Kansas City who need to find good homes out on the thousands of splendid farms in Missouri. If there are no children in your home, write us and we'll help you pick out a fine one. A home which doesn't resound with the golden laughter of a child isn't much of a place to live in.

With the Fourth of July coming on —with old man Huerta headed for old Mexico with a new supply of "Old Crow"—with the submarines still doing business at the old stand in the North Sea, with Billy Sunday calling everybody a liar and a horse thief, with a good supply of chinch bugs and Hessian flies on hand and the creeks full of catfish, I look for an "interestin' " summer.

I asked Mr. Ellis, the editor of this paper, the other day what a farmer should do to prevent damage to his corn by chinch bugs. He says that one good way is to sow cowpeas or soybeans in the corn. These, under half-way favorable conditions produce a rank growth which helps to hold moisture—and you know there's nothing that will make a chinch bug get peevish and cuss as quick as moisture. Others claim that the bug don't like the smell of cowpeas or soybeans and that the moment he comes in contact with them he gets "sore" and goes in the other direction. Personally, I don't think that anybody who smells like a chinch bug has much of a kick coming on how other things smell—but I guess that's his own private business. Anyhow, Mr. Ellis—who comes mighty near knowing what he's talking about when it comes to bugs and a lot of other things—says that a chinch bug and a cowpea won't speak as they pass by—and it might be worth your while to write to him and get the exact "dope." If a cowpea or a soybean can raise a lot of feed for hogs and raise the Devil with chinch bugs at the same time I am in favor of electing both of them to the Legislature. Being bean or pea headed is certainly no worse than being "pin headed." I'd write more but a band has just come into the hotel trying to bust their horns playing "Dixie"—and I never could write about cowpeas and chinch bugs and listen to a band play "Dixie" at the same time. It makes me feel like I wanted to fight—or vote the Democratic ticket.

CHINCH BUGS

No doubt you've "got 'em."

Don't you wish we did not "have 'em?"

Too late now to swat the chinch bug for this year of our Lord 1915. The weather man may do it for us and we are no doubt "willin ."

Some hot, wet weather is about all that will do us any good now—even that hail did not do the work.

If we get some wet, hot weather a disease breaks out among them, but this disease is active only under certain weather conditions, and such weather may not be as much as once in six to ten years, so it would seem unwise to depend on the weather man to rid us of chinch bugs.

What can you do? Too late now to do much except perhaps to grow some crops that chinch bugs do not eat.

You were told week after week and almost day after day, through the press of the whole county, the city daily, the agricultural papers and your home paper to put up a winter fight on these pests. Did **you** do it? If not, why not take your medicine now and not put up a howl? That dirty, weedy hedge row, that bushy, weedy hollow, that old straw pile that you did not scatter out, and those shocks of fodder that you left standing in the field till spring, those old boards, and chunks, and dead trees with loose bark, all helped you to keep your chinch bugs in a good place ready to help you harvest your wheat.

It is very true that we did not have very much good weather for burning brush and grassy and weedy places, and weather pretty must against us in a clean-up process, but did **you** really try your best? If **you** made no effort, why do you kick now? If **you** did not know of these things, you surely do not even take your home paper, or if you do take it you don't read it.

Some burned corn stalks after the bugs had gone, so it is surely evident they did not burn them with any view to destroying bugs.

Millions of bugs harbored in corn fodder and straw stacks, and the other places mentioned and until we can get it into our heads, that we must take measures of warfare into our own hands, and not depend on the weather man, "diseased bugs," etc., we can expect just such a situation at intervals of every few years.

There is no parasite that we know of that works destruction to chinch bugs, as is the case with army worms, plant lice, and in fact most all other pests.

The quail is the only bird that will eat chinch bugs, but somehow the average one of us would rather put the quail in our own bellies than to allow the quail to put our chinch bugs into his.

One fellow said "why all the quails in creation could not eat all the bugs in the wheat fields." Now wasn't he bright? Of course they could not after the bugs were out and busy multiplying, but in winter don't you know that the quail stays about just such places as these bugs are to be found in winter? If there was but one pair of house flies in your home in January, and you would swat them, and there were no other flies in the universe, it would be an easy job to eradicate the house fly, but if this pair were not "swatted," but allowed to breed, there would perhaps be at least one million by fall, then the swatting would be a big job. The good the quail does it to "get" the bug in winter when food is scarce, as the bugs leave their hiding places in early spring.

Ben Franklin said, "Old Man Experience keeps a hard school, but it is the only school in which a fool will learn anything." How many of us will learn this chinch bug lesson even at the school of experience? What name can you suggest for the fellow who will not learn even in the school of experience?

One man thought he would "plow his wheat and the bugs under and plant to corn." Wouldn't that be "jumping out of the frying pan into the fire? Chinch bugs will eat any of the grasses and it would seem wise to put in a crop when the wheat seems to be lost, that the bugs will not eat. Corn, millet, cane, Kafir, and all the other grasses are only feed for the pests.

Chinch bugs will not eat soybeans nor cowpeas, and good crops of these may be grown by seeding as late as June, and fair crops where soil is good and moisture reasonable, sown even as late as July 10th.

It may protect the corn some by sowing a strip of beans or peas twenty to forty feet wide along the margin of the corn field when the corn field is next to a bug infested wheat field.

These should be sown pretty thickly, and it is very generally thought the bugs will not crawl across the bean strip. Some think that beans in the corn will afford a great deal of protection to the corn against the bugs, but there is not yet enough evidence to suggest more than to make a trial and see what the results may be. Some seem very positive that it will help, but I am not venturing any opinion at this time, but suggest a trial.

Sam Jordan.

Here's a smoke *without* a sting!

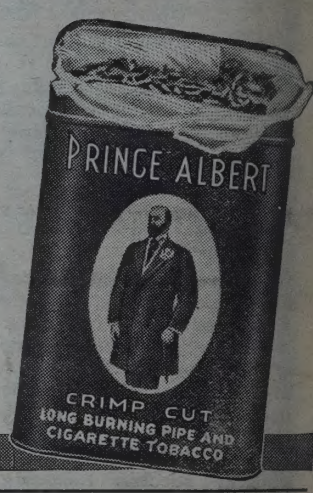
You get on the shady side of the lane long enough to jam your old jimmy pipe brimful, or roll a makin's cigarette with Prince Albert, make fire with a match—and go on. *For you've got yours!*

That's all there is to it—this having real fun with a pipe or a cigarette —if you follow suit with men all over the nation and smoke P. A., because it is made by a patented process that *cuts out* tongue-bite and throat-parch! No tobacco ever was, or can be made like

PRINCE ALBERT

the national joy smoke

Don't let your palate protest every time a whiff of jimmy pipe joy or cigarette makin's happiness breaks into the atmosphere! You start in right away with a pipe or cigarette and a tidy red tin of P. A. It is a guarantee that you'll be jimmy pipe joy'us and cigarette cheerful!



Prince Albert smokers everywhere are enthusiastic over the pound crystal-glass humidor with the sponge-moistener top which keeps the tobacco in fine fettle—always. Prince Albert is also sold in toppy red bags, 5c (handy for cigarette smokers); tidy red tins, 10c; and handsome pound and half-pound tin humidors.

R. J. REYNOLDS TOBACCO COMPANY
Winston-Salem, N. C.

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If you will write and tell me how many hogs you have I will send you at once, all freight charges paid, as many of my New Idea Hog Oilers as you want to try and one gallon of Medicated Oil free with each Oiler. You can put them up in your own hog yard and let your hogs rub against them 30 days at my risk. If you don't say my Oilers are the simplest, safest, most durable and most economical Hog Oilers on the market, and the best investment you can make for your hogs I will pay the return freight charges and not ask you to pay me a single penny either for the use of the Oiler or for the Oil consumed.

ROWE'S NEW IDEA HOG OILERS

have no valves—nothing to get out of order. Stock can't break them. Dirt can't clog them. Oil can't be wasted. Rain can't wash out oil. Every drop is applied as needed **right on the itch** when the hog rubs. Pigs of all sizes and ages can rub on these Oilers and keep themselves vermin-free, mange-free and healthy. Three rubbing bars on each Oiler. One Oiler accommodates 30 to 50 hogs. Uses either crude or Medicated Oil. **Helps prevent hog cholera.** Keeps animals comfortable, contented—and they put on flesh faster—make you more money.

I'll Furnish the Oilers—I'll Furnish Oil—I'll Pay the Freight

Prove these claims at my risk on your own farm before you pay. Just write and tell me how many Oilers you want to try. Send no money. Order direct from this advertisement or if you prefer write for big illustrated folder today.

Alvin V. Rowe, Pres., ROWE MFG. CO., 101 Liberty St., Galesburg, Ill.
Also Makers of Famous CAN'T-SAG Gates

Save $2 to $12 on Each Oiler at these Cut Prices, Pay If Pleased

1 Oiler	$ 7.75
2 Oilers	15.00
3 Oilers	21.75
4 Oilers	28.00

1 Gal. Medicated Oil Free with each oiler. If you wish to send check with order deduct 25c for each Oiler ordered. Money back if not satisfied.

The Missouri Farmer is offering a beautiful piano to some bright, ambitious farmer girl in every community in Missouri. By putting in your spare time for a few weeks you can easily earn one of these handsome instruments Please write us for full particulars at once. Delay means that some other girl will get your territory.

A farmer told us the other day that the best paying crop he raised last year was soybeans. He planted them in rows 36 inches apart, cultivated them like corn and grew 15 bushels per acre. At $2.50 a bushel that would look pretty good in a dry year.

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE MISSOURI FARMER

COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE
AND THE MISSOURI EXPERIMENTAL STATION

Rendering Service

That The Missouri Farmer—although a young paper—has won for itself the first place among the thinking farmers of Missouri is a fact to which the thousands of commendatory letters which we have received during the last few months bear eloquent testimony. For years Missouri was without a **home** farm paper—a paper devoted **exclusively** to the Agricultural and economic interests of this state—a paper edited and owned by men who are a part and parcel of the great commonwealth they are trying to serve and who understand, first hand, the many difficult problems with which Missouri farmers have to deal.

Located in Columbia—the home of Missouri's justly famous Agricultural College, the Missouri Experiment Station and the State Board of Agriculture—this fact gives us facilities for farm paper material possessed by few other farm journals in the Country. Again, nowhere in the Corn Belt is there an Agricultural editor of riper or sounder understanding than Geo. B. Ellis, the Managing Editor. Born and raised on the farm and a practical farmer for many years himself—these fundamental qualifications coupled with his long service as Secretary of the State Board of Agriculture and his natural love for the farm make him the soundest and safest adviser the farmers of Missouri have ever had. It is therefore no wonder that the leading farmers of this state have come to **depend** on The Missouri Farmer—that they regard it in a class by itself and accord it the first place on their reading tables.

But The Missouri Farmer concerns itself not merely with the raising of better crops and better livestock but with those economic questions which, from time to time, vitally affect the well-being of the farmers of this state and which it is in better position to understand and discuss than those farm publications which are edited and owned in other states. Thus, in 1912, The Missouri Farmer was the first publication of any consequence in Missouri to raise its voice against the danger of the Single Tax iniquity and the chief pamphlet against that proposal—which was circulated by the thousands of copies from one end of the state to the other—was written in this office. It was the first big opportunity The Missouri Farmer had to demonstrate the value of a **home** farm paper and it left no stone unturned to defeat a heresy which would have done incalculable injury to the farm owners of this state.

Even so, during the last two years—in article after article—we have pointed out that the time has come when the farmers of Missouri must have cheaper and longer time money if they are to make the most of their opportunities. It was therefore with no small degree of satisfaction that we witnessed and aided in the passage of the Gardner Land Bank Law by the recent Legislature—a measure the successful consummation of which will mean more to the farmers of this state than any act which has claimed the attention of our people in many years. In making it possible for the farmer to obtain money at low interest rates and upon easy terms of re-payment we will not merely place the Agricultural interests of Missouri upon a sounder basis than ever before but likewise it will bring a greater degree of prosperity to all other lines of business which depend primarily upon this great fundamental industry—and hence, even as The Missouri Farmer has led the fight for an Agricultural Credit law during the last two years, so it proposes to devote itself unceasingly from this time forward to the task of assuring final victory for the pending act at the polls. In a few weeks we will be ready to supply blank petitions for the necessary Constitutional amendment. Already we have hundreds of requests for petitions on file—and we trust that all our readers will help out in this good work. If therefore, you are willing to circulate a petition in your neighborhood, please advise us at once.

In the meantime, we promise our readers such an exhaustive discussion of this great question as will enable them to do most effective missionary work among their friends and neighbors. That it will make you a little more loyal toward **The Missouri Farmer** which is once more demonstrating that it has a great and vital mission in this state and that you will try to induce your neighbors to become subscribers is my concluding hope.

The Publisher.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VII JUNE 1, 1915 NO. 11

WILLIAM HIRTH
PUBLISHER

FARMERS' CLUBS

We have arrived at a stage in the history of this country when the farmer will have to begin to develop a more permanent system of agriculture. There was a time when, if a young man wished to have a farm, all he needed to do was to go out west and take up a claim. There is no more land in the Corn Belt which is subject to homestead.

At first thought we might question whether this had anything to do with a change in methods of agriculture, but let us remember that the price of land has more than doubled in the last few years. This has brought new problems, for it is harder to make high-priced land pay interest on the investment than it is to get the same rate of interest out of cheap land, acre for acre. So the young man of today has problems to solve that his father did not have, and we necessarily are passing from an era of exploitve agriculture to one of more permanent methods. The farmer must become a more careful business man in the future than he has been in the past. His farm must be more carefully organized. With this organization will come heavier investments of capital, which will compel a permanence in the system of agriculture of a community.

We want the permanence in agriculture, and we want the man who will start the building of a herd of cattle and carry it along so successfully that his son will look upon it as too good a business to leave. The son can take up the work where his father leaves it and make improvements in methods and buildings so that the business will continue to grow. It is profitable to run a well-organized farm, and still more profitable to run it in a communtiy which is following the same general lines of farming. The farmer must become better acquainted with his fellow-farmer. In order to do this he needs some sort of an organization or club in which he can discuss with his brother farmers the problems which confront each of them. He must not consider his time wasted when he spends it in association with those who are in the same line of work as himself. He may not get wages in dollars and cents for the time he puts in at the club, but the understanding of the problems of his fellow-farmer which will come to him through this association will be indirectly very valuable. The form of organization is really immaterial, but it should be one in which the women and children have a place, for farmers and their wives have always worked together, more perhaps than men and women have in any other occupation.

Let us turn our attention to some of the things that a farmers' club can do. Take, for instance, the school. I am not one of those who assert that the common country school is a failure, but there is no question but that the efficiency of the average country school is too low. If the farmers will get together and look upon the school from the standpoint of making the school what it ought to be, I believe they will make changes which will lead to the improvement of the work done in the school, as well as lessen the expense per pupil. It is not the purpose of this article to outline a definite plan for a change in our school system, but the farmer should get ready to listen to plans of this kind. There is not a better place than at a meeting of his club, where there will be free discussion and every effort made to get at the facts.

The farmers' club can be used as a means of entertainment and as a means of making country life more agreeable to the young people, and thus keep those on the farm who should stay there. The tendency of farmers to move from place to place can be overcome to a large extent by having a real live farmers' organization in the community to overcome discontent. "Far-away pastures always look green" is an old saying in which there is a good deal of truth. It should be the definite purpose of every farmers' club to make the home pastures look green.

Then there is another subject in which farmers have a real live interest, and that is the subject of roads. Whether they are good, bad or indifferent, he is interested in them because there is no citizen who uses the roads more than he.

Perhaps the greatest effect of the organization of a farmers' club is the effect on the farmer himself, the individual man. The farmer needs the training in parlimentary law that he will get in a good farmers' club. He needs to rub up against his fellow-farmer. He needs to learn that farming today is not the same as it was thirty years ago. The farmer has always been a good hand at putting on brakes, but the time has come when he should take the initiative and do something to build up his community in place of hindering some one else from doing anything.

There is nothing equal to a regular organization to help a man boost for his community. He can and should join his farmers' club, and then work for the development of his community and make it the best community in the state.—O. P. Drake, County Farm Agent, in Report Kansas Board of Agriculture.

SEED CORN DAY AT ALTON

It was the occasion of the distributing of sixteen hundred packages of seed corn, each containing one peck of Boone County White corn. This corn was given away by the Bank of Alton to the farmers of Oregon County, Mo. —and a more generous act, a more substantial, sound and sane piece of business work was never put into calm and deliberate execution in this state, and to the best of my knowledge the only case of just this kind on record in the state.

As an example of thoughtful enterprize, for magnanimity and business sagacity, this work stands out in bold relief, without a parallel, in a class by itself.

The first half of April in the Southern Ozarks compares very favorably to the first half of May in the northern part of the state. At this particular season of the year nature is donned in her favorite robe. The sweet song birds are attuned in melodies of the new springtime. The flowers are in bloom. The peach trees have on their livery of pink, purple and red. The cherry and plum trees are bursting with snow. The native forest trees are putting forth their tiny, tender leaves—and the clean, sparkling streams are murmuring along their mossy banks—and all in all it causes the true lover of nature to join with the poet in singing:

"Is this a time to be gloomy and sad?
When Mother Nature smiles around
And even the deep blue heavens look glad,
And gladness is heard in every sound."

Just such a day was Seed Corn Day at Alton, Oregon County, Missouri. Early in the day as the sun rose to shed its benignant rays upon green swards and green fields, there could be seen men, women and children, who had laid aside the tasks and cares of the farm for the day, coming in from every nook and corner, dale and dell and glen, to spend a day socially together, and to register their appreciation of the kindly interest of the business men of that hustling little "City of Brotherly Love" and the stockholders of this Bank of Alton had and were taking in their material welfare.

Permit me to remark that the president of the said Alton bank is no less a personage than the amiable, genial and gallant Alex Young, member of the Missouri State Board of Agriculture from the 14th Congressional District. Mr. Young is one of the highly successful farmers of his section and stands four-square to all the earth for a better and higher Missouri agriculture and his farm, his home, his hospitable wife and charming daughter are all concrete examples and living testimonials of what can be done and accomplished in farming and home-making in the rugged yet beautiful Ozarks.

Long before noon it was plain to be seen that no hall or assembly room in Alton could accommodate the throngs, so the benches from the circuit court room and the churches were arranged in the capacious courthouse yard and under the beautiful trees as of old—"When the groves were God's first Temples" this, one of the most interesting meetings of all the year, was held.

Armed with a set of Seed Corn Charts, the writer talked corn culture in all its phases for a space of two hours. The full and the complete publicity that the bank had provided for this occasion had placed the auditors in a frame of mind to drink long and deep at the fountain of King Corn and all that it means to them as a people and to that part of the state.

Let it be said for the sound judgment and benevolent spirit of the Bank of Alton and the people of Alton, and the citizenship of Oregon County, that such seasons of mingling together and getting acquainted should and will provide an example, and set a mark to be followed, and create an ambition to be reached by other communities in this state.

In all commendable enterprises along the royal highway of development and permanent betterment some individual or collection of individuals must lead the way. Oregon County, Missouri, unfurled her banner in a righteous cause, "More and Better Corn"—and here is hoping and trusting that a favorable season, coupled with intelligent industry, will emblazon upon this trustworthy banner the word "Victory" in letters of such magnitude that can be seen and read, state wide, by the children of men for generations yet to come!

W. D. McKee,
Farmer' Institute Lecturer,
State Board of Agriculture.

Write it on the film—at the time.

Make every negative more valuable by permanently recording, at the time of exposure, the all important date and title. It's a simple and an almost instantaneous process with an

Autographic Kodak

Whatever is worth while in hand camera photography is found in the Kodak. So simple that the amateur can make good pictures from the very start, using dependable, non breakable Kodak films with which the camera loads in daylight. The cameras themselves are accurate and reliable in every detail, the lenses are of the highest grade and the shutters work with a precision that is a mechanical delight. Kodak films may be developed without a dark-room or may be mailed to your finisher—the Kodak printing processes are simple in the extreme. Indeed Kodak has come to mean "photography with the bother left out" and it's less expensive than you think.

The latest Kodak feature is the Autographic idea. A little door in the back is opened and you write on the red paper of the Autographic Kodak cartridge any data that you like—the date or the title of the picture, or perhaps you photograph a friend and then he writes his name on the red paper. Or you can write down the details about the exposure for future guidance—the condition of light, the shutter speed and the stop opening used. In photographing the children you write down their age at the time the picture was made. In using the Kodak in a business way, there are always details of the utmost importance that can be jotted down which will add to the future value of the photographic record. When the date or title or whatever it may be that is written on the red paper, is exposed for a second or so to the sky the door is closed again and upon development such writing is found to be permanently imprinted on the film—occupying the intersecting space between negatives.

Whether photography interests you from the business side, or for the home and travel pictures or from the standpoint of the pure pleasure of picture taking—the camera becomes doubly useful, doubly fascinating if it has the Autographic feature. There's no extra charge for Autographic film and Autographic Kodaks are sold from $6.00 up.

Ask your dealer or write us for "Kodak on the Farm," a beautifully illustrated booklet that you will enjoy. There is no charge.

EASTMAN KODAK CO., 454 State Street, ROCHESTER, N. Y.

A CONCRETE SILO A SUCCESS

I have a reinforced concrete silo 12 by 28 feet which I built in the summer of 1911 and it has been a success. Will give my experience for this winter. I started feeding the 15th of December, 1914, 19 head of cattle, 5 work horses, 2 coming yearling colts and seven head of coming three-year-old horse and mule colts.

Nine head of the cattle are fed nothing but silage and wheat straw. The balance of the cattle are fed some cottonseed meal with the silage and also run to the stack of wheat straw.

The five work horses and the two colts are shut up in the barn every night and are fed some dry corn and corn fodder with the silage. The seven 3-year-olds have no shelter but the straw stack and are fed nothing but silage and the straw and are in as good condition as the horses that are stabled every night.

This is the second winter that these colts have been wintered the same way.

I am confident that I have enough silage to feed this lot of stock until the first of April.

The corn to fill the silo was raised on about ten acres and was drilled corn. It would have made about 20 bushels of badly worm-eaten corn to the acre, as it was planted late and six acres of it was planted three times on account of drouth and army worm.

Lewis M. Wood, Franklin County.

The Missouri Farmer is offering a beautiful piano to some bright, ambitious farmer girl in every community in Missouri. By putting in your spare time for a few weeks you can easily earn one of these handsome instruments. Please write us for full particulars at once. Delay means that some other girl will get your territory.

The Missouri Farmer

VOLUME VII JUNE 1, 1915 NUMBER 11

The Crop That Will Pay

By Geo. B. Ellis, Managing Editor

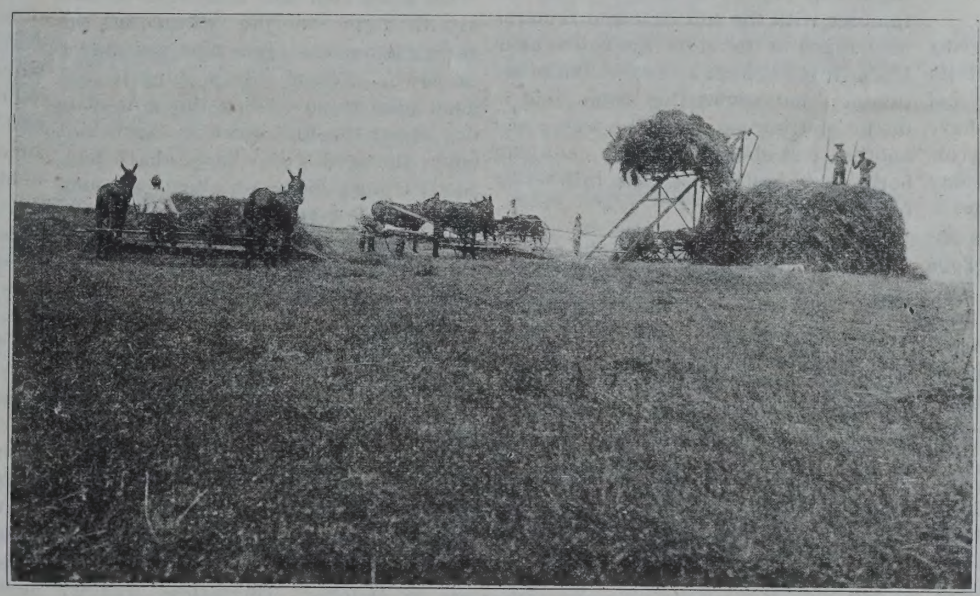
A crop that pays is the kind most men are looking for and are glad to cultivate. On May 20th of this year, 1915, the market reports of St. Louis stated that the first car of new Missouri alfalfa had sold for $14 a ton. Counting $4 a ton for freight and commission the man who loaded the alfalfa on the car at a Missouri station realized $10 a ton, which is equivalent to $10 an acre with a good chance to repeat the operation three times more before the crop season is ended. We know of no other farm crop that will yield a ton of dry, nutritious hay from an acre of land by May 20. We know of no other crop that will repeat this process until three to five tons of the most valuable hay known to stock men has been produced from each acre of land, but in spite of these facts not more than four farmers out of every one hundred are trying to grow this crop which pays so well and which is a guarantee against drouth and empty hay barns.

Farmers say they want facts supported by experience and that suits me to a dot. Since I was just large enough to reach up and hold the plow handles I have known the value of proving things by trial, by several trials, and especially is that true in a business controlled by so many factors as we have to contend with in growing crops. Alfalfa has passed the experimental stage in Missouri—not by the individual farmer but by more than five thousand farmers who have been growing it long enough to prove it in all kinds of seasons and on many kinds of soils. These trials show there is not a county in the state where alfalfa can not be grown and with good cultivation, drainage, lime, manure and inoculation there are very few farms where alfalfa can not be made to produce a better paying crop on at least a part of the farm than any other field crop.

One of the best known and most successful alfalfa growers in the country and a man who has traveled thousands of miles to learn about alfalfa, Joe Wing of Ohio, is quoted as saying that a crop of alfalfa on land adapted to it is worth twice as much as a crop of corn. This statement can be more than substantiated by the crop statistics of Missouri. The crop report of the state board of agriculture made up—not by office experts—but from figures furnished by the farmers themselves, shows that for the last three years the alfalfa crop has been worth nearly three times as much as the corn crop of the state not including the value of the fodder. These three years cover one fairly good year (1912) and two extremely dry years (1913 and 1914). The following figures show the relative yield, price and value of the two crops taking the average of the whole state:

Alfalfa	1912	1913	1914
Av. Yield, tons	3.28	2.9	2.7
Farm Price	$13.00	$17.00	$15.65
Acre Value	42.64	49.30	42.25
Corn			
Av. Yield, bu.	31.9	17.6	23.6
Farm Price	.43	.73	.66
Acre Value	$13.71	$15.84	$15.57

An analysis of the figures will show that the value of the alfalfa in both years 1912 and 1913 was just a little more than three times the value of the corn and for 1914 it lacks but little of being three times the value of the corn. It may be true that the small acreage of alfalfa grown in the state is on a better average of soil than the corn, but allowing for that it is safe to say the alfalfa is worth double the value of corn grown on the same land. This, of course, does not take into consideration the value of the fodder when saved in the silo. If we take a field of good corn land that is good for seventy-five bushels of corn, the crop is worth $37.50 per acre at 50 cents a bushel. On land that will grow seventy-five bushels of corn per acre we should easily grow five tons of alfalfa hay which at $15 a ton will be worth as much as the corn raised on two acres.

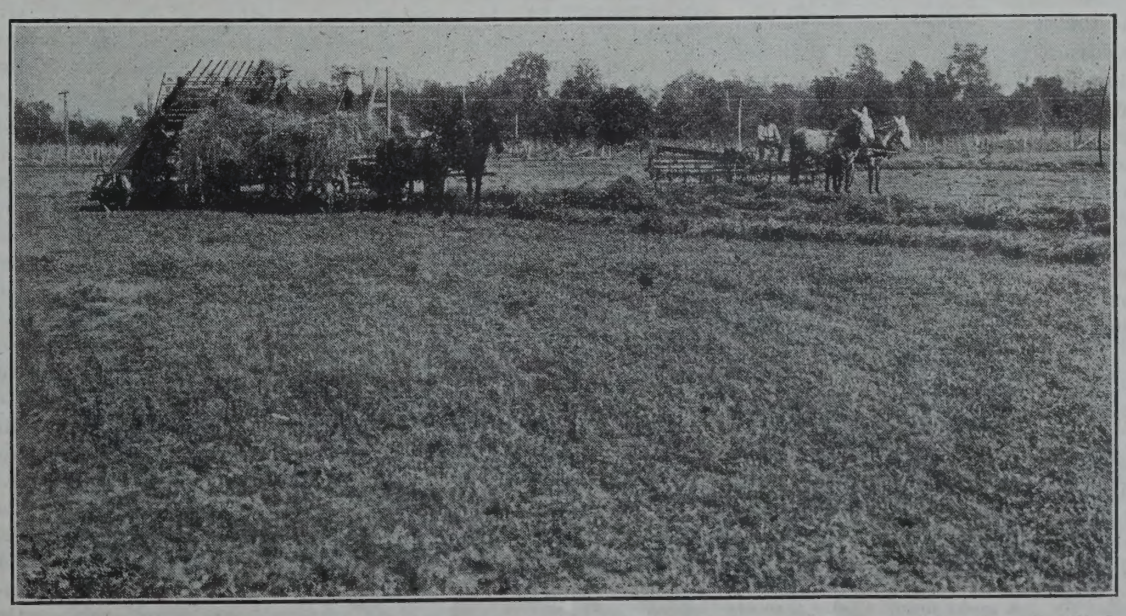


After the hay has been put in the windrow it can be handled very rapidly with sweep rakes and stacker. There is no other kind of machinery that will pay a greater percentage on the investment than present-day improved hay implements. Man-made machines take the place of man labor, and if taken care of are a good investment.

Feeding Value of Alfalfa

When a crop can be grown that will benefit the soil it grows on, will save the washing of the soil which is one of our most serious losses in cultivated fields and when it is a demonstrated fact that under favorable conditions this crop will produce more pounds of pork, beef or butter than most any other crop we grow, is it not time we were all trying to grow it? We may like to grow some crops better than others and I think a man is justified in growing a crop he can get enthusiastic about, but after all in ninety-nine cases out of a hundred it is the profit in a crop that makes us like it. I have heard men say they liked to grow wheat better than any other crop but I have seen them drop wheat out of their rotation after the chinch bug or Hessian fly had spoiled a crop. But if it is sentiment that should control our farming operations what crop is more beautiful to grow than alfalfa? For seven months in the year it will cover our hillsides and valleys with a beautiful green carpet and I know of no landscape scene more beautiful than an alfalfa field in full bloom.

The very best authorities tell us that a ton of first-class alfalfa hay has a feeding value about equal to a ton of wheat bran. Hundreds of Missouri farmers, particularly dairy farmers, have bought thousands of tons of wheat bran during the last two years and they paid from $20 to $27 a ton for it. On that basis it is easy to figure out that the hay grown in one season on an alfalfa field would bring from $60 to $100. In a Kansas experiment a few years ago it was proved that 100 pounds of good alfalfa hay produced as much pork as 96 pounds of corn. When corn is worth 70 cents a bushel a ton of alfalfa hay upon that basis would be worth $24. An acre of alfalfa with a good stand will pasture from ten to fifteen shoats or will furnish plenty of forage for a brood sow and her litter. With a light feed of grain there is no better method for making cheap pork than to pasture the hogs on alfalfa. With this light pasturing two or three cuttings of hay can be had each year and the stand of alfalfa maintained. It is never a good idea to pasture alfalfa heavily for the tramping will soon kill it out, but where it is pastured lightly and mowed it will last three or four years and then a big crop of corn can be grown on the alfalfa field. Where this plan is followed there should be two fields so that the hogs may be kept off for a while after the alfalfa is cut and give



The side delivery rake is almost a necessity in handling alfalfa. As soon as the new cut hay is well wilted it is put into windrows with the side delivery and after curing on top is easily rolled over when it is soon ready to go into the stack or in the barn. The hay loader is another labor saver.

the next crop a chance to get established.

For feeding beef cattle where corn ensilage is part of the ration alfalfa is ideal. Nothing is better for young calves, for dairy cows and bright alfalfa hay is a first-class feed for all grades of horses, but we would advise never to feed mouldy alfalfa to horses and furthermore alfalfa should not be kept before horses all the time. It is best to limit the amount fed to horses to part of the ration, making up the rest of the rough feed with corn fodder, cane hay, prairie or timothy hay. Such a combination makes a most valuable feed. Why will farmers go along in the same old way spending thousands of dollars every year for oil meal, tankage, bran and other feeds to balance up their corn, corn fodder and timothy hay when they could save all with a few acres of alfalfa? I leave the answer for our readers.

How to Grow Alfalfa.

Perhaps the greatest reason why farmers have not raised more alfalfa in Missouri is because they did not understand how to grow it. I have heard farmers say they did not grow clover because they had tried it may be once or twice and failed to get a stand but perhaps across the road another farmer was growing good crops of clover with little trouble about getting a stand. The same is true in a greater degree with alfalfa. It is true that alfalfa is a little more exacting in its requirements than most other crops but when farmers learn just what it requires they can grow it with little more trouble and with a great deal more profit than a number of plants they are now trying to grow. And what crop is it that we raise that does not fail us some times? Our old standby, corn, is occasionally a bad stand or cut short by drouth, but we go right ahead and grow our full acreage of corn just the same. The great apostle of alfalfa, F. D. Coburn, says there are only two kinds of soils that will not grow alfalfa and those are a wet soil and a sour soil. If your land is too wet to grow red clover, too wet to grow good corn in a normal year you need not bother about trying to grow alfalfa without thoroughly draining the land. If the land is sour the bacteria necessary to the growth of alfalfa will not thrive and you will fail unless you sweeten the soil with lime. But there are thousands of acres of Missouri land well adapted to growing this best paying crop if given half a chance. First for your alfalfa field select a piece of well drained land and if not already dry you will find that with alfalfa and all crops you grow it will pay to drain the land. If the water stands on the surface for two or three days after a big rain or during a wet spell, better drain it before you try alfalfa. Next you better test the soil for acidity unless your land grows clover luxuriantly or it may be that some neighbor has succeeded in growing alfalfa on the same kind of soil then you are safe in going ahead without a soil test. Any farmer can test his soil for a cost of five cents and to be on the safe side he had better do it.

From your drug store get five cents worth of blue litmus paper, best quality, and keep the paper in a corked bottle and do not handle it with the fingers but handle with a pin or pair of pincers. The test is then made as recommended by Dr. Van Slyke, New York Experiment Station, as follows: "Take an ordinary, flat-bottomed glass tumbler and cut out round pieces of perfectly clean white blotting paper of just the size to fit closely in the bottom of the tumbler. Place the strip of litmus paper at the bottom of the tumbler, over this put the round piece of blotting paper, and then put in some of the soil to be tested. Add enough water to make the soil thoroughly wet and cover the glass with a saucer or other convenient dish. Prepare another tumbler in just the same way, except that no soil is added but only water; this is a blank or check test to show whether the water or the blotting paper used affects the litmus paper. These should be allowed to stand at least two hours; the color of the litmus paper against the clean white background can then be examined through the bottom of the glass. If the litmus paper has turned red in the tumbler with the soil in it and remains unchanged in the other the soil is acid. If the litmus paper is red in the other tumbler that shows that some acid is in the blotting paper or the water and another test should be made changing both. It is best to use pure rain water for the test."

If the soil shows only slight acidity it may be possible to sweeten it by a heavy application of barnyard manure and if there is much acidity it will be necessary to put on lime, one to two tons of ground limestone per acre. Fortunately most Missouri soils contain sufficient lime and this expense is not necessary but no one should be deterred by the expense when it is necessary because the increased profit from the alfalfa and other crops will soon pay for the lime with an added profit. As the limestone has a tendency to gradually work down in the soil it should be spread after the land has been plowed and before the alfalfa is seeded.

Manure and Fertilizers Needed

A crop that grows fast enough to produce three or four cuttings a year requires a good fertile soil and there is very little land anywhere that will not show good results from spreading six or eight big loads of manure to the acre. On thin land a much heavier application should be made. It will pay on most land to put on fifty pounds of acid phosphate fertilizer with each load of manure or else put on the land just before seeding 300 pounds of bone meal to the acre. The manure should be spread before the land is plowed so as to get it thoroughly mixed with the soil.

Preparing the Seed Bed

The preparation of the seed bed is an important matter in growing alfalfa although sometimes a man succeeds by sowing it carelessly, but it will not pay to take the risk when sowing so valuable a crop. It pays to plow the land deep, just as deep as your team can pull the plow. Joe Wing is quoted as saying he would plow the land 20 inches deep if he could make a plow run that deep. Whether the alfalfa is seeded alone or with a nurse crop plow deep and unless the land will have a good while to settle it should be disked thoroughly and as deep as possible before plowing. It is a good plan to sow cowpeas or soybeans on the land before the alfalfa because these crops leave the soil in good condition and because they may be taken off in time to sow the alfalfa and the use of the ground is not lost for a season.

On good rich soil it is safe to sow alfalfa right on the wheat in the spring about the same time red clover is sown. When this is done it is a good plan to sow when the ground is dry about the first week in April and cover the seed with a good sharp harrow. Others have obtained a good stand by sowing with oats or spring barley, but when this is done the grain should be seeded rather light, one bushel of oats will be enough. The oats should be cut for hay when about in the milk stage for if allowed to ripen they take too much moisture from the soil and the alfalfa may perish. We think all things considered the best time to sow alfalfa in Missouri is from July 15 to September 1. Although as before stated spring sowing may do well and occasionally a stand is secured by seeding late as October. On fallow land we would plow the land in June and on land where a spring crop has been taken off we would plow immediately after the crop is harvested. Then we would work the land occasionally with disk and harrow to kill the weeds and fine the soil and after a good seed bed was secured we would sow as soon as we thought there was plenty of moisture to germinate the seed.

Alfalfa seed may be sown with the seed attachment of the grain drill or sown broad cast. We prefer the drill covering the seed one-half to one inch deep and if sown broadcast covered with a smoothing harrow. Some sow wheat with alfalfa one-half bushel per acre to give winter protection but where the seed is put in by September 1 that is not necessary. When the alfalfa makes a good growth in the fall some are tempted to pasture it but this should not be done. The tramping will injure the young plants and it will need a good fall growth for winter protection. It is usually recommended to sow 20 pounds of seed per acre but with good seed and a good seed bed 10 or 12 pounds will give a good stand.

Inoculation Important.

Most farmers who have ever grown any of the clovers, cowpeas or soybeans understand that on the roots of any of these plants may be found little wart-like growths or nodules, and while we may not fully understand the function of these nodules, we do know that without them these crops will not do well. The housewife knows very well that unless she adds the proper amount of yeast she can not make bread and so it is in trying to grow a legume crop, unless these bacteria are found in the soil we must put them there. Each plant has its own bacteria and the one will not grow on the other except that in closely related plants like sweet clover and alfalfa the same bacteria grows on both crops. Where the soil is rich, well drained and plenty of lime sometimes we may succeed without inoculation but on all fields where alfalfa is sown for the first time the soil should be inoculated. It is a very simple matter to do it and as the chances are so much better for success we would not think of sowing the first time without. Cultures may be bought from reliable dealers or may be obtained in small quantities from the U. S. Department of Agriculture and instructions for use furnished with the packages. In most places in Missouri inoculating material may be conveniently obtained from an old alfalfa field or from the road side where sweet clover is growing. From any field where alfalfa is growing successfully and nodules are found on the roots or from the sweet clover soil just spade up enough soil to spread two or three bushels over each acre of the field to be sown. As bright sunlight will soon kill the bacteria it is best to get this soil on a cloudy day or keep it covered up to keep out the sunlight. This soil should be sown broadcast over the field, preferably just after the seed is sown and then follow with a harrow to cover the inoculated soil. It may look foolish to an old practical farmer to scatter a few handfulls of dirt over his field to make crops grow but if it brings results he need not stop to ask what others think.

Pasturing Alfalfa

While alfalfa makes good pasturage it is without question that under Missouri conditions that it will be grown primarily for hay. In a humid climate like ours there is great danger in pasturing cattle and sheep on account of bloating, particularly in the spring and early summer. For horses there is not this danger but because of the close grazing and tramping, it is not advisable to pasture heavily with horses. One of the most profitable uses that can be made of an alfalfa crop is to pasture it with hogs. For this purpose it is best to have two fields, pasturing the fields alternately so the alfalfa can be mown two or three times a year for hay. In this way the stand may be maintained for several years, the mowing will keep down weeds and by mowing the fields at different times the hogs will have a tender, succulent growth to

A great many alfalfa growers think they get better results by raking the alfalfa into windrows as soon as wilted and after a few hours more sun put it into the shock. In two or three days the alfalfa is ready for stacking. Whatever method is used the alfalfa should not get too dry in the swath or most of the leaves will be lost in handling.

feed on and enough hay taken from the field to pay well for mowing it.

Time and Methods of Harvesting

Making good hay from any crop is more important than many farmers believe. There is a wide difference in the quality of hay cut at different stages of growth and there is also a great difference on the effect of the future growth of the crop, and this is probably more noticeable with alfalfa than with any other plant. If alfalfa is cut too soon it makes an inferior quality of hay and is hard to cure. If it stands too long the stems become woody, the bottom leaves will rust and drop off and the stand may be injured. An experienced man can tell by the maturity and color of the leaves when it should be cut, but the man who is not familiar with alfalfa should be governed by the starting of the young shoots at the crown near the surface of the soil. When the majority of the stalks show the young shoots are starting it is ready to harvest. Some go by the bloom, cutting about the time one-fifth is in bloom, but this is not so reliable a guide as the starting of the new shoots.

Some have objected to growing alfalfa because the first cutting must be harvested in May when the weather is apt to be more or less showery, but suppose you lose one cutting entirely and get three more you are ahead of most any other crop. But men who have raised alfalfa for twenty years tell us they seldom lose a crop. There are two methods followed in cutting. First, to cut as soon as the dew dries off and rake into windrows as soon as well wilted. That may be late in the afternoon or not until some time the next day owing to the thickness of the swath and to the weather. Second, wait until afternoon, 2 o'clock or later and cut until the dew begins to fall and rake when wilted, which will probably be the next afternoon. If the hay is left in the swath until dry it makes brown hay and much of the leaves, the best part of the hay, will be lost in handling.

Where the crop is very heavy the tedder is a valuable machine, but under most conditions if the hay is put in the window with a side delivery rake when wilted and turned once after the top is dry it will cure out nicely and can be put in the stack or barn the second or third day. Some prefer curing in the shocks, and when this is done it may be put in rather small narrow shocks that will let the water down or rather tall stocks and covered with muslin hay caps. These caps are made of heavy muslin forty to sixty inches square and a small weight attached to each corner.

After the hay is well cured it may be stacked, baled or put in the barn. Remember this, that you can put greener hay in a tight barn than you can in a stack. When a large quantity of wilted hay is put in a tight barn the heat will dry it out and it will come out a nice brown hay, but we think it is safer and a better quality of hay is secured by letting the hay thoroughly dry in the windrow or shock. Where it is stacked in the field the stacks should be protected with slough grass or some kind of stack cover because alfalfa, like clover, does not turn water well unless the stacks are covered.

In concluding this article just let us remind our readers we have not tried to tell the whole story but have tried to put a few facts before you of a crop that is destined to become one of the best paying and most useful crops on Missouri farms.

PRACTICAL EXPERIENCE WITH ALFALFA

My first seeding of alfalfa was made in the spring of 1900. We secured a good stand, and it started off nicely, but made little growth later in the season, and by fall was not very thrifty. During the following winter, Dr. Hopkins told me of the results at the experiment station from inoculation with Kansas alfalfa dirt, and I had a few hundred pounds of alfalfa dirt shipped me from the experiment station in the spring. This was applied to the alfalfa field in the spring except a small portion of the field which was left without dirt treatment for sake of comparison. By fall the alfalfa on the part that was left untreated with dirt was all dead, but the rest of the field cut about four tons of hay per acre. This field remained in alfalfa for seven years and averaged five tons of hay per acre annually.

Later seedings have been made in August or early in September. Have seeded clover stubble, oat stubble and potato ground with about equal results. Ground is plowed as early as possible, and is afterwards disked every few days till ready for seeding. Before seeding, the field is gone over with manure spreader loaded with some manure in the bottom, on top of manure is spread enough limestone to make a ton or more per acre, and on top of the limestone is loaded enough dirt from old alfalfa field to make a few hundred pounds per acre. If sweet clover dirt is more convenient we may use that instead of alfalfa dirt. This distribution is immediately followed with the disk to get the inoculated dirt incorporated with the soil.

The amount of seed sown depends somewhat on the quality of the seed. I have usually used about twenty pounds per acre. The manner of covering the seed is dependent on the conditions. Sometimes it is covered by running a smoothing harrow over the ground several times, and sometimes it is covered by running the disk not very deep.

I think many alfalfa fields are injured by cutting too soon. It is a good plan to wait each cutting till there is quite a development of new shoots from the crowns and a general appearance of ripening has commenecd. It is difficult to tell just how an alfalfa field should look when ready to cut, and it will require some experience to learn it, but as a rule it will pay you to wait a few days after you first think it is ready for harvest. I have more than once severely injured the plants in part of the field by cutting too early. When alfalfa is ready to cut, it should be cut regardless of what the weather predictions may be.

I have tried several different systems of making and curing alfalfa hay, and the system that is most preferred is to use a side delivery rake and to cure in the windrow. This method seems to reduce the weather injury to a minimum and is an economical way of handling hay. A hay loader of the revolving type is used to load the hay on the wagons. Any other type of loader will thrash the leaves off the hay if it is dry enough for the mow. With the side rake the windrows are made only medium size, and if a shower should fall on the hay the side rake is immediately used to shake up and turn over the windrow, giving the hay a chance to dry out quickly. It is also an advantage to turn the windrows each morning as it permits the hay to dry out more uniformly. To get the best quality of hay out of the barn it should be very dry when it goes into the barn. There is no system that will cure good hay at a time when it rains every day as some times happens, and we have practically lost two or three cuttings in last ten years. Even though the hay is in good cocks with caps the hay is considerably injured at such a time, from atmospheric humidity.

How long a seeding of alfalfa should stand will vary somewhat with different conditions. If old ground where June grass has not grown for many years and the alfalfa has not been treated to a coating of manure made from June grass hay or pasture, the alfalfa may remain almost free from grass for eight or ten years. But if grass is in the soil or the seed gets started in any way it is likely it will be but a few years till the June grass has possession and it is time to plow it up and seed a new piece. June grass or bluegrass seems to be the only plant that will run out alfalfa. Frequent disking is a partial remedy against grass, but in the end the grass wins out.

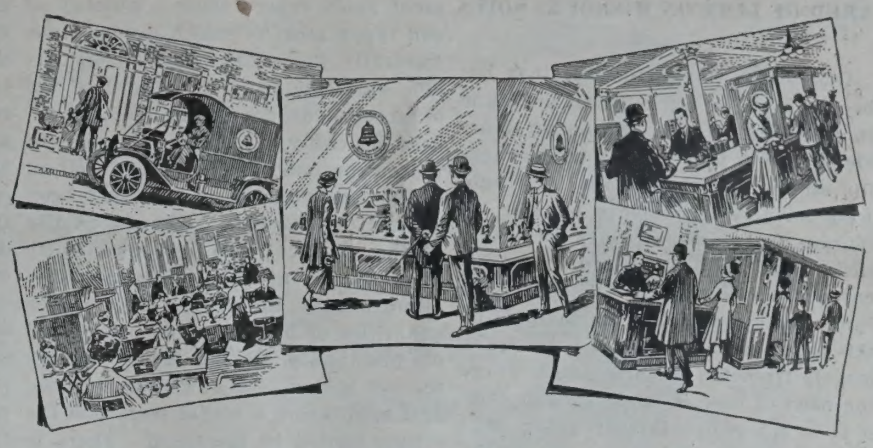
As a gleaning crop alfalfa probably has no superior. When land that is badly infested with crab grass, foxtail, pigeon grass, horse nettle, swamp smart weed, heart's ease, sand burrs, velvet or button weed, running vines of any kind, and many other weeds, is kept in alfalfa for a few years the weeds gradually disappear.

As a feed alfalfa is superior to clover. The writer has many times changed the feed of milk cows from good clover hay to alfalfa with always an accompanying increase in milk yield, and when the change was made from alfalfa to clover it has been followed by decline in milk yield.

Have heard it said that alfalfa would injure ground for other crops to follow, but we have grown the following crops on land that stood seven years in alfalfa. It was given a good application of phosphate before sowing the alfalfa and again before plowing the alfalfa stubble. First year after alfalfa, 20 tons of corn silage; second year, 115 bushels corn per acre; third year, 88½ bushels oats per acre; fourth year, 52¼ bushels wheat per acre.—Frank I. Mann, before the Illinois Alfalfa Growers Association.

Remedy for Melon Aphis

The results of spraying experiments at the Nebraska Agricultural Experiment Station show that tobacco washes are the safest and most effective applications for the little green or black plant lice or aphids destructive to melon and cucumber vines. If a tobacco extract is not readily obtainable, a good solution may be made by dissolving one and one-half pounds of soap in one gallon of water, adding two parts of strong tobacco decoction and diluting it to make five gallons. The tobacco decoction is made by steeping tobacco stems in water until the decoction becomes the color of strong coffee.



Doing Business with a Business Concern

The business man is an important factor in your daily life and happiness.

He may raise wheat or cattle; he may manufacture flour or shoes; he may run a grocery or a dry-goods store; he may operate a copper mine or a telephone company. He creates or distributes some commodity to be used by other people.

He is always hard at work to supply the needs of others, and in return he has his own needs supplied.

All of us are doing business with business men so constantly that we accept the benefits of this intercourse without question, as we accept the air we breathe. Most of us have little to do with government, yet we recognize the difference between business methods and government methods.

We know that it is to the interest of the business man to do something for us, while the function of the government man is to see that we do something for ourselves — that is, to control and regulate.

We pay them both, but of the two we naturally find the business man more get-at-able, more human, more democratic.

Because the telephone business has become large and extensive, it requires a high type of organization and must employ the best business methods.

The Bell System is in the business of selling its commodity — telephone service. It must meet the needs of many millions of customers, and teach them to use and appreciate the service which it has provided.

The democratic relation between the customer and the business concern has been indispensable, providing for the United States the best and most universal telephone service of any country in the world.

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NEED OF LIME ON MISSOURI SOILS

One might think from all that has been said in the agricultural press and in many experiment station circulars about liming that lime is the panacea for all the ills of the soil. Few subjects have received more popular attention during recent years. There is little doubt that the benefit to be secured from liming in Missouri has been somewhat over-emphasized by this propaganda, coming as it has quite largely from the eastern states, where the need of lime is much greater than it is in the states farther west. Missouri is slowly coming to resemble the eastern states in certain particulars of agricultural practice, however, and one of these is in the use of lime. The last five years have seen a steady and rather rapid increase in the use of ground limestone on the soils of this state and doubtless this increase will continue. It is one of the phases of an intensive agriculture which is slowly gaining ground as our soils become older.

According to the investigations of the experiment station, the soils which need lime most in Missouri are the level and gently rolling prairies of north central and northeast Missouri, the gray prairies of southwest Missouri and the more worn timber soils of the border Ozarks and the Ozark uplands. Those soils which need it least are in general the bottom soils, the better limestone soils, the brown loess along the Missouri River hills and the prairies and timber lands of northwest Missouri. These statements are, of course, general and represent only average conditions. As a matter of fact, the need for lime varies considerably even on the same soil type, this variation depending much upon conditions. In general the more worn the land the greater the need for lime. In fact, all agricultural lands sooner or later require the application of lime unless both the soil and the subsoil were originally supplied with very large quantities of lime carbonate. Since the soils of Missouri in their virgin state had a very wide variation in lime content, not all corn lands in the state need liming, although as a general rule they do.

Use of Ground Limestone

The return to be expected from the application of lime depends mainly upon the degree of acidity of the soil and the amount of lime applied. In most cases in Missouri use is being made of ground limestone rather than the burned lime, or slaked lime. In general it can be said that it is best to apply at the first application a little in excess of the amount of ground limestone required to sweeten the surface seven inches of an acre and then follow with a ton of limestone or its equivalent in four to six years. This occasional application is necessary when a soil has once become acid, especially in both soil and subsoil. A single liming, unless in large excess, will not keep the land sweet for more than five or six years. As an average of all the experiments conducted by the station on the experiment fields over Missouri, the gross return on the basis of a four-year rotation of corn, oats, wheat and clover has been $5.30 for the application of of approximately one ton of ground limestone. The cost of this limestone applied to the land has been figured in these experiments at $3 a ton, so that on this basis a very satisfactory percentage return has been secured, although not a very large total acre return. This, however, is an average for all the experiment fields representing a number of soil types, most of which needed lime. Naturally there has been a considerable variation from the return of the different fields, depending upon the degree of acidity of the soil. In some of these experiments it was found that an insufficient amount of lime had been applied to entirely correct the acidity of the surface soil. Consequently these figures are subject to probable alterations in the future since larger quantities of lime are now being used on practically all the fields. Where the soil is completely sweetened by the first application it would seem that the return should be increased. There is little doubt, however, that the figures given will be a fair average for the return to be expected from the application of from one to two tons of ground limestone on the lands of Missouri which need lime. The figure of three dollars per ton as the applied cost of ground limestone seems a safe one in most cases. As a matter of fact, it can be applied at a considerably less cost in many cases, which would consequently increase the net return.

Lime a Soil Sweetener

The effect of lime on the soil and crop is a very important consideration. Most men who write to the experiment station seem to have the idea that lime acts in the same manner as a fertilizer, by giving a quick stimulus to plant growth. This, however, rarely happens. In the case of fertilizers, available plant foods are applied and if the soil is lacking in these plant foods, as is usually the case, the result is an immediate effect upon the crop. In the case of lime, it is not added as a plant food since practically all soils contain sufficient lime to meet the plant food requirements of cropping. It is applied merely as a soil sweetener to correct a sour or acid condition and thus put the soil in a more sanitary or healthy condition for the growth of plant roots and of beneficial bacteria. It is therefore not used for immediate returns on any particular crop as a rule, but is applied in a sour soil at the most convenient time in the rotation and a general betterment of yield can be expetced. It is rare that one can see by the eye any particular response from its use on cereals, although in the case of clover, striking results are often secured.

The effect on the individual crop is quite variable. Some plants are little affected by a sour condition of the soil while others are greatly affected. As an average of all the experiments conducted in Missouri the largest money return has been secured on clover, with the returns from other crops ranging in the following order: Corn, soybeans, oats, wheat, cowpeas. Alfalfa has not been used on these particular experiment fields, but other experiments have shown it to be strikingly injured by an acid soil unless the soil is very fertile. The small return from liming cowpeas is rather remarkable since as a rule legumes are much more affected by liming than are the cereals. This beneficial effect is supposed to be due to the fact that the nitrogen fixing bacteria in the nodules of legumes are injured by a sour condition of the soil. In the case of cowpeas, however, the particular type of bacteria concerned seem to be little affected by this sourness, or if so, the plant is able to counteract it, so that cowpeas can be grown very satisfactorily on lands which are quite acid.

Lime Only One Requirement

Since clover and alfalfa are both strikingly injured by a sour soil and therefore most largely benefited by the application of lime, this does not mean that liming is the only requirement for the production of either of these crops. There seems to be a general impression among farmers that liming will enable these crops to be grown on practically any soil. Unfortunately such is not the case. The use of lime where the soil is sour is only one of the requirements for clover or alfalfa growing. Thorough drainage, and, in the case of alfalfa particularly, a reasonable amount of fertility, are just as important, to say nothing of the method of soil preparation and method of seeding. Where sourness is the only factor for getting satisfactory crops of clover and alfalfa, however, the application of proper amounts of lime will be accompanied by very satisfactory returns. We have doubtless secured rather an exaggerated idea of the difficulties in growing clover in many parts of Missouri during the recent dry years, due largely to the hot, dry seasons, yet the fact remains that our soils grow clover less readily than formerly. A part of this is due to a gradual decrease in fertility, a part possibly to the development of certain injurious insects and fungous diseases, yet a part is undoubtedly due to a steady increase in soil acidity with the years. Consequently the use of lime will be of much advantage to clover on many soils. As a matter of fact the main value of lime on a soil is to keep it sufficiently sweet to enable one to grow all legumes satisfactorily, thus making it possible to build up the soil in its organic matter and nitrogen.

There is a direct relation between the system of farming and the use of lime. In general, lime is used with the greatest profit under intensive systems of farming where the soil is being maintained or built up in fertility. Under systems of extensive farming, however, where the land is handled more or less carelessly, the return from lime is usually less. Nevertheless, in the development of profitable systems of agriculture under the changed economic conditions of the Corn Belt states, the use of lime is one of those cheaper soil treatments on which a large percentage return is secured for the money invested, where lands are handled with a fair degree of care. In a future article I hope to discuss the methods of handling lime and of applying it to the soil.

M. F. Miller, Agricultural College.

Clover on the Bowling Green experiment field. It was necessary, both to increase the fertility and to reduce the sourness by adding limestone in order to produce this crop of clover.

HANDLING THE SMALL GRAIN CROP

What I shall have to say in this article will have to do largely with the handling of the winter wheat crop in the Corn Belt states, yet the suggestions apply with equal force to the handling of oats or barley grown in the same district or territory.

In many portions of the West the universal practice is to head their grain and the danger from damage by wet weather after harvest is not so great. In the spring wheat regions owing to the large acreage they are not expected to follow the same methods as the wheat grower who follows diversified or live stock farming.

The very first step in the logical order of procedure in handling the small grain crop is, of course, the time to cut the grain, and upon this subject very little need to be said.

No small grain crop should be cut too green. It should be fully ripe but not what farmers call dead ripe. If cut too green or immature the result will be a shrunken or shriveled grain lacking in nutrients and grading qualities. If allowed to stand too long in the field before cutting it will become more or less straw fallen; the straw becomes weak and will go down before a hard wind or rain storm. The loss from shattering will be increased and the grade will not be so high. Wheat can be cut greener than oats. There are fewer blades or fodder on the wheat and it will not mold under the band when cut just a shade green, like oats. Oat straw is worth more, pound for pound, than wheat straw for feeding farm animals and any straw that has moulded badly under the band has lost much of its feeding value.

The cutting of the small grain includes shocking, and this is one of the very important steps in carefully harvesting a small grain crop.

Good Shocks Save the Grain

Much grief and great injury can come to the small grain crop while in the shock, though it might remain there but a short time.

The base of the shocks should contain twelve bundles, set up in such a way as to form a circle, the heads well drawn together and covered with two nice bundles thoroughly broken and placed in such a way as to give the greatest protection to the grain beneath.

These top bundles or caps prevent the hot sun from bleaching both grain and straw and occasionally a big loss from hail. Oftentimes have we all, as farmers, gone from field to field in helping the neighbors thresh, and observed the great value of the well built shock properly capped as compared with the down shock uncapped—with its sprouted and malted grains.

Now we come to the oft-debated proposition: "Shall we stack our small grain or thresh out of the shock?"

My practice has been to stack and my observations have taught me that whenever at all possible this should be done. I never recommended this practice to an audience of farmers but what some one comes at me with this pertinent question, "Who will do

the stacking for us? Here let me suggest to the agricultural colleges and the conductors of short courses and agricultural extension workers that here is a golden opportunity to restore what has become to be, in the many communities, a lost art—the art of stacking small grain.

Ozark Farmers Are Good Wheat Stackers

Last August I had an occasion to spend a week in one of the farm adviser counties in the Ozarks, one of the banner wheat growing counties of this section of the state. In writing up the six days' campaign for the local papers I had this to say:

I have traveled in a great many states in farmer's institute work, and in many of the almost exclusively wheat growing states and it is my honest conviction that I have never been in any section or district where the wheat crop was more intelligently care for, and, let me add, in a more business-like way than in this county (Green County).

I am positive that after going into almost every school district in this county I never saw one single field of small grain in the shock. Much of the wheat and oats was yet unthreshed. All of this to a bundle was in well built stacks and ricks. I remarked to these farmers that the man that could build a grain stack as these were built was as true an artist as any painter or sculptor that ever painted a picture or carved a bust that sold for thousands of dollars; and to the great struggling mass of toiling humanity in their scramble for bread such harvest field artists are of vastly more importance.

The wheat and oats and other small grain threshed from these stacks will grade higher, and remember that grain is bought and sold on grade. The better the grade the higher price your grain will command on the market and the higher the price the greater the profit. For this is fundamental, if you increase the selling price without increasing the cost of production you increase the profit. The grain is not all that is benefited. The straw tucked away in these well built stacks or ricks from the sun, the rain and the dew, comes out as bright as a new Leghorn hat.

This, one of the by-products of the farm, has but very little cash value when put on the market, but when fed in connection with alfalfa, clover hay or succulent ensilage, fills the animal's stomach, produces heat and energy, and in this way can be made to take the place of other feeds that command higher prices.

When you stack your grain it goes through a sweat and will show an improved berry and will keep better when stored in the bin.

Stacking Lessens the Work.

his own time and the time of his teams when he stacks, and the threshing bill is not as large. The cash outlay is much smaller. He can turn in hogs and sheep to glean the stubble fields before he begins to plow for the succeeding crop.

When you thresh out of the stack you lessen the work of the women folks to a very great extent and this should of itself be an inducement, of no small degree, to stimulate the farmer to stack his small grain.

If the State Board of Agriculture, all farm papers, the agricultural colleges, the teachers in the schools in Missouri could persuade the farmers to properly care for the thousands of strawstacks within her borders, they would save the state untold sums of money. Thousands of these strawstacks are left sprawled out on the ground to rot just as they fell from the stacker.

What would you think of your neighbor if he would buy enough paint to paint his house or barn, take a paint brush and never stop until he put the last ounce on a space three or four feet square?

That is just what the farmer does and even worse, when he allows a big straw stack to rot as described above.

Then let us handle our small grain so as to improve the grade, increase the price and thus obey the divine injunction: "Gather up the fragments that nothing be wasted." Frugality and economy, intelligently practiced during seasons of prosperity, will lessen if not altogether banish the painful necessity of buying high priced feeds shipped in from other states during short crop years when every dollar of the money thus spent is so much needed at home.

W. D. McKee,
Farmers' Institute Lecturer, Polo.

WILL CROP ROTATION MAINTAIN SOIL FERTILITY?

The term crop rotation as used by the writer means any systematic succession of different crops. It is quite possible to have a good rotation or a poor rotation. Corn followed by oats year after year would be a crop rotation, but it would ordinarily be a very poor one. It is likewise possible, through improper management, to fail to realize the full benefit that should result from the use of a good rotation.

It is the purpose of this article to state some of the established facts, based on long continued field experiments, bearing on the question of whether a good crop rotation will in itself maintain the crop producing power of the soil.

It is a matter of common knowledge that crop yields are materially increased when a good rotation is established on a previously non-rotated farm. Farmers often look upon crop rotation as a panacea that will solve all soil fertility problems. This fallacy is based upon the observation that crop yields are increased, often very remarkably, by a good rotation. The assumption is then made that this increase in yield will continue indefinitely and that the soil is being "built up."

Farmers, who as a class know very little about the chemistry involved, are not the only ones who make this assumption. Certain investigators in the Bureau of Soils have arrived at the same conclusion, basing their conclusions largely upon laboratory investigations. James J. Hill, the great railroad man, maintains that crop rotation will indefinitely maintain the crop producing power of the soil.

The only safe way to answer a question such as this is to turn to the reported results of long continued field trials. The most valuable are afforded by the Rothamsted Experiment Station and the Pennsylvania State College Experiment Station.

The most conclusive figures available touching this problem are those furnished by the Rothamsted Station. Where wheat was grown continuously on Broadbalk field with no fertilizer treatment the yield of the first thirty-two years was 14.8 bushels and for the second thirty-two years 11.4 bushels, a decrease of 22.3 per cent. On Hoos field where wheat and fallow alternated the yields were 21.4 bushels and 14.7 bushels respectively for the two thirty-two year periods, or a decline of 31.3 per cent. A four year rotation of turnips, barley, fallow and wheat on Agdell field gave a yield of 30.2 bushels of wheat for the first thirty-two years 24.5 bushels for the second thirty-two years, a decrease of 18.8 per cent. A four year rotation of turnips, barley, legume and wheat on Agdell field gave a yield of 28.1 bushels and 23.6 bushels respectively for the two periods, or a decline of 16 per cent.

The above figures are conclusive because of the length of time involved and the grouping into two thirty-two year periods does not bring out the rate of decline in yield as strikingly as might be done by other arrangements.

The Pennsylvania Station furnishes some valuable data bearing upon this same point which should be familiar to all students of agriculture. The following figures show average yields of twenty unfertilized plots for two twelve-year periods.

Crops	1885-'96	1897-'08	Decrease
Corn bu.	41.7	27.7	14.0
Oats bu.	36.7	25.0	11.7
Wheat bu.	13.3	12.8	.5
Hay pounds	3070	2180	890
Av. value	$11.05	$8.18	$2.87

The above figures show a decrease of 26 per cent in crop values comparing the first twelve year period with the second. The soil upon which these plots are located is a limestone soil but nevertheless the yeild has decreased in twenty-four years to a point where the crops cannot be produced at a profit. All reliable data points to the same conclusion as shown by the Rothamsted and Pennsylvania data; namely, that it is folly to expect crop rotation alone to maintain the crop producing power of the soil.

The experience of the older agricultural countries as well as our own should teach us that a good rotation system is one of the essentials in farming. The truth should be equally clear that to neglect to return to the soil those elements of plant food in which it is deficient or likely to become deficient means a steady decrease in yield. What these elements are and the form in which they should be returned are problems that belong to the field of Soil Fertility.

There are other fallacies that are often urged as reasons why farmers should more generally adopt systematic rotations, but the writer considers the one discussed above as being the most serious because of its close bearing upon the adoption of profitable and at the same time permanent systems of agriculture.

R. S. Smith,
Pennsylavnia Agricultural College.

We believe the study of soil fertility is the very first for every farmer's consideration. Without a fertile soil there can be no profit in farming and without profit the business must decline. It is well to know something about plant food in the soil and about the best and most profitable rotations, but that is not all; we must study drainage and cultivation as well as adaptability of various crops to our soil and climate.

THE MISSOURI FARMER

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The drouth is ended.

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If you get a little bit worried about having too much rain just turn over a leaf and think how much worse it would have been without any more rain than we had last summer.

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Reports are coming in now that the wheat is not nearly so badly injured by Hessian fly as the first reports indicated. The rains came just in the nick of time to check the chinch bugs and to help out the oat crop and the meadows and pastures. With a good crop and good prices farmers ought to get a fair reward for their labor this summer.

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The man who is trying to raise hogs without some forage crop for pasture is not getting the profit he is entitled to. In what other way can a man make an acre of land pay better with so little expense as to sow it in rape, clover or alfalfa and turn it into 500 to 800 pounds of pork without any expense for harvesting? The old method of dry-lot feeding hogs is out of date and worse is out of pocket for the fellow who follows it.

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On May 25 we cut a sample of alfalfa from a field of Missouri hill land that measured 38½ inches and we think the field would have averaged 36 inches high. The hay on that field ought to yield two tons the first cutting and five or six tons of dry hay for the season. True this land had been well manured but there is surely good money returned for any crop that will give even four tons of good hay to the acre. Well can any farmer afford to put 8 or 10 loads of manure and 300 pounds of fertilizer to the acre, at least for a small field that will yield so much feed, and any one can do it who will.

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RURAL CREDIT PETITIONS

The Missouri Farmer has received quite a number of requests from farmers for blank petitions to circulate in the interest of the Gardner Rural Credit Bill. These blanks will not be ready for a few weeks yet but just as soon as they are ready we will supply all those who want them with blanks. Our readers understand that the Gardner Bill passed the Legislature almost unanimously and was at once approved by the Governor, but before the law can become effective it will be necessary to submit a constitutional amendment by initiative petition. These petitions must come from at least eleven of the sixteen congressional districts, but if every farmer interested will see that a petition is circulated in his neighborhood it will not be difficult to get the required number and the circulation of the petitions will cause a discussion that will be beneficial.

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BANKERS AND RURAL CREDITS

The Missouri Farmer has for a long time believed that farmers were in need of better credit facilities and we are pleased to know that this sentiment is meeting with the approval of many bankers who are willing to join with the farmers and others to help put the Missouri rural credits bill into effect. The St. Louis Banker, which no doubt reflects the sentiment of a majority of the bankers of the state, commenting on the subject in the May number had this to say: "Col. Gardner's land bank bill was passed late in the session and was signed by the Governor without hesitation. As soon as the people can vote on the necessary constitutional amendment to validate some features of the new law, it will go into effect. Then, for the first time in the history of the state, a farmer will stand on a basis comparable with that of a small merchant or manufacturer. His credit will depend on his resources, on his presumable turn over, on his assets, on his receivables, and on his character. With the excellent system of safeguards embodied in the law there are no possible abuses in farm credits. The amortisement plan provided is equitable and sound. The relief afforded to worthy men in the farm industry will be very welcome. There can be no doubt that the law will stimulate agriculture in a marked measure. Col. Gardner deserves the thanks of the state."

We are glad to see this spirit of fairness manifested,and why should it not be so? Long time farm loans is not a proper line of business for the bank any way, and if a better system of rural credits is any benefit to farmers all others must of necessity share in the benefit because agriculture is and must always be our basic industry.

In this connection we want to urge our readers not to become confused in a discussion of other systems that might be adopted either by the state or by the Federal government. This plan which has been fully explained in our columns is sound and equitable, will give farmers money on long time at a low rate of interest, will not cost the state a cent and if the constitutional amendment is adopted at the next general election in November, 1916, this law will go into effect at once. The adoption of this plan by Missouri will not in any way interfere with any plan the United States Congress may adopt for the country at large.

This law does not show any favoritism to farmers as a class, but it merely furnishes the necessary safeguards and official machinery whereby farmers can use their credit to better advantage. It is doing no more for farmers than the state has long since done for bankers and business men in the enactment of our banking laws. The inauguration of this system will make available needed capital for thousands of farmers for improving their farms, for stocking up with a better class of animals, for draining our swamp lands and clearing the timber lands, all of which when brought about ought to make a prosperous era in this state.

A DOLLAR'S WORTH

We have always maintained that the greatest handicap in the way of getting the people to vote money for road improvement was the waste of road funds. Considerable money is now raised for road work but much of the work is so poorly done that it is soon all to do over again and the people are tired of that kind of improvement. A few days ago we had occasion to travel over a newly made road which had cost the taxpayers several thousand dollars a mile, but from present indications inside of two years this road will have to be built all over, at least it will have to be resurfaced. This road which has been surfaced with crushed limestone and put on without a binder has already after only a few months travel cut into deep ruts like a dirt road and the limestone is grinding into dust and is washing and blowing away. The most disagreeable trip we have made in years was over this high priced road on a windy May day.

It is generally agreed among engineers, we believe, that a crushed rock road without some form of oil binder is a failure for automobile traffic. In the face of this information we suppose some of our road commissions will go right on building roads in the same old way, wasting the hard earned money of the people. Perhaps a few costly mistakes of this kind will open our eyes to the fact that road building is a science like many other things and we will not be content for men to play at the game unless they really know their business.

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GOOD ROADS DAYS

The example set by Missouri of fixing two days when all the people of the state were called upon to lend their aid and support to building good roads and to creating a better sentiment for good roads was so generally approved that the Governor has by proclamation set aside June 15 and 16 of this year as good roads days. The time set is decidedly better than the late date last year and we urge the farmers in every road district to observe these days in improving the neighborhood roads. Nothing speaks better for the progress of a community than to see the roads well rounded up, smoothed over with a drag, substantial culverts made of stone or cement and the road side cleared by weeds and brush.

This year more than ever before Missouri has the opportunity of making a favorable impression on thousands of tourists who will pass through the state if we will give them smoother roads to travel. After the preamble of the proclamation the Governor makes this appeal to the people to observe Good Roads Days:

I respectfully call upon the County Court of each county to issue a proclamation such as was issued last year, calling upon the people to come out with proper teams, equipments and materials and labor and see to it that the county is well organized, so work will be given and benefits received in every neighborhood, and the same conducted in a systematic and business-like way, to the end that every section of the commonwealth may be the recipient of actual road betterments.

Again, I call upon the city and country press to assist in organizing the work and in bringing to the roads another army of labor volunteers, such as came forth last year. The press contributed, in a great measure, to the success of the work, and the state is indebted to it for the enthusiastic and earnest support given, and as Chief Executive, I desire to recognize the aid given by both the city and country press in this official proclamation. I also call upon the road overseers, federated and all other road organizations, automobile clubs and associations and all commercial and booster clubs to aid the State Highway Department to again carry forward to a great success, the "Good Roads Days."

I request the women of Missouri to again prepare dinners and see that the laborers are served upon the highways. They contributed much to the success of the work last year, realizing the fact that better roads would bring a better community life and more pleasure to the women who have cast their fortunes in the homes of rural Missouri.

Let every citizen be earnest, enthusiastic and systematic in going about the preparation for work upon these days. No matter whether the work be done upon high-grade roads or upon dirt roads, let it be a permanent improvement. The great majority of the work will be done upon the dirt roads, which, after all, are the real highways of commerce. This is true because the dirt roads represent the first leg of the journey over which moves the traffic of the State. The road enabling the producer to bring more products to the first markets of the country; the road that will save hundreds of thousands of dollars in shrinkage in the delivery of live stock; the road that will lessen that part of the cost of transportation which begins at the producer's door; the road, every tendency of which is to improve community life and make it better morally, civilly and commercially.

Let us, therefore, labor upon the high-grade roads, and upon the improved and unimproved dirt roads, to the end that no material or energy be lost, and the benefits given to a single unit in highway traffic. Missouri is leading the way in this great internal improvement upon which must rest, in the final analysis, the success of every business of the country. Good roads will bring better schools, better agriculture, better community life, better commerce, and a better civilization.

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A GOOD APPOINTMENT

Thousands of farmers who have been entertained and instructed by Sam Jordan's interesting lectures will doubtless be pleased to learn that the state board of agriculture has secured Mr. Jordan's services as farmers' institute lecturer and he will take up his work about September 1. We have never heard a more instructive or inspirational speaker and we are confident there are thousands of farmers who agree with us in this. Three years ago Jordan left the board of agriculture and since has filled the office of farm adviser for Pettis County. How well he has filled that position is told by the following editorial in a Pettis County paper, the Sedalia Democrat:

Sam Jordan has paid Pettis County in dollars and cents every day that he has been here and the dividends from his labors will continue coming in as long as the county exists and a farm is cultivated within its borders, for what he has taught will be passed from father to son, and from farmer to farmer, through all the coming years. It can't be stopped any more than can any other knowledge that has once been given to the human race. It is destined to be sent broadcast, and where taken advantage of and used with judgment, it will continue to pay profits to the end of time. But with all this, in spite of what he has given us and will leave with us for future use, his going will be a distinct loss to the entire community.

It will be a loss for us not to be known as the Sam Jordan county of the nation, to lose the prestige that his name and fame sheds upon that locality with which he is identified in his missionary work of crop improvement. It will be a loss to miss his wise counsel and cheery enthusiasm while giving his advice and teaching his methods, and it will be a loss not to have him here, ready and willing and glad to advise and instruct any and all calling upon him. The Democrat is sorry that he is going, more sorry than it can express, and the only consolation it can find is that Pettis County's loss will be the State of Missouri's gain, and that while we can not hereafter possess his exclusive time and work, at least in the future a hundred and fourteenth part of them will belong to us."

BARNYARD GOSSIP

About two weeks ago I met a thrifty callous-fingered farmer who has gone through forty crop seasons good and bad and the first thing my friend said was, "Say, do you think it is ever going to rain? I am afraid we are going to have another drouth. I just feel it in my bones, some how or other, and I tell you I don't know what will become of us if we have another failure." I replied, "Well we have never had a failure yet in Missouri, not a real failure. If I remember rightly we had a splendid wheat crop last year and farmers who had silos raised enough feed to take their stock through the winter and I know at least one good farmer who had a field of alfalfa who took his cattle through fat and fine and had several tons of hay to sell this spring. Last year was not a big crop year I know but the man who had a silo on his farm and a field of alfalfa came through with good credit at the bank and as for the fellow who has neither a silo or alfalfa —well who's to blame for that?"

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Today I met the same old farmer friend on the street and he accosted me in this way, "Say, Mr. Gossip d'you reckon this rain is ever going to let up? Why, I haven't seen the sun for a week and I'm mighty 'fraid we're going to be drowned out just like we were in 1903. I tell you I'm mighty glad I'm not in your friend Robinson's fix. Why you know he has gone alfalfa crazy and he has a hundred acres of the bloomin' stuff on his farm and he only got about half of it cut before the rain set in. Why, he stands to lose half his crop. Fifty tons of hay I should say he'll never get a cent out of!" "Well, that's too bad," I said, "but then I happen to know Robison has already got a lot of good from pasturing that alfalfa with his hogs and if he must let the other go down to enrich the land and with fifty tons already in the shed and two or three more cuttings promised for the season he will come out smiling after all."

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Many years ago I learned it was a bad thing for a man's digestion to worry about the weather. When I was a boy an old friend of my father said to me, "It's a fool who worries about a thing he could prevent and a bigger fool who worries about something he can not present." The philosophy of it is to do the best you can and then not worry, fret and stew around about something you have no power to control. I would not have our readers think I had always escaped disappointment. No, not that, for I have had a big mortgage hanging over my farm and had a fine bunch of hogs die that I was expecting to help pay the debt. I have had my horses run into the wire and cut their legs nearly off. I have seen the hot winds and chinch bugs wilt my corn like a prairie fire. I have had the wind storm pick up my grain stacks and scatter the fruits of a year's labor and make feed for the birds. I have had a hail storm to destroy in thirty minutes the labor of half of a summer. Oh, yes, I have had disappointments but I have learned long ago that it is best to keep your disappointments behind you and instead of borrowing trouble look to the future with a confident hopefulness that the sunshine and the rain and good crops will come in the future just as often as they have in the past.

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I sometimes think we give too much attention to the material things of this life and too little attention to our intellectual improvement and to the spiritual welfare of our families. For what profiteth it us if we gain a township of land and have our boys and girls grow up without aim in life? After all the greatest crop we produce on our Missouri farms is the product of the farm home—the intelligent moral boy and girl. I can not do better than to quote here some fine suggestions to the fathers of boys recently given by J. C. Hogenson, state leader of club work in the State of Utah:

"When that boy of yours was born," says Mr. Hogenson, "when you looked into his wondering eyes for the first time, you were a very proud and happy man. Is it not so? Can you ever forget the day? I can't. To your friends you seemed an inch taller or at least half an inch. You had a smile on your face that no one could mistake; your shoulders were straighter, your handclasp firmer and more cordial. It would be a very ill-natured man who would pick a quarrel with you that day, or even on the day after. The proud mother folded the boy to her breast, the fountain of life for it, and felt that through the very gates she had entered into a larger life, and had full and abundant recompense for all her suffering. You felt just a little different towards her, and she towards you than ever before. There was a new and intimate bond between you now. You really felt, and so did she, whether either of you said so or not, that he was altogether the finest and most remarkable baby that ever was born.

"Well, the boy has grown up. He is now in long pants, and is particular about his neckties and the cut of his clothes, and you have been studying him all these years. You have been wondering what you were going to make of him, or rather, what he was going to make of himself. Whatever that may be you are anxious to get him started right.

"A right start means more than many realize. It means a sound body; it means an active mind; it means good habits, and it means a preparation for the life work for which he is best fitted. If you have fed him with plain wholesome food, if you have set before him a good example of high ideals, if you have trained him to habits of industry and economy, the rest is comparatively easy. If not, you and his mother have a hard task before you; for these are the very foundations of character.

"If your faults or those of his mother—and we are all faulty—begin to reappear in him, don't blame him, but do your best to help him overcome them. Other boys and girls have come into your home—at least I hope so—and without being conscious of it, have helped in the training of the boy. You are really anxious to know how to do best for each of them, and to do more for all of them.

"They cannot all be farmers or farmers' wives. There are too many of them for your acres; but you want one, at least, to be a farmer, and the problem is, how you are to start him, and all the rest of them right. From one point of view the most important part of the boy is the head, and if we get the head started right the rest will follow. The most important lesson for the head—and this should be inculcated from the very beginning—is that you are all one family, the most important co-operative organization that ever was formed. The slogan for the family should be: Each for all, and all for each other. In the battle of life, the members of the family must all stand together, if need be, help each other against all the world. This will greatly simplify matters when you come to find out what each is adapted for; for all will join in giving the right start.

"The farm boy is pretty apt to regard farm work as drudgery. Well, don't be a drudge yourself. The way to transform drudgery into pleasure is to get the mind interested in the work you are doing, not the attention merely but the mind itself. Get interested in the laws of nature, which rule in such things as digging ditches, hauling out manure, milking cows; for example how water gets into the ditch from the side, or from below; why manure is more efficient in some soils than others; why cows give more milk on some kinds of feed than others. No matter whether the boy is to be a farmer, a lawyer, a doctor or a business man, this kind of training will be a mighty help to him in after life.

"No mental equipment, however, will start the boy right, unless he has right ideals; and these are the result largely of the home and home training. If you have not taught your boy from childhood up to reverence his mother, and be a guardian and protector to his sisters; if you have not taught him that it is his duty to give everyone a square deal; if you have not taught him to be honest, not because it is the best policy, but because it is everlastingly right, the mental equipment you have given him in the school or college, or that great school, the farm, will not start him right. For important as the boy's head is in fitting him for life, the heart, his ideals, his attitude toward his God and his fellowman are far mort important."

A Fascinating Pastime

Is there a good kodak in your home? Do you know that modern photography has been so perfected that, with a little practice almost any one can take good pictures? It only costs a few dollars to buy a good kodak and there should be one on every farm—for these is no end of good pictures to be taken. What more fascinating pastime than to take a picture of the family group, a toddling baby in the front yard, the live stock out in the pasture, harvest scenes, etc.? Often farm papers would be glad to use pictures of this kind if they could get them. Elsewhere in this issue you will find the advertisement of the Eastman Kodak Co. Drop them a postal card and ask them to send you full information. Be sure to mention The Missouri Farmer.

Little Girls, Attention!

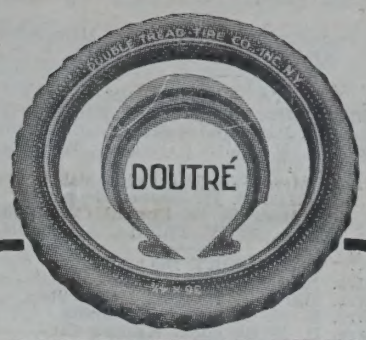
We have made arrangements to offer as a prize to the little farmer girls in whose homes The Missouri Farmer is a visitor a "Little Sister Doll." This is a new kind of doll which opens and shuts its eyes and which looks more "cute" than any other doll our little girl friends ever saw before. It is called the "Little Sister Doll" and is having a great reign of popularity in the towns and cities just now. If you want a "Little Sister" write us at once for the full particulars when we will tell you how you can get one. We would like to send one to all our little girl friends. Write today.

The Missouri Farmer, Columbia, Mo.

OF INTEREST TO FARMER GIRLS

For every bright and ambitious farmer girl in Missouri who would like to have a beautiful piano all of her own The Missouri Farmer has a mighty interesting message. We don't ask you to engage in any "contest." Furthermore, the pianos we offer are of the highest quality and beauty. We cannot go into details here. All we will say now is that if you would like to own one of these beautiful instruments all through your own efforts, write The Missouri Farmer at once. **I appeal to every good housewife who reads this paper to bring this matter to the attention of at least one bright and ambitious farmer girl in her community.**

—The Author of After-Thoughts.



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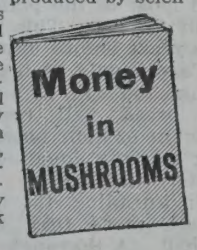

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Only Scientific Mushroom Farm in U. S.

Do You Own an Automobile?

If you own an automobile you should drop a postal card at once to the Firestone Tire and Rubber Co. at Akron, Ohio, and ask them to send you their latest information about automobile tires. They can save you a lot of money and give you some information which every owner of an automobile should have. Be sure to mention The Missouri Farmer.

Home Makers Conference

This Department is Edited by Miss Alice Kinney, New Franklin, Mo.

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"The secret of perpetual youth is hers
Who finds delight in deeds of kindness wrought;
No age can dim the luster of her crown
Whose days with loving ministry are fraught."

SOME POINTS IN BREAD MAKING

In view of the fact of the universal use of bread as the foundation of the diet and that fifty per cent of the bread eaten is made in the home, the ability on the part of the home maker to produce good bread is of the greatest importance. If well made the home product is much to be preferred as it will go one-third farther from the standpoint of nutrition than the same weight of bakers' bread. It is a deplorable fact, however, that on account of the lack of good bread makers, in most cases the bought bread is to be preferred to that made in the home. Thus an effort should be made on the part of every housewife to understand something of the composition, nutritive value and the best means of preparing bread.

In regard to its ingredients, bread is one of the simplest of our cooked foods, but in regard to the changes which the raw material must undergo to produce the finished loaf it is one of the most complicated. Few people realize how much depends upon the proper manipulation of these few simple ingredients in order to get the best results.

The kind of yeast used in bread-making is not important but the condition of the yeast is of the greatest importance. Bacteria thrive upon the same food as the yeast plant, and when the yeast of bread is kept in utensils which are not sterile or is allowed to stand in dusty places, bacteria will be found in the bread and they produce acids which give the bread a sour unpleasant taste. Thus the housewife should endeavor by the most rigid cleanliness to keep her bread free from all micro-organisms but the pure yeast plants, if good bread is to result from her efforts. This is aided by scalding all utensils and liquids before using.

In mixing the dough if the flour is added gradually and beaten into the liquid thoroughly it will incorporate air into the dough and aid the growth of the yeast plants, as air is necessary for their growth. The growth of the yeast plant may also be hastened by adding the necessary sugar to the yeast which is available food for the plant and will aid its growth while it is softening in the lukewarm water preparatory to use. If bubbles or foam do not show after yeast has stood in sugar and lukewarm water for several minutes the yeast is probably old and most of the plants dead and thus unfit for use. This is a good test for the yeast before using.

Care should be taken not to get the dough too stiff, as a harsh, dry, crumbly bread will result. The least amount of flour possible, without having a sticky dough, gives the best results.

In kneading, the quick even stroke counts more than the strength put into it. A thorough kneading gives a bread of better texture by distributing the yeast plants evenly through the dough and thus an even distribution of gas bubbles. Bread may be kneaded too long and the elastic quality completely destroyed. It should be kneaded until it has a smooth velvety surface and gas bubbles begin to appear. This should take place within fifteen or twenty minutes of good kneading. Never knead bread over thirty minutes.

When bread is set to rise, it should be placed in a clean bowl and if covered tightly and the proper temperature is retained, it is not necessary to either oil or moisten the surface to prevent a crust from forming. From 79 degrees to 95 degrees Farenheit, the temperature is safe for the production of the yeast plant. When bread is raised at a high temperature it is apt to make a dark, coarse, sour bred. If it is allowed to chill while rising the volume is smaller and then it will have a runny texture. A temperature which will keep the yeast plants growing steadily is the best. If the yeast is not allowed to lag, there is no danger of the bread souring unless the fermentation is allowed to run too long. Chilling does not entirely stop the growth of yeast but it will cause an undesirable crust to form over the dough. If a very high temperature is maintained dough is apt to get over light which means a very great amount of carbon dioxide gas has been formed, and the yeast will begin to lag and the bacteria will grow in a density of carbon dioxide gas and the yeast will not. The dough will also become soft and runny. So great care should be taken to keep the dough at a gentle warm even temperature until it is about twice its bulk and then work it, and the bread will have a better texture and there will be less danger of sourness.

The baking temperature is also important and the oven heat should be regulated according to the lightness of the dough. After the bread is set to rise in the pans, if put in the oven when the loaf is twice its original bulk the oven heat should be great enough to stop the fermentation or rising at once. A temperature of 360 degrees Farenheit is a good temperature with which to begin. The temperature should be allowed to rise after fifteen minutes of baking and lowered after thirty minutes. The bread should begin to brown over in patches during the first fifteen minutes and have an even brown surface after thirty minutes. If the bread is not twice its original bulk or as light as desired, it may be allowed to finish rising in the oven. The oven should be evenly heated and the rising should take place during the first ten minutes of baking and then the heat increased. When permitted to rise partially in the oven, it will produce a loaf of somewhat larger size and finer texture.

May C. McDonald,
Agricultural Extension Service, College of Agriculture, University of Missouri.

A series of papers on bread making will follow this introduction. Miss McDonald hopes not only to thus furnish information which, she believes, will be valuable for the average housewife but also create interest in the girls' club work.

The first installment begins with wheat flour and ends with the handling of the ingredients in making bread.

The second installment begins with short process of bread making and ending with the lesson on graham.

The third installment begins with the lesson on fancy bread and ends with the lesson on bread sticks and zwieback.

Courses in other subjects are being arranged for this department, thus we hope to be able to give our readers many of the instructions that will be given in the Movable School of Home Economics over the state this summer and in a measure, make good to the many what the few will be privileged to hear in person from trained teachers.

A. K.

EXHIBIT WORK

[Compiled by Miss Louise Stanley of the Home Economics Department of the Missouri University.]

The object of the following is to make more definite the lines between the various groups under which entries are usually made. The scores are given both to facilitate the judging and also to make more definite the standards toward which the women are to aim in any individual case.

While this is intended primarily for use in connection with the annual contest work of the Missouri Home Makers' Conference, it may be used in any contest where similar entries are desirable.

We want this year to make a special feature of our exhibit work. The possibility of material for such exhibits is endless. In order to increase the educational value of such an exhibit and with the idea of standardizing household products for which there is a market, we are this year limiting the contests to those products of the farm home for which there is a ready market, and which are in a form that can be readily transported. It is hoped that by means of a Home Makers' Exchange direct lines of communication can be established between the farm home and the consumer. If this is done we must establish standards up to which the goods must measure.

Definition of Entries and Score Cards

In the canned product we should aim to have the fruit retain as near as possible its original shape and flavor. In the case of canned fruits the natural flavor of the fruit should not be hidden by the use of too much sugar. In general the percentage of sugar used should be the same as that found in the juice of the fruit.

SCORE FOR CANNED FRUIT

Fruit—shape	15
color	15
flavor	30
Juice—flavor	15
clearness and consistency	15
Proportion of fruit to juice	10
	100

CANNED VEGETABLES

Flavor of vegetable	35
Condition of vegetable	35
Proportion of vegetable to juice	20
General appearance	10

JELLY

"Ideal fruit jelly is a beautifully colored, transparent, paltable product obtained by so treating fruit juice that the resulting mass will quiver, not flow when removed from its mold; a product with texture so tender that it cuts easily with a spoon, and yet so firm that the angles thus produced retain their shape; a clear product that is neither syrupy, gummy, sticky, nor tough; neither is it brittle, yet it will break, and does this with a distinct, beautiful cleavage which leaves sparkling characteristic faces." (Miss Goldthwaite, U. of Ill. Bull., Vol. VII, No. VII, Principles of Jelly Making.)

SCORE

Color	10
Transparency	20
Taste	25
Consistency—hold shape, not flow	15
tender, will cut easily	15
firm, angles retain shape	5
No signs of crystallization	10

The essential differences between preserves, jams, marmalades and butters is nowhere very clearly defined. Preserves, from the meaning of the word, originally meant the cooking of definite quantities of fruit and sugar, usually equal quantities, to such a consistency that the mass would keep without being hermetically sealed, that is, the concentration of sugar present would be sufficient to prevent the growth of any organisms. In preserves as the name also indicates, an attempt is also made to have the fruit keep as near as possible its original appearance and shape, and the effect of cooking in the sugar solution makes the fruit appear clear. In the preserves we can distinguish two essentialy different parts, the fruit and the juice.

Jams differ from preserves in that though the whole fruit is usually used, it is crushed in the juice so as to produce a homogeneous mixture. As a rule only the small fruits of which the whole may be used, are utilized in jam making, for only in these are we able to use the whole fruit. When we discard the seed and all or part of the skin the resulting product is a marmalade or butter. In a butter the pulp only is used and it is usually strained to remove any lumps and distribute the pulp evenly through the juice. In a marmalade part of the peel or skin may be left in, and there are distinguishable two distinct portions, the clear juice and the particles of fruit.

The test as to when done should be especially in cases where there is any tendency to jelly, the same as for jelly.

PRESERVES

Fruit—shape	10
clearness and color	10
flavor	15
texture	10
Juice clearness and color	10
flavor	15
consistency	10
proportion of juice	20
	100

JAMS

Homogeniety (even distributing of pulp and juice and seed)	30
Consistency	30
Flavor	30
Color	10
	100

BUTTERS

Smoothness	30
Consistency	30
Flavor	30
Color	10
	100

Make Farming Pay

We have received from the publishers, The Bobbs-Merrill Company, a sample copy of Benson and Betts' Agriculture, a book intended for the young farmer or student in agriculture and which we find is full of the latest and best information to be had on the subject. While the book seems to have been written primarily for high school work in agriculture, it will be found useful to any young farmer who wants to learn how to raise better and bigger crops, how to improve his live stock and to treat live stock diseases. The book may be had by addressing The Bobbs-Merrill Company, Indianapolis, Ind., for $1.50 including postage.

There is no better place than a good christian farm home for a boy or girl to grow into manhood or womanhood.

THE FATHER

"Do hush your racket, Joe," I said;
"You're only quiet when in bed.
I don't see how your mother bears
Your noise all day: do run upstairs!"

He looked at me, and I at him;
His eyes were wavering and dim,
His lips were set in piteous way,
Forgotten was his mirthful play;
And drooping low his curly head,
He went to find his nurse and bed.

Strange I could neither read nor write;
The room was still, the lamp was bright,
And not a sound above the stair,
And quiet brooded everywhere.
But, I could neither read nor write,
Because I grieved a child that night.

And, sorrowful and penitnent,
Unto his little room I went,
Humbly, as any culprit speeds
To make amend for his misdeeds.
He lay asleep with tears undried,
His wooly lambskin by his side.

His hands were clasped in suppliant way;
And, when his mother went that day
To watch beside a sister's bed,
These were the parting words she said:
"Be tender with my little Joe,
For he will miss his mother so!"

Ah, me, how had I kept my word?
I smoothed his hair, he slightly stirred,
And sleepily one hand outspread
To clasp my own across the bed;
And as I bent to kiss the child,
"Dear papa," murmured he, and smiled.

—E. A. Lente

A SPELL OF REST

My wife has been a-urgin' me t' take a month o' rest,
T' leave my work behind me, an' the troubles that infest,
T' visit all my kinfolks—for of late we've prospered well,
An' I've worked so hard, she figures I should have a breathin' spell.
But seemingly there's something allers doin' on a farm,
So I tell her, 'long in April: "Well, I guess I'll cut an' run
An' leave all care behind me when I get the plantin' done!"

The plan appears t' suit her, so I labor like a Turk,
Through May and June kept busy by the season's rush of work.
By that time wheat's t' harvest an' my early corn's in silk,
There's calves that need attention, and there's four fresh cows to milk.
An' then there's lots o' tinkerin' 'fore summer work begins;
The wheat-crop's extra heavy an' I'll have t' have more bins.
Somebody has to plan things an' it seems like I'm the one;
So I say: "I'll have that visit when I get the threshing done!"

July slips into August, and September runs its race,
An' still my time is occupied a-fixin' up the place,
A-mendin' fences, maybe, pickin' apples, makin' hay,
An' pretty soon October an' November's slipped away.
Then, 'fore one knows it, winter holds us in his frosty vise,
The stock needs more attention, an' I have to put up ice.
An' I haven't time t' take that promised visit now, 'tis plain,
For before I'd half get ready, 'twould be plaintin' time again!

—Roy Farrell Greene.

HARVEST MITES, OR "CHIGGERS"

Inflamed spots, due to the presence of mites, known as chiggers, under the first layer of skin, are often diagnosed as hives, nettle rash, urticaria or "weals," and resemble closely the "bites" of fleas and of some mosquitoes. A characteristic of the harvest mite attack is that on the second or third day the mite infested areas of the skin are usaully surrounded at the middle by a minute water blister. After the subsiding of the inflammation and itching, which takes place after a few days, a small scale or scab frequently forms, leaving on some persons a scar which does not wholly disappear in extreme cases for weeks.

These mites usually attack the most exposed portions of the body first. They crawl into the stockings and penetrate the skin about the ankles, frequently below the knee. A period of a few hours usually elapses, after the mites have crawled into the pores of the skin, before they become painful. Sometimes the person afflicted becomes almost frantic from the irritation, and lacerates the skin by too vigorous and frequent scratching. Only in rare instances, however, is the result of an attack of chiggers serious.

In some localities where the harvest mite is found in great numbers, to walk among blackberry or other shrubbery or come in contact with grasses or similar herbage along streams or pools on edges of marshes, or under trees near such place, is to invite an attack. It is obvious, therefore, that the best preventive is to avoid exposure.. However, if a bath is taken in hot water or water containing salt or strong soap within a short

time after exposure, no ill effects will be experienced. After a longer exposure a bath is practically of no effect.

Remedies Prescribed

Sulphur is the best remedy for mites and is also the best preventive of attack. Since the harvest mites usually become attached to the person in walking through vegetation, it has been found, according to the bulletin, that sifting flowers of sulphur into the underclothes from a little above the knee, downward and into the shoes and stockings, is effective. Napathalene has been successfully used in the same manner ,and is also considered a safeguard against several forms of manifesting tropical insect pests.

If a person has been exposed to an attack of harvest mites, an application to the affected parts of a moderately strong solution of ammonia is possibly the best counter-irritant. Bicarbonate of soda, or common cooking soda, or saleratus may be substituted in saturated solution. Similar alkaline solutions would probably also serve in counteracting the insect poison, which is acid. In case the suffreing is severe, dilute tincture of iodine or collodion should be lightly applied.

Eliminating the Mites

Where a large tract is to be freed of the pest, such as lawns, country grounds, pathways, roadsides, the method recommended by bulletin 2671 U. S. Department of Agriculture, is to keep the grass closely cut, the weeds eliminated and useless herbage mowed as closely as feasible, so as to expose the mites to the sun. In some cases it may be practical to spray the grass and other plants, after cutting, with flowers of sulphur or a dilute spray of kerosene emulsion, in which sulphur has been mixed.

Grasses bordering on ponds frequented by cattle, wild blackberry bushes and similar plants, should be cut down and destroyed in the vicinity of houses where people are liable to be infested with the mites by passing through them. Cattle, sheep and goats have often been used successfully in keeping down the grass and other vegetable growth which may harbor chiggers.

The harvest mites are not true insects, but belong to the class of spiders, ticks and the like. The mature mite wanders about, feeding on aphides, small caterpillars, and in the case of one species, on the eggs of grasshopper or locusts. One form of chigger hibernates in the soil, or other sheltered locations, and in the spring deposits her eggs, there being only one generation produced a year. The eggs are laid in the ground, sometimes as many as 400 in one place. When the larva, which is microscopic, blood red, and shaped somewhat like a common tick, hatches, it is circular or ovoid in outline, and each of its three pairs of legs is tipped with two or three prominent claws. After the larva has become attached to its insect host it grows rapidly and when full fed, seeks a convenient shelter to change its shape without molting. Within a few weeks it emerges a full grown chigger or mite of different shades of red and with eight legs, instead of six as found on the larva.

CO-OPERATIVE CREAMERIES

There are, perhaps, few dairy districts but what have at some time been interested in a co-operative creamery. Such interest usually comes from two sources. First interest developed by promoters who desire to profit by building and equipping the plant. Secondly, interest that is developed within the community by members of that community.

When the interest is developed by promoters failure is too often the result. Not all promoters are rascals, neither are all creameries organized by them failures. Nearly every state, however, can show several communities in which the dairy industry has been set back 10 years by the premature organization of a co-operative creamery by promoters. The promoter is very successful at creating interest in a creamery but such interest is soon lost when the promoter receives his last payment. To be successful, co-operation must come from the heart of the community. When the interest is injected from some outside source it is not likely to live when the source is removed, the source being the promoter.

When the interest in a creamery is developed within the community a social interest is also developed which is a very important factor influencing the success of the organization. There are more conditions affecting the success of co-operative organizations than in other forms of business organizations. Mere business principles do not entirely determine whether or not a co-operative organization is to succeed, when the interest is developed within the community a mutual feeling is developed which is hard to develop from any other source.

When sufficient interest is manifest it is usually safe for the community to take steps to organize a creamery. Care should be taken to determine exactly the number of cows that will furnish cream to the creamery—at the same time taking a census of the total number of cows within a radius of ten miles of the plant. If 600 cows are available the plant will be commercially possible. If less are available the organization should be postponed.

If the proper number of cows are available steps may then be taken to perfect the organization. It is well at this meeting to add enthusiasm and interest by having talks by representatives of the Agricultural College and successful co-operative creameries.

The history of most any industry will be found to be also the history of one or more individuals. It is therefore necessary that the manager be selected with care and deliberation. Preferably the manager should be a man of known business ability and a member of the community. A local man will know the traditions and all conditions of the community and be able to secure the very best results in financial ways. He will also understand the personality of the individuals in the community and can secure and hold their interest in a personal way that a stranger could not do. Whenever market conditions are poor it is sometimes feasible to secure as manager a man that has had experience in the markets.

The benefits of a successful co-operative creamery are many and lasting. If the co-operative spirit is prevalent the creamery organization acts as a nucleus for other co-operative efforts. Surely there is nothing that will advance the dairy interests so much as a co-operative creamery.

O. G. Simpson,
Oregon Agricultural College.

GOOD COWS

To obtain a herd of good cows, we must breed them. To do this, we start with our native or grade stock, just what we have on hand, for our foundation, then test out and cull out the poor and unprofitable ones, and use the balance for the foundation of our future herd.

With this foundation, we will mate a pure bred sire, but before we ever start to select this sire, we must make up our minds to the breed we will take the most interest in and the one that will fit our conditions bes, then we are ready to select the sire.

It is not enough that he be simply registered, but he must be of good conformation good size, strong and vigorous, and from producing ancestry. His dam should be a producer, and if several generations on both dam's and sire's side are producers, so much the better, for from such a sire as this we can reasonably expect something good.

You will say such a sire will cost too much, we cannot afford to buy him, but I think we can afford to buy a good sire if we look at the investment in the right way.

In our experience, we have found that our first purchase price of a sire has kept us in sires ever since, even better than that, we have sold proven sires for more than we paid for them and have not only been kept in sires, but still have money in this fund.

Another way of looking at this question is that when grade cows are selling from seventy-five to one hundred and seventy-five dollars, it won't take long for the difference in the selling price of common and grade stock, to say nothing of the difference in production, to pay for a good sire, for it is to the sire that the difference must be credited.

When a sire is found to be a getter of high producing daughters, by all means buy him in preference to a young or untried sire.

Very much depends on the selection of the sire, for after mating him with your herd, it takes nearly a year before the calf is born, then it takes two years more to develop the calf into a cow, then another year to test her to see what she is good for. If your selection has been a bad one, four years have been wasted, but if your selection has been a good one, you are well on your way to a successful herd.

The first cross of this sire will be fifty per cent of his blood, and should be both better producers and worth more on the market than their dams, and each succeeding cross should improve them for several generations, when they will be nearly as good as pure breds for production.

While we are building up our grade herd, we may just as well be building up a pure bred herd at the same time by purchasing one or two pure bred heifers. The same sire will do for these pure breds that we are using in our grade herd. These heifers, too, should be well bred, for we should have a good foundation for our pure bred herd. By starting in a small way, it will not require a large sum of money for our foundation stock, and by growing up with our herd we will gradually acquire a knowledge of feeding and caring for a herd of pure bred cattle and can more readily dispose of our surplus breeding stock at good prices without as expensive advertising as would be necessary with a large herd to start with.

Why should we breed pure breds? Because there is no line of live stock breeding that offers such profits, field for thought, study and scientific research as does the developing of the dairy cow.

Now here again comes the expense of purchasing these heifers. Can we afford it? A young man invested seventy-five dollars in a young cow. He kept all the heifer calves and at the end of nine years had about forty head of cattle. As he had bought no females other than one, all were related to this one cow, and he had refused twelve thousand dollars for the herd. Twelve thousand dollars for a seventy-five-dollar investment in nine years is no mean proposition.

A man may breed scrubs for forty years and be no further along at the end of that time than when he commenced. He may breed grade stock for a life-time and breed stock of great producing quality, and this stock will sell for good prices, and still he will be unable to sell the male stock for much more than meat prices, but with pure bred cattle there seems to be no limit to their production or sale prices.

A record is made that would seem the limit, but in a short time it is exceeded by some cow almost unheard of. The record of a few years ago that seemed almost unapproachable is today among the common ones, and all the pure bred males that are fit for sires can be sold for good prices. A man can well afford to invest in a few head of pure bred cattle for a foundation, if he is a person that understands the feeding, development and care of high-class stuff.

Care of the Calf.

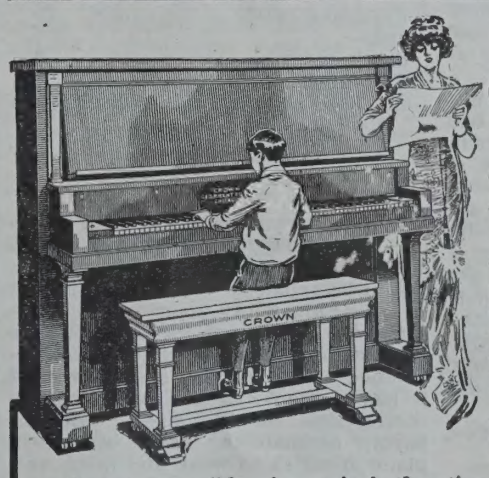
The feeding of the calf takes a very important place in the development of good cows. , She should be born of good, vigorous parents, in a clean, dry stall. We leave the calf with its mother a day or two, then feed carefully, being careful not to overfeed. All the milk is weighed out to the calf, so we can feed an even quantity as the calf demands. As the calf gets to eating grain well, we gradually change to skim milk and feed about all the grain and good, bright hay and silage the calf will eat up clean.

We keep the calf growing and in good condition from the time it is born until it is a cow, which should be about two years old, or possibly a little later with the larger breeds. Then we should continue to feed her right along as she grows older to develop in her that which her Creator intended her to be.

Who can tell by looking at a wabbly, little calf a few hours old if it will develop into a cow worth fifty, five hundred or five thousand dollars? They all look alike, let us then take good care of the calf, develop it right, then if it does not bring the five hundred or more it will not be our fault.

There are three things that must be considered to build up a herd of good cows. First, breed, then feed, then care. No matter how well bred a cow may be, unless she is properly fed, fed according to her requirements and individuality, she will not do as she should. Then if she is well bred and well fed and not properly cared for, she is still a failure. She must be kept comfortable, quiet and contented. She needs good light, good air, plenty of water and kind treatment. Good cows are not developed by harsh treatment. —W. H. Clark, Address before Wisconsin Farmers' Institute.

"The Quality Goes IN Before the Name Goes ON"



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.....

ADVANTAGE OF MAKING CORN INTO SILAGE

Silage, or "canned corn," is now conceded by experts to be the most important of all feeds for farm animals. The chief advantage of making corn into silage is that the entire corn plant is taken from the field at a time when it contains nearly the greatest amount of digestible nutrients. The making of silage preserves the corn in such a way the feeder has available in a very convenient form a paltable and succulent roughage, which more nearly corresponds to pasture grass than any other feed.

By making corn into silage the loss in feeding value of the corn is considerably less than in the best method of curing the corn in the field. The Pennsylvania agricultural experiment station has found that from 35 to 40 per cent of the digestible nutrients of the corn plant are in the stalks and leaves. It is not too much to say that in ordinary farm practice the greater part of these are wasted. By using a silo the farmer is able to add one-fourth to one-third to the feeding value of his corn, which by the way, is our cheapest forage plant.

When green corn is put in the silo, the succulence of the original crop is retained. The losses from fermentation and spoiled silage on top are small compared to the loss in field-cured corn from leaching and moulding. Because of the condition in which the corn is preserved, animals will eat it much more readily, and there will be practically no waste, as all of it will be eaten.

Comparative Results of Feeding Trials

It is of interest to know the comparative values of silage and corn fodder for the same area of land. The Vermont, New Jersey, Pennsylvania, and Wisconsin agricultural experiment stations have carried on practical experiments along this line. From an average of the trials—ten in all—which have been made, it has been found that the dry matter lost in curing fodder in shocks has been 20 per cent, as compared to a loss of 15.7 per cent in the silo. There is also an average loss of 16.2 per cent of protein in the fodder and 11.1 per cent in the silage.

Another advantage of the silo for storing feed for livestock is that it offers a means of keeping in a small space a large quantity of forage free from exposure to the weather and in a convenient form for feeding as well. The storage space is very small as compared with that required for hay fodder, corn, or other forms of roughage on the farm. In fact, more feed can be stored in a certain space as silage than in any other form.

It has been determined that in a silo of good width and depth, a cubic foot of silage will weigh about 40 pounds. In the average mow a cubic foot of hay will weigh five pounds. Since corn silage contains 26.4 per cent of dry matter and hay 86.8 per cent of dry matter, it follows that a cubic foot of silage will contain 10.45 pounds of dry matter, while a cubic foot of hay contains only 4.34 pounds of dry matter. From these figures it can be determined that silage will contain about two and one-half time sas much dry matter as the same volume of hay.

Comparative Feeding Values and Cost of Silage

The feeding value of silage compares favorably with other feeds. It is not an easy matter to make an estimate of its feeding value, since it must be based on the kind of stock to which it is fed, the kind of feeds with which it is to be used, and the value of feeds which it replaces. In an experiment conducted at the Kansas agricultural experiment station a few years ago, a value of $5.65 per ton was placed on the feeding value of silage for fattening cattle. At present its value is probably as high if not higher.

Prof. A. L. Haecker, formerly of the Nebraska college of agriculture, estimates the feeding value of corn silage as follows:

One ton of silage equals one ton of sugar beets.

Three tons of silage equal one ton of clover hay.

Three and one-half tons of silage equal one ton of alfalfa hay.

Two and one-fourth tons of silage equal one ton of marsh hay.

Three and one-half tons of silage equal one ton of prairie hay.

One-half ton of silage equlas one ton of pumpkins.

Prof. Haecker also gives the compartive cost of putting up silage and hay and the number of cubic feet occupied by each as follows:

Cost to put up one ton of silage, 63c.

Cost to put up one ton of hay, $1.50.

One ton of silage occupies 50 cubic feet.

One ton of hay occupies 500 cubic feet.

Referring to this statement he makes the following statement:

"It will be seen that ten times more space is required for hay than silage, and I do not believe it possible to construct even a cheaper hay shed, to say nothing of a barn, for the prices required to store the same quantity of silage. With the ordinary hay loft in a good dairy barn, the cost of storage space would be three times that of the silo. It can be seen that corn silage can be put up for almost one-third the cost of hay. While hay is about three times richer in food elements, it is still an expensive roughage as compared with silage.

"Until the feeder can find a food equal to corn silage for even twice the cost, he had better seriously consider the silo. Under present conditions, I believe that one-fourth of all the farmers keeping stock in the Corn Belt will find a silo an economical investment."

The problem of pasture is one of the biggest the dairymen and stockmen have to solve, and many of them are finding the solution in the silo. The summer silo supplements pasture and is coming into use very rapidly. It is a practice which the best agricultural authorities are advising farmers to adopt. It requires practically three acres to pasture a cow for a year, while an acre of silage yielding only eight tons will provide roughage for two animals for a year, and the land will maintain with the use of a silo practically six times as many cattle as it will under the pasturage system. The preceding statement is based on the results of experiments and observations at the Virginia agricultural experiment station.

Approximate Daily Ration of Silage

Kind of Stock	Wt. Lbs.	Fed per day Lbs.
Horses—		
Colts	500	5
Stock horses	1,200	12
Work horses	1,300	10
Cattle—		
Calves	500	12
Stock cattle	1,000	20
Beef cows	1,300	30
Dairy cows	1,000	40
Fattening cattle	1,200	25
Sheep—		
Stock sheep		3
Fattening sheep		3

—E. Lloyd Watson, in Threshermen's Review.

FARM WORK SHOP

The proper thing would be a building 14 x 16 feet, well lighted and with doors large enough to admit machinery to be repaired—though this is not so essential. Many times an old building may be utilized for this purpose or a part of the tool shed might be partitioned off as a work shop, provided it has a good roof and can be made comfortable on bad days. One can hardly estimate the value of such a place in which to work and much valuable time can be saved in fixing up the machinery, making gates, chicken hovers and in doing other odd jobs on days when the weather won't permit any out-door labor.

I like to have the shop handy to other buildings as it saves steps and then, too, it insures the return of the tools to their proper places when used outside the shop. One need not buy many tools at once but can buy them as needed or as the money becomes available for this purpose. Buy the best then take good care of them. To do good work one should have four hand saws, one fine, one coarse cross-cut, one rip and one key-hole saw. A set of wood chisels, although the half, three-quarters and inch sizes are the ones mostly used on the farm. A good brace with a set of bits are indispensable, also a set of drill bits. A good hammer and hand-axe are the most essential and other tools may be added from time to time as one becomes proficient in the use of them. A good grindstone and where one is without power a bicycle grinding machine and set of emery wheels are a good investment. I was lucky enough to win such an outfit with ten good ears of corn three years ago and it has proved handy many times a year.

The shop should have a good workbench and vise, one that opens six to eight inches will be found the best for the average worker and will stand hammering without being liable to break. Some times such things can be purchased second-hand at a very low figure and will be just as good as new. For light blacksmithing there are farm forges and anvils on the market suitable for light work and should be found in every shop. I have also found it a good practice when getting out posts and wood during the winter to pick out good straight grained timber and store away in the dry for use in repair work.

With the proper tools and material at hand one can repair a breakage in harness, machinery, etc., in half the time it takes to go to town; then, too, a considerable saving in cash can be made during the year.

A. W. Sarty, Moscow Mills, Mo.

Apple Blotch Causes Fruit Losses

Apple Blotch is a disease which occurs on the twigs, the foliage and the fruit. Infections may begin as early as three weeks after blooming and continue well into the summer. Usually, however, infections occur mostly from four to six weeks after blooming. It is necessary that the first spraying be on the trees by four weeks after the blooming. Bordeaux mixture is the only mixture used thus far that effects a satisfactory control, and in those orchards where blotch is known to be present to a seriously damaging extent it is the only mixture on which it is safe to rely. In cases of moderate infection a single spraying may be sufficient, but usually more than one is necessary.

A dependable schedule of treatment consisting of three applications is given by F. W. Faurot, of the University of Missouri.

First. Three to four weeks after blossoms fall, Bordeau mixture (6 lbs. blue stone, 8 lbs. lime, 100 gallons water) to which is added 4 lbs. arsenate of lead paste for codling moth. A stronger Bordeaux might be more efficient but the liability to injury would be correspondingly greater.

Second. Five to six weeks after blossoms fall Bordeau mixture, same as for first application.

Third. Nine to ten weeks after blossoms fall, Bordeaux mixture (8 lbs. blue stone, 8 lbs. lime, 100 gallons water) to which is added 4 or 5 lbs. arsenate of lead paste for the first spraying for second brood of codling moth. In south Missouri this application comes at just the right time to help control bitter rot.

The Missouri Farmer is offering a beautiful piano to some bright, ambitious farmer girl in every community in Missouri. By putting in your spare time for a few weeks you can easily earn one of these handsome instruments. Please write us for full particulars at once. Delay means that some other girl will get your territory.

Look Here--Read This!

I am anxious to raise $3000 by July 15th to take up obligations and to do so I will offer forty head of registered, Island-American bred Jerseys at very attractive prices; all bred at Sunset; all Sunset "Correct Type" Jerseys; any age and either sex, especially young bulls and bred heifers. Also, 150 head of Big Boned Spotted Polands, spring pigs, pairs or trios, not related, and gilts bred for fall farrow. Prices lower than I expect to make again this year at least. Satisfaction always guaranteed. Free circular. Now is the time to buy. Please mention your wants.

THE ENNIS FARM, Horine Station, Mo.
(Just south of St. Louis)

DONT FREEZE

another winter when you can enjoy **Comfort, Convenience, Health, and Fuel Economy** by installing a Steam or Hot Water Heating outfit.

Take Advantage of This GOOD BUYING Time—when raw materials and labor are cheap—and put in a heating system. Just as easy to install in old as in new buildings. Frees the house of dirt and dust and saves you money.

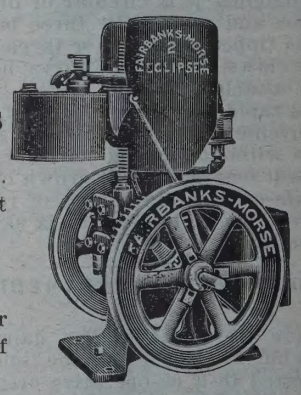
Let us tell you how to get better heat and more comfort for less money.

We install **Steam and Hot Water Heating Systems** in old or new farm houses, schools, churches, etc. also private water systems, bath tubs, toilets, lavatories, kitchen sinks, gas machines, and septic tanks for sewage disposal. Pipe and pumps at wholesale prices.

Estimate gladly furnished. Write for prices.

JOHN GILMORE PLUMBING & HEATING CO.,
15 North 10th St., St. Louis, Mo.
Established 20 Years

Eclipse
Gasoline Pumping Engines



Each engine complete with all accessories. Ready to run. Furnished with or without pump-jack attachment.

No. 1—ECLIPSE ENGINE

Will pump 570 gallons of water per hour against a 125 ft. head, using about 1 pint of gasoline per hour.

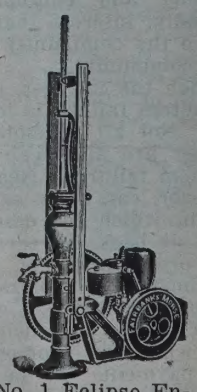
No. 2 Eclipse Engine without pump-jack

No. 2—ECLIPSE ENGINE

Will pump 900 gallons of water per hour against a 150 ft. head, using about 1 quart of gasoline per hour.

Strength, weight, durability, workmanship and fuel economy all guaranteed by Fairbanks-Morse quality.

Wherever there is a pump there should be an Eclipse Engine. The **price is so moderate** that every farmer can afford to have one. May we send you a catalog?



No. 1 Eclipse Engine and pump-jack attached to windmill pump.

Fairbanks Morse & Co.

ST. LOUIS KANSAS CITY

(1520-19D)

Standardized Engine Prices

To know what reputable, high-standard gasoline engines are worth, you have now only to remember the price as being less than $17.50 per horse-power. This is the new way of making prices uniform, adopted by Ed. H. Witte, the enterprising manufacturer of the fuel-saving WITTE engine. In the last two years Mr. Witte's lead in low prices, direct from the factory to the user, has brought engine prices to a lower level, and no doubt his latest announcement of uniform prices per horse-power for all his sizes of engines, from 2 H.-P. to 22 H.-P., will induce a general re-arrangement of engine prices to meet this new and sensible idea.

ED. H. WITTE

Besides this new idea in setting low prices, Mr. Witte has also adopted a new idea in engine rating—that of putting into his engines from 30% to 50% surplus H.-P. over the rating of the various sizes, instead of the usual 15% to 20% surplus, hitherto considered as standard practice by most engine manufacturers. Speaking of this, Mr. Witte said:

"My experience is that most folks, in buying their first engines, buy them too small, especially when buying the smaller sizes. The size ordered is figured, usually, for a certain work, but after the engine is in use there are always other jobs given to the engine, and when more work is found for the engine than its size is capable of doing the buyer regrets not having bought a larger size. At the same time, he does not wish to buy a second engine.

"To meet this situation I am now making my engines larger, while keeping the ratings the same as before; and, at the same time, have even lowered the prices. When pulling their full margin of overload, the fuel consumption is no more than that of other engines of the small rating, when pulling only their rated H.-P., The saving in price and in fuel, in addition to the extra power in each size WITTE, are the most important improvements in the field of general purpose, liquid fuel engines, and are meeting with hearty approval everywhere, among my old customers as well as the thousands of new ones we are making right along.

"I shall be glad to send full particulars of my improved engines, together with my latest prices, for cash or on reasonable terms, to all intending engine buyers; and will undertake to prove to every one that no gasoline or kerosene engine for general farm work should cost any more than my latest prices. Inquiries will reach me, addressed simply to Witte Engine Works, 1840 Oakland Ave., Kansas City, Mo., or to Office 184, Pittsburg, Pa., where we are opening a branch for the convenience of our many Eastern customers."—Adv.

FOR SALE—36 two-year-old thoroughbred R. I. Red hens and 1 one-year-old male, at $1 and $1.50. Mrs. Florence S. Tyler, Sweet Springs, Mo. 611

Holstein Bull Calves

A fine lot of very high grade Holstein bull calves out of grand daughters of the famous Missouri cow, Chief Josephine, and sired by a son of the premium state fair cow. These calves are in fine condition ready to ship now at $25 each. This is a rare opportunity to get a bull of the best breeding to improve your milk stock. Better order now as I have had to return money for orders I could not fill.

D. D. MOSS & SON, Columbia Mo.

YELLOW PINE BLOCK FLOORS

The domestic animals of today—cattle, horses, hogs and sheep—certainly have many advantages not enjoyed by their forbears. While the ultimate end of all such may be the same now as yesterday, the four-footed folk of the farm now might be said to be "living by the way" in luxurious comfort as they journey through life, as compared with the rough and rugged existence of live stock of earlier generations.

Farm animals are much "coddled" these days. That is because the farmer is only just getting acquainted with the stock on his farm. It is only in recent years that the dairyman, the stock feeder and the breeder have learned that care for the comfort, contentment and general health of their animals is as surely productive of profits as generous feeding is. The result is that the provision of better shelter and improved sanitary conditions have materially aided selected breeding in the development and increased efficiency of special purpose animals. The time has passed when farm stock, however bountifully fed, are expected to produce satisfactory profits if they are exposed to inclement weather, or housed in dark, draughty, uncomfortable and unsanitary quarters. Light, air, warmth and clean beds are regarded as just as essential as abundant feed and "quality" in individual animals of the farm producers.

Such care and attention is no where more productive of good results than in the quarters provided for dairy stock and brood sows. Both the quality and quantity of milk given by a cow improves with every reasonable addition to her comfort, and the expense of providing warm, clean farrowing houses for hogs is quickly repaid in more and better pigs and in the improved condition of the brood stock. One modern measure that promises to find general adoption among progressive farmers is the sanitary, comfortable floor in dairy barns and hog houses, relieving the animals from the necessity of standing and lying in wet, cold, unhealthful quarters. For this improvement nothing has been found to excel in effectiveness creosoted yellow pine blocks, which make a smooth warm sanitary and moisture proof floor that lasts practically forever. The wood blocks not only make an ideal floor for horse stalls and dairy barns, but they are particularly desirable in farrowing houses for hogs. The block floor not only is warmer than earth or concrete, but the preservative used in the wood—creosote—is a powerful disinfectant in insecticide and absolutely eradicates vermin.

Laying a creosoted yellow pine block floor is a comparatively simple process, easily accomplished by the farmer without the aid of skilled labor. The important points in making a first class job are care and thoroughness. If the barn, stable or farrowing house has a stiff clay base, no other foundation, except a sand cushion, is needed for the blocks, provided the clay is smooth and tamped evenly with a slight slope for drainage. If the floor base is soft, there should be a foundation for three inches of concrete. This concrete is composed of one part Portland cement, three parts clean sand and six parts gravel or broken rock, sized ¼ inch to 1½ inches. The sand and cement should be thoroughly blended dry, then sufficient water added to make a thin mortar after which the broken stone is turned in and well mixed. This should be spread evenly over the earth base, well tamped and smoothed over the surface.

When the concrete is well hardened—it should be let stand four to eight days—there is placed on it a half-inch of well screened sand and cement, three parts of the former to one of the latter. Immediately before the blocks are laid, sprinkle the sand and cement with a hand sprinkler and on it set the blocks so their surface shall be smooth and the joints close. Level the surface, if necessary, by light tamping. Brush sand over the floor that minute spaces between the blocks may be filled.

When an entire floor is to be paved with the yellow pine blocks, an expansion joint from a half inch to an inch should be provided for around the four walls by placing a strip of plank against each wall before the blocks are laid. When the blocks are set firmly and brought to an even bearing, remove the strips and fill the spaces with asphalt, cement or paving pitch filler, heated until it runs like water.

It is only recently that it has been possible to obtain creosoted yellow pine blocks and lumber from retail dealers generally, so the farmer has been one of the last to profit by the most effective wood preserving treatments. Creosoting posts and other timbers has been practiced to some extent by farmers, simply dipping the wood, but that method is not nearly so effective as the factory treatment in which the yellow pine is incased in an air-tight receptable, the air exhausted, and the creosote forced into the wood under heavy pressure. The creosoting greatly prolongs the life of the yellow pine which in its natural state is one of the most durable of woods.

M. M.

A Bad Job of Plastering a Silo

A reader, Mr. W. Heavner from Polk County, writes that he had a Gurler silo 14x35 built last August. Three feet of the silo is concrete below the surface of the ground. The man who built the silo ignored instructions and placed the lath so close together that the plaster did not clinch good. The plastering is not over one-fourth inch thick and has cracked and some of it has fallen off. The silage spoiled all around the outside for about 18 inches at the top and 8 inches at the bottom. Tell me what I can do to make it air tight without taking it all off and doing it over.

Reply: The very best thing to do would be to take the lath off and put them on right and plaster it over, but if you do not feel like standing that expense if the plastering is not loose on the lath you might patch the places that have fallen off and then line the whole thing with tarred building paper. If this paper is put on and lapped well it ought to make the silo air tight and will last a year or two, until you feel able to replaster the silo.

Corn 60 Cents—Pork Costs 5 Cents

With corn valued at 60 cents a bushel the cost of feed alone for producing a pound of pork is five cents, according to Bulletin 147 of the Nebraska Agricultural Experiment Station, just issued. Among other things, the bulletin says that the most suitable supplementary feed to corn for fattening hogs seems to depend on several variable factors. Oil meal, cold pressed cottonseed cake, and tankage rank close together in the profits secured in nearly all tests. In some tests these by-products give faster gains and more profit than corn and alfalfa, and in other tests the reverse is true. The physical condition of the hogs as influenced by weather and other factors seems to determine whether alfalfa hay or such a by-product as those just mentioned is the most profitable to feed with corn for fattening hogs.

An Encouraging Approval

The Missouri Farmer:

I have thought at least twenty times I would write you to let you know how much your valuable paper is appreciated by us. The article on the front of your paper is alone worth many times more than the subscription price. Certainly you are in the work heart and soul. No farmer in Missouri can afford not to have your paper. It seems that you are always right, and have such a deep interest for the farmers. I can't see how any one can read The Missouri Farmer and not have a kindly feeling for Mr. Ellis. Long may you live and prosper and your paper ever advocate the good work. Sincerely yours,

W. F. Heavner, Humansville, Mo.

Thinking About a Silo?

If you are thinking about erecting a silo this summer you ought by all means to drop a postal card to the Dickey Mfg. Co. at Kansas City and ask them to send you the full particulars about their "Jug" silo, made out of vitrified clay tile. It is unquestionably one of the greatest silos ever placed upon the market and promises to have a great reign of popularity. The Butler Mfg. Co. at Kansas City are also putting out a fine new silo well worth investigating. Drop both of these concerns a postal card and ask for complete information. Thousands of new silos will go up this year and there is danger of the manufacturers not being able to supply the demand. Be sure to mention The Missouri Farmer when you write.

BEAT Out the GRAIN

Just as you would do by hand with a pitchfork. It is the only correct principle. In no other way can perfect separation be done. That method is used in the *Red River Special* and in no other thresher.

It SAVES the Farmer's Thresh Bill

The Big Cylinder, the Man Behind the Gun, the Beating Shakers, the Graduated Adjustable Chaffer are a combination insuring perfect separation and cleaning found only in the *Red River Special,* the most profitable machine for the thresherman and farmer.

It gets the best jobs, threshes more grain, runs more steadily and makes the thresherman more money than any other.

BUY OR HIRE A RED RIVER SPECIAL

And Save the Farmer's Thresh Bill

Send for new Red River Special Paper, FREE

NICHOLS & SHEPARD CO.

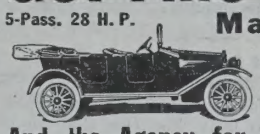
(In continuous business since 1848)

Builders of Red River Special Threshers, Wind Stackers, Feeders, Steam Traction Engines and Oil-Gas Tractors

(13) BATTLE CREEK, MICH.

Get This FREE

5-Pass. 28 H. P. Magnificent BUSH MotorCar



And the Agency for Your Territory

Get a Car Free and qualify to make $3000 to $5000 a year and up in the Automobile Business. A Postal brings full details of this great Free Auto Offer. Write quick — before your territory is taken. Address me like this—J. H. Bush, President,

BUSH MOTOR COLLEGE, Inc.

DEPT. 503 BUSH BUILDING

North Clark Street and Chicago Avenue, Chicago, Ills.

The Chicago and Alton Railroad

For Chicago, St. Louis and Kansas City. For further particulars write

JOHN E. FISH

Div. Frt. & Pass. Agt., Mexico, Mo.

SPECIAL ATTENTION!

We would especially call attention of our readers to the change of The Ennis Farm ad in this issue, on page 12. This ad fully explains itself. Sufficient here to say that the Sunset "Correct Type" Jerseys has had a significant meaning for fifteen years and many a purchaser has gotten from this herd the type he was seeking, combined with heavy production, which is so hard to secure. The blood lines, mostly the combination of those of old Imported Blue Belle and Golden Rosebay crossed onto American bred St. Lamberts, Combinations and Tormentors, and then recrossed onto a combination of Golden Rosebay and Golden Ferns Lad blood, that Mr. Ennis has combined in breeding up this well-known herd, has resulted in wonderfully handsome animals with wonderful productive capacity. The Ennis Farm Big Boned Spotted Polands are second to none and Mr. Ennis is probably the largest breeder of this most popular Corn Belt hog. With lots of fresh separator milk from the Jersey hred, lots of good pasture and pure water, with a good feed of shorts and a top dressing of corn—who can beat this combination for the production of great pigs. Read this ad and if interested in either registered Jerseys or Spotted Polands get the Ennis Farm prices before buying elsewhere. In answering please mention this paper. Adv.

LIVE STOCK NOTES

R. P. Royce, Fieldman

COMING SALES

Spotted Poland Chinas

J. W. Everyman, Gallatin, Mo., Aug. 10.
H. L. Faulkner, Jamesport, Mo., Aug. 11.
H. F. Dickerson, Jameson, Mo., Oct. 6.
Andrews Stock Farm, Lawson, Mo., Oct.14.

Poland Chinas

J. F. Richards & Son, Bevier, Mo., Sept. 1.
Halleck Bland, Centralia, Mo., Sept. 16.
N. R. Riggs, Lawson, Mo., Oct. 14.

Baker & Sons Good Polands

W. A. Baker & Son, Butler, Mo., are ready to ship choice spring boars and gilts of strictly big type breeding and they will be glad to hear from any of our readers who are interested. The Baker herd has long been recognized as one of the better herds of this state when judged from any angle. The spring stuff now in offer is sired by one or the other of the three herd boars, Big Look 63604, Big Bone's Son Jr. 71940 and Missouri Wonder 55408.

Big Look is by Big Gun, a son of Dorr's Expansion and is out of a King Look dam. He was shown with considerable success in 1913. That year he was second in the open class at Lincoln, was first and champion at Topeka, second at Hutchinson, second at St. Joseph, first at the American Royal. In 1914 he was third at the Missouri State Fair.

Big Bone's Son Jr. is by Big Bone's Son by Big Bone. His dam was Anna Price 11th by Pawnee Lad. This young boar was added to the herd last fall after he had won first at Lincoln, first and champion at Topeka, first and champion at Sedalia, second at St. Joseph, and third at Des Moines.

Missouri Wonder is a worthy son of the great old boar Blaine's Wonder. He has never been shown but has sired prize winners.

This herd is nominated in the Poland China Futurity Show to be held at the Missouri State Fair.

Messrs. Baker have a few good serviceable fall boars on hand that can be bought worth the money.

Shorthorn Bull Calf for Sale

R. L. Hill, Columbia, Mo., is offering for sale a shorthorn bull calf sired by Sir Henry Clay, the bull that the College of Agriculture has been using on the department's herd of milking shorthorns. Sir Henry Clay was bred by May & Otis, and is sired by the great bull Henry Clay, conceded to be one of the most prepotent sires of heavy milking shorthorns the breed has produced. The dam of this calf is a very high class cow from W. P. Harned's well known Idlewild herd. Mr. Hill is pricing this calf worth the money if taken soon.

Hall & Rapp's Spotted Polands

Attention is directed to the advertisement of Hall & Rapp, Rocheport, Mo., in which they offer a number of big strong fall boars that are ready for service. These boars are priced at $25 F. O. B. Rocheport and are exceptionally good bargains.

A Great Boar for Sale

Chas. L. Taylor, Olean, Mo., is offering a rare opportunity for our readers to secure a high-class proven Duroc boar. The boar in question is Professor's Col., by The Professor, a grand champion at Illinois State Fair.

Professor's Col. was farrowed April 3rd, 1912. He is rather of the compact type, is deep and thick with exceptionally well sprung ribs, good head and ear, well arched back and heavy hams, and stands on etxra good bone. He has proven a successful sire and many of the choicest gilts in Mr. Taylor's February sale were his get. He is being sold for no fault. Besides this boar, Mr. Taylor has for sale a number of good fall boars that have plenty of size and quality, and are bred in the purple. Any of our readers who need a boar will find it worth while to write Mr. Taylor for prices. Mention this paper.

Jersey Bulls and Heifers

Wm. H. Bruns & Son, Concordia, Mo., are advertising several young Jersey bulls old enough for service, and are offering them at prices that should interest our readers. They are sired by The Owl's Champion 85990, a grandson of Rubano's Fancy, a 21-pound cow.

The Bruns herd has long been recognized as a superior collection of Jerseys and we feel that our readers will be serving their own interests if they get in touch with this firm.

Gildow's Yorkshires

Frank Gildow, Jamesport, Mo., reports that he has only a few Yorkshires left and in view of the fact that he is closing out his entire herd he is prepared to make very attractive prices on what he has left. Several excellent sows and a few boars of the right sort are still on hand.

Most any farmer can afford to keep a Yorkshire sow or two just to furnish the family bacon. Write at once if interested.

Twenty Holstein Cows for Sale

M. E. Moore & Co., Cameron, Mo., who advertise Holsteins in this paper, are now offering for sale twenty head of females, all ages. This stuff is high class in every way and should go to buyers who are endeavoring to build up the standard of their herds. The Moore herd is the oldest herd of this state and one of the oldest herds in the middle west. For years it has been maintained on a high production basis and at present fully eighty per cent of the cows have A. R. O. records. This fact should mean a great deal to any prospective buyer because it is almost insurance that the progeny from such a herd will be profitable producers.

At the head of the herd stands the good bull, Sir Korndyke Imperial 53683, one of the best bred bulls of the breed, combining as he does the blood of Pontiac Korndyke and Hengerveld DeKol. Assisting Sir Korndyke Imperial is King Onusby Pearl, a very promising sire.

In addition to the twenty head mentioned, two aged cows are offered, and three mature cows that have lost a quarter. These five cows will be sold very cheap.

We recommend this offering very highly to our readers and trust that they will take advantage of the opportunity to secure really high class cows.

Missouri offers a wonderful future to the man who enters the pure bred Holstein business, but bear in mind that one should start with the good kind.

Kindly mention this paper when you write.

MISSOURI STATE DUROC-JERSEY BREEDERS' FUTURITY

Managed and guaranteed by the Missouri State Duroc-Jersey Swine Breeders' Association (Incorporated).

For the male and female progeny of registered sows nominated on or before May 10th, 1915, such progeny (not the sows) to be shown as pigs at the Missouri State Fair 1915. Entry fees will be as follows: $5 to nominate any owner's entire herd of brood sows, payable on or before May 10th, 1915; a second payment of $1 will fall due June 1st, 1915, on each litter from a nominated sow which it is desired to keep eligible in whole or in part; a third payment of $1 per litter will fall due on August 1st, 1915. These dollar payments are collective litter payments and when duly made shall qualify each and every pig in each and every such litter for exhibition in this futurity show.

The following cash Futurity prizes amounting to $405 will be paid:

Spring pigs	1	2	3	4	5	6	7	8
Boars	$40	$30	$20	$15	$10	$8	$7	$5
Sows	40	30	20	15	10	8	7	5
Litters of 4	40	30	20	15	10	8	7	5

Of the above amount $100 in cash is contributed by the Missouri State Fair and the same amount by the National Duroc-Jersey Record Association, Peoria, Ill.

Special Premiums.

In addition to the cash prizes the following special premiums are offered:

The American Duroc-Jersey Swine Breeders' Association, Chicago, Ill., offers a trophy for the first prize spring boar.

The National Live Stock Reporter, National Stock Yards, Ill., offers a trophy for the second prize spring boar.

The Missouri Farmer, Columbia, Mo., offers a trophy for the first prize spring sow.

The Duroc Bulletin, Chicago, Ill., offers an advertising card in the paper (one inch, for a year) for second prize spring sow.

The Farmer and Stockman, Kansas City, Mo., offers a trophy for the best litter of four, to be won twice by the same man before becomnig his permanent property.

The Swine World, Chicago, Ill., of-

CLYDESDALE HORSES FOR SALE

MISSOURI FARMERS, DO YOU RECOGNIZE THE OPPORTUNITY?

The war in Europe means that the United States will furnish the Draft Horses and Draft Breeding Stock for the world for years to come. There was never a better time for you to get into the game and Missouri farmers should take advantage of the opportunity. I have Prize Winning Stallions and Mares of all ages for sale at lowest prices.

F. L. CROSBY, Highview Farm - - - - - - - - Mexico, Mo

SPOTTED POLAND CHINAS

The big boned, thrifty kind. We have a number of boars now ready for service. A choice lot for only $25 each f. o. b. Rocheport.

HALL & RAPP - - - - - - - - Rocheport, Mo.

CRIMSON COL. I AM--SELECT COL. II

Two of the greatest Duroc boars owned in Missouri lead my herd. Booking orders for spring pigs. Write me your wants.

A. WHITE, JR. Box 422 PALMYRA, MO.

ADENHILL DUROCS--SPRING PIGS

Spring pigs sired by Col. Wonder II out of sows carrying as good blood as the breed affords. Get my prices before you buy.

R. L. HILL - - - - - - - - Adenhill Farm, Columbia, Missouri

THOMSON BROS. DUROC JERSEY'S

We have the best lot of spring pigs coming on that we have ever raised. Ready to ship soon. Prices moderate and satisfaction guaranteed.

W. H. and GEO. E. THOMSON, Columbia, Mo.

DUROCS WITH SIZE AND QUALITY

15 May boars and gilts. Must sell in next 30 days. I have the size combined with quality. Prize winning blood. Pric ed to sell. Come or write.

A, C. BROCKMAN, Route 2, - - - - Centralia, Mo.

WELLER'S IMMUNE DUROCS

I am offering a choice lot of boars, bred sows and gilts. Priced reasonable. Customers in 48 Missouri counties.

J. E. WELLER, FAUCETT, MO.

15 DUROC SPRING BOARS & GILTS

We will have 15 boars and a number of open gilts which we will price to sell quick, and are booking orders now for 25 pigs, farrowed November 10th.

J. C. Garrard & Son McBaine, Mo.

Champion Col. Wonder Durocs

A few yearling boars and bred gilts. Booking orders for spring pigs either sex. Col. Wonder sires my champions—he will sire champions for you. Write or come.

CHAS. L. TAYLOR - - OLEAN, MO.

MEGOWN'S SPOTTED POLANDS

No matured stock for sale but booking orders for pigs to be shipped later. Have length, bone, size and big spots. Sired by two of the biggest boars in the State for their age.

B. B. MEGOWN - - - - - - - - - - - - - - New London, Missouri

Faulkner's Famous Spotted Polands

We are not the originator, but the preserver of the Old, Original, Big-Boned SPOTTED POLANDS. Spring pigs now ready to ship. Pairs or trios not akin. A few good fall boars ready for service. Write your wants.

AUGUST 11, MIDSUMMER SALE.
Ask for Catalog.
H. L. FAULKNER, Box R, Jamesport, Mo

POLAND CHINAS AND SHORTHORNS

Bred sows and yearling gilts bred for May farrow. Extra good fall boars and gilts. Several choice young bulls and heifers.

Satisfaction Guaranteed
H. S. WILLIAMSON, R 6 Centralia, Mo.

SUPERIOR HERD BIG-TYPE POLANDS

We have at all times anything you want in strictly big-type Polands. Special prices on spring boars and gilts in pairs or more—not related. Write us your wants.

Freeman & Russ Kearney, Mo.

LOCKRIDGE'S GIANT POLAND CHINAS

In my recent sale gilts bred to my great young boar THE GIANT 72083 averaged $57. THE GIANT is conceded to be one of the greatest boars of the breed. You will want some of his blood. Booking orders for spring pigs. Write at once.

WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

BAKER'S REAL BIG-TYPE POLANDS

Our winnings at the State Fair prove that we "have the goods." Spring boars and gilts of excellent breeding and individuality at very reasonable prices. Also a number of fall boars, big, stretchy fellows.

W. A. Baker & Sons, Butler, Mo.

RAUSCHER'S CHESTER WHITES!

One of the Oldest Herds in the West

A few choice spring gilts bred for early farrow. Several richly bred big spring boars. A fine lot of fall pigs. Size, quality, and bone. Prices reasonable and every pig guaranteed.

H. Rauscher & Son, Kahoka, Mo.

Dooley's Spotted Polands

Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pairs and trios no relation. Also registry furnished. Send check with first letter.

EDGAR DOOLEY, ETTERVILLE, MO.

Maple Grove O. I. C's

Over 100 spring pigs from 2 to 3 months old at the following prices: Choice of litter, $12; litter average, $10; fall gilts, $15. Bred gilts $20 to $25. Bred sows, $30 to $35. Prize winning blood and the most popular strains. Each individual guaranteed to give satisfaction.

F. J. GREINER, BILLINGS, MO.

fers a trophy to the exhibitor winning the largest total number of points.

Conditions

A herd shall be understood to mean all sows owned by a nominator on March 1st, 1915. If any sow in any nominated herd be sold by the nominator the eligibility of the sow and her litter in utero goes with her through all subsequent changes of ownership. Transfers of nominated sows must be secured by purchaser by name and number and must be properly filed with the association with which registered prior to June 1st, 1915, when first litter payments fall due. At that time the dams of all eligible litters must be recorded, unless recorded at some prior date, and their names and numbers given with such litter payments.

At the time of making the third litter payment each individual pig of each individual litter must have been recorded with the proper association and their proper names and numbers must be forwarded with such third payment. Proper registration must be vouched for by the secretaries of the associations with which registration was effected. Others than those named on properly filed transfers of nominated sows will not be permitted to make payments on litters. If you buy a sow from a nominated herd, see that you get a transfer of her, otherwise you will not be allowed to make payments on her litter and show the pigs.

Only pigs farrowed during the months of March, April and May, 1915, will be eligible to compete. Those farrowed before, March 1 or later than May 31, shall not be eligible.

Pigs nominated in this futurity shall have the right to compete in all the regular classes at the Missouri State Fair to which they are eligible.

All payments are due in cash on or before the dates specified. Failure to make any payment when due forfeits all sums previously paid in and shall automatically declare any entry void and out of the stake. There shall be no refund after an entry has been accepted as in the stakes, but nominators incur no future liability by making any payment and all nominations may be dropped at will.

Substitutions will not be allowed, but nominations are transferable up to and including the date of making the final litter payment to the extent that once nominated and properly transferred from owner to owner, and payments duly kept up, any litter or any pig in any litter may be exhibited, irrespective of the number of times it may change hands.

Judges, as far as possible, will be those selected to act at the Missouri State Fair, but it will be stipulated that these futurity premiums must be awarded by a breeder of Duroc-Jersey swine.

It is understood that in order to be eligible to compete for prizes offered by the National Duroc-Jersey Record Association and the American Duroc-Jersey Swine Breeders' Association that animals must be recorded in each of these associations respectively.

Right is reserved by the management of the Missouri Duroc-Jersey Swine Breeders' Association to declare off this futurity by reason of insufficient nomination of herds, to alter, amend and interpret these conditions as it may see fit, and to make such other and further rules and regulations as may be necessary for the successful prosecution of this enterprise. In case of an insufficient entry being received and the stake being declared off in consequence, nominators will be so notified within ten days of the date of closing and nominating fees will be returned as received.

All nominations and litter payments should be sent to R. L. Hill, Columbia, Mo., who will also be glad to furnish information if such is desired.

Every pure-bred herd of Durocs in Missouri should be nominated in this Futurity. The advertising a herd and breeder will get by nominating and showing in the Futurity would be hard to estimate in dollars and cents. The agricultural and swine papers are going to give this Futurity wide publicity for it will be the first Duroc-Jersey Futurity ever held and it is managed and guaranteed by a State Breeders' Association.

The Missouri Duroc-Jersey Futurity is a certainty and will positively be held, and it is now up to the Missouri Duroc breeders to nominate their herds. The following herds have been nominated to date: A. C. Buckingham, Jamesport; R. L. Hill, Columbia; Longview Farm, Lee's Summit; J. A. Porterfield, Jamesport; Sheley & Clatterbuck, New Bloomfield; Chas. L. Taylor, Olean; W. H. & Geo. E. Thomson, Columbia; Dr. J. B. Unsell, Louisiana; A. White, Jr., Palmyra; W. I. Williams & Son, Belton; J. E. McPherson, Columbia. It is hoped that every other herd in the state will be nominated. This Futurity is open to every Missouri Duroc breeder and the more herds that are nominated the better for the breed, for the Missouri business, and for the breeders generally. This association solicits the nomination of every herd in the state.

For further information regarding the Futurity write R. L. Hill, secretary of The Missouri Duroc-Jersey Swine Breeders' Association, Columbia, Mo.

COW-TESTING A SUCCESS

According to a recent report of the United States Department of Agriculture there were one hundred and sixty-three co-operative cow-testing associations in operation last year in the United States. This is considered to be a rapid growth when it is remembered that the first association in this country was organized in Fremont, Mich., in 1905, and that as late as 1908 only 6 associations had been formed. The next year, however, the number rose to 25, and it has been increasing rapidly ever since. America is, nevertheless, in this respect still far behind Europe, where there are at the present time between 2,500 and 3,000 such associations, the first having been started in Denmark in 1895.

The principle on which these associations work is both extremely simple and yet important. Year after year many farmers milk cows that do not pay for the feed they consume. Indeed, the average annual production of a cow in this country is approximately 4,000 pounds of milk, containing 160 pounds of butter fat. The best dairymen say there is no profit in such production, and of course there are vast numbers of cows that fall far below these figures. To make his herd a success, therefore, the farmer must weed out the animals that are costing him money and keep those that are bringing it in to him.

This, however, is not so easy as it may seem. Experiments continually show that it is impossible for any man, however experienced he may be, to estimate with any accuracy the yearly production of milk from any cow. Some animals start with a very good production and then drop to a very ordinary flow, while others give a much more regular yield. The latter may at the end of the year have given the farmer much more milk, but he will probably consider the former to be the profitable ones. As a matter of fact, a man can not guess within a quart how much milk there is in a pail, and if he is selling the product of his herd on a butter-fat basis, he knows even less of the yield from each individual animal.

That a cow-testing association actually does pay has been proved beyond all doubt. Since the first organization of this kind was formed, in 1905, 76 for one reason or another have been discontinued. On the other hand the records of those in operation show excellent financial results. There are seven herds that have remained continuously in the Michigan association ever since it was formed, in 1905. In 1906 they included 50 cows and in 1913, 69 cows. In 1906 the average yield for each cow was 5,885 pounds of milk and 231.1 pounds of butter fat; in 1913 it was 6,123.4 of milk and 284.7 pounds of fat. In the meantime prices of both feed and dairy products had risen. The profit, however, to the dairymen in the association rose as well. For each cow it was, in 1906, $22.23 and in 1913 it was $51.08, or an increase of $28.85. It certainly paid these dairymen, therefore, to employ a tester even if it cost them $1.50 a year for each cow.

Not only do these records show which cows make or lose money for their owners, but they show to what extent each is profitable, the amount of feed given to each cow, and what kinds of feed at prevailing prices produce the most satisfactory financial results.

CALVES NEED CARE IN FIRST SUMMER

The first year of a calf's life is the most important with respect to its growth. Unless animals are kept growing during this period their final development will be much retarded, and the chances are they never will reach the scale which their inheritance would give them, says R. M. Washburn, University Farm, St. Paul.

On the best regulated dairy farms calves are born in the autumn and early winter, and they should receive skim milk in moderate quantities through much, or all, of the summer following birth. On farms having hand separators there is no difficulty in providing the sweet milk for calves, morning and evening; but farmers who patronize whole-milk creameries or who still skim by hand should remember that after the first few weeks milk for calves should either be thoroughly sweet or fully sour, that the most dangerous condition is the half-sour stage. If milk is fed to calves when it is in this changing condition it is almost certain to cause indigestion. It should not be half sour, nor sour one day and sweet the next, but always one or the other.

Clean feeding pails must be used, otherwise the germs of fermentation and diarrhoea will be brought to the infant cow from the slime of the dirty drinking dish, and with young calves it is important that the temperature at which the milk is fed be nearly that of the body. Older animals may receive milk of the temperature of the milk-holding tank.

While it is very important that heifers should have free access to pasture during the second summer, to develop strong bodies, the calf need not have pasture the first summer. In fact, for calves born after the first of the year, pasturing may be a disadvantage. Most young calves in this country are better off chewing tender hay in the quiet and half-dark stable than fighting flies, panting from the heat, and cropping tough grass in the pasture.

IDLEWILD SHORTHORN CATTLE

Milk and Beef Type. Dual purpose in name and in fact. Herd 50 years old. In one family, on one farm. The type is fixed. I have a strain that I believe rivals the famous Duchesses. Fine beef cattle that are heavy milkers. And deep milkers of fine beef type. Call, or this blood is safe by order.

W. P. Harned, Vermont, Mo.

Shorthorn Bulls and Heifers

PEABODY FARM now offers 12 choice young bulls and 20 heifers. Good individuals; reds and roans. Priced to sell. Also 20 open BERKSHIRE gilts. Get our prices.

June K. King & Son Marshall, Mo.

ChoiceAberdeen-Angus

Established 30 years. 100 head in herd. We are offering good useful Bulls, and Heifers of excellent individual merit and breeding. Prices reasonable. Our customers make them popular.

D. L. Sutherland & Sons Windsor, Mo

GALLOWAY CATTLE

Young stock for sale at all times. Herd established 25 years.

J. & W. R. CLELLAND, New Hampton, Mo.

Aberdeen-Angus

I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.

J. D. Blackwell Fayette, Mo.

ANGUS CATTLE

HERD FOUNDED 1904

Seven early calves—3 BULLS and 4 HEIFERS, sired by Dean's Eric 139686. Every one the right kind, and priced to sell.

V. E. LAWRENCE, SALISBURY, MO.

Angus Bargains

Registered bulls and heifers. The market topping kind. Leading families represented. Priced worth the money and satisfaction guaranteed.

Also Poland China hogs.

J. M. JONES, R. F. D. 3, EVERTON, MO.

MOLASSES Best Feed for Pigs and Calves

St. Louis Molasses Co., Dept. MF., 400 S. Broadway, St. Louis.

SWEET CLOVER SEED of high quality, specially treated for full and quick germination. Prices and information on request. Bokhara Seed Co., Box F, Falmouth, Ky.

Standard Veterinary Remedies

STANDARD BLOOD TONIC: To use it will mean money to you by increasing the value of your horses

It is a tonic and reconstructive for all run-down conditions, especially following Distemper, Influenza and Lung Fever. It causes the hair to shed more rapidly and new hair to grow with a beautiful luster. It aids digestion and restores vigor. Skin Affections, Chronic Diarrhœa and Chronic Cough. $1.00 with the order.

STANDARD EYE REMEDY: In Moon Blindness it shortens the attack and lengthens the interval; Pink-Eye in Horses and Cattle; efficient in Sore Eyes from any cause in Horses, Cattle and Dogs. One bottle will convince you. $1.00 with the order.

STANDARD BLEMISH REMOVER: Bone Spavin Splints, Ringbone, Sidebones, Jacks or Bony Growths, Bog Spavin, Shoeboils, Capped Hocks, Curb, Thoroughpin, Sprained Leaders, Bucked Shins, Windgalls, Sprung Hock, and Sweeney. These remedies are guaranteed to be efficient. $2.00 with the order.

STANDARD VETERINARY REMEDY CO.
BOX 942, INDIANAPOLIS, INDIANA, U. S. A.

THOMAS E. DEEM

AUCTIONEER

Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased.

Dependable service at a reasonable charge. Address, Cameron, Mo.

Harry W. Graham

AUCTIONEER

PURE BRED LIVE STOCK

Seventeen years experience with America's best breeders.

Chillicothe, Missouri

W. D. ROSS

Auctioneer

Pure bred live stock. Sales made anywhere on reasonable terms. Write for dates.

Otterville Missouri

DUROC JERSEY FALL BOARS & GILTS

We still have a number of choice fall boars and gilts sired by Beauty's Model, first prize Senior Yearling at the Missouri State Fair. Priced to sell, as we need the room.

W. O. & B. A. SMITH, Thompson, Mo.

Glenvarloch Large Yorkshires

The prolific, growthy and gentle bacon hog. Closing out entire herd at private sale. Bred sow, boars and pigs either sex. The produce of one Yorkshire sow will keep your family in delicious meat all next winter. Everything at bargain prices. All immune.

Frank Gildow, Mgr., Jamesport, Mo.

JERSEY CATTLE

Bulls ready for service. They are sired by the Owls Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

SPOTTED BOARS-JERSEY BULLS

We have a dozen Jersey bulls ready for light service and a dozen Big Boned Spotted Poland-China boars of November farrow that we will price very low for quick sale. Also bred heifers and spring pigs to offer.

The ENNIS FARM, Horine Station, Mo. (Just south of St. Louis)

Jersey Cows

I want to sell 20 head of registered cows and heifers that are either fresh or soon will be. Also four young bulls.

J. B. SMITH Platte City, Mo.

Registered Devon Cattle

Choice bull calves for sale from good milk cows. Bred at Northview Farm.

J. A. CASE Concordia, Mo.

HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndyke Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

M. E. Moore & Co., Cameron, Mo.

Have You a Piano in Your Home?

No Modern Farm Home Is Complete Without a Piano--the Sweetest and Greatest of all Musical Instruments

In these days, no young woman's education is complete without her having the ability, to a modest degree at least, of performing upon this greatest of all musical instruments. In fact, her future social position depends very largely upon this fact. It gives her a grace and refinement that nothing else can. It gives her a "polish" which makes her more charming and delightful to herself and to her friends and loved ones—a solace and a pleasure which will add greatly to the joy she gets out of life.

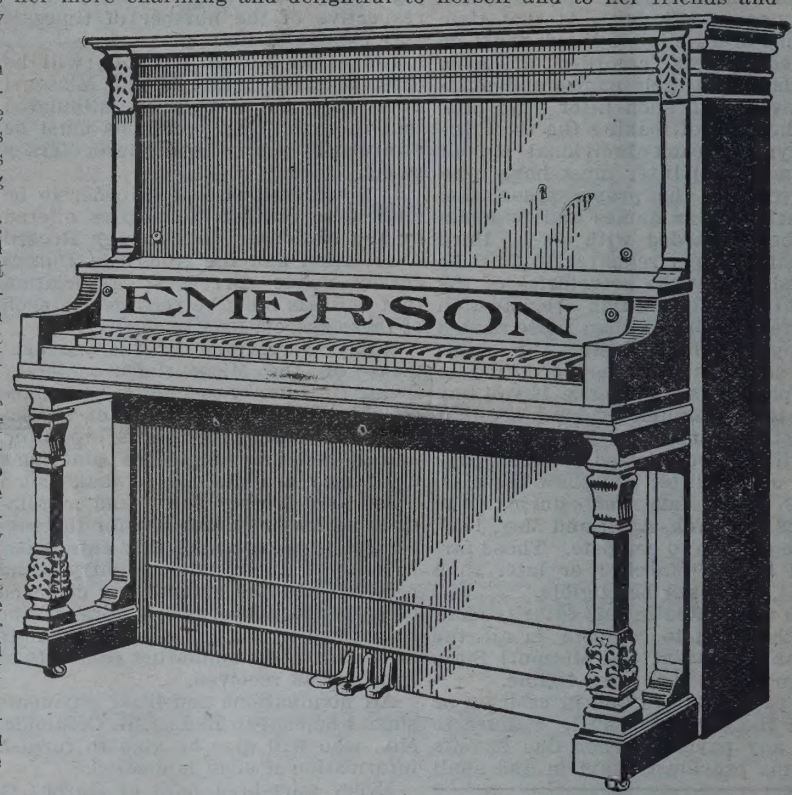
But more than that: A beautiful Piano is an ornament which adorns the modern farm home as nothing else can and which is a delight that charms the whole family. Dreary indeed and desolate is the home which is without music which soothes tired souls and makes them forget for a little while the World's harsh battle—which, with its soft cadence and sweet harmony reminds us that there is something besides dollars to fight for and live for.

For over 45 years I have conducted music stores in the leading county seat towns of central Missouri and during this time I have sold thousands of Pianos to farmer families—**and I have yet to hear the first complaint about the quality of a single instrument I ever sold!** Buying and selling in large quantities, I can make you a better price than many small dealers and if you are in the market for a Piano I want you to write to me at once and let me show you what kind of value I can give you for your money.

And remember this at the outset—that I am financially responsible and that **my unqualified guarantee goes back of every Piano I sell!** If it isn't exctly as I represent it to be **you don't have to keep it!** I cheerfully refer you to the Publisher of this paper—or I shall be glad to have you write to any bank in Columbia, Macon, Moberly or Huntsville as to my standing and reputation as a dealer. All these banking institutions have known me for many years and can tell you whether my guarantee is good or not.

If you are not in position to pay the whole amount in cash, don't let that keep you from writing. All I want to know is that you are trustworthy when I will be glad to arrange the payments to suit your convenience. I realize that there are thousands of farmers in Missouri who do not live close to a large music dealer—and to such families I am sure **we can save a lot of money!**

The place you live in will seem more **like a real home** with a beautiful Piano—and the pleasure which your wife and daughters and you and the rest of the family will get out of it will make it an expenditure you will never regret. Write me **at once** if you are interested.



JOHN N. TAYLOR, MUSIC HOUSE - - - Columbia, Missouri

Branches at Moberly, Macon and Huntsville

BUCKSHOT BY THE PROFESSOR

My old gray mule may not be very fancy—but anyway I don't have to "crank him up" every time I start to go anywhere.

The more I watch the farm game the more I am convinced that the proper mixture of brains and fertilizer are the things that win.

If I was a millionaire (sounds fine doesn't it?) there is one thing I would do. I would spend the summer in Arkansas rather than go to Europe.

Old man J. Pluvius and Col. Chinch Bug have been having a "powerful bad misunderstandin" during the last week or two. The last we heard of Col. Chinch Bug he was headed "down South."

Old Jupiter Pluvius must have had some busted water pipes during the last ten days. It's mighty fine work, old fellow, but don't forget to save a little to prime the pump along in July and August.

The farmer who hitches his ambition to a good farm home, a big red barn and a piece of land without a mortgage nearly always gets there after awhile —and there are not enough unfavorable seasons in the calendar or bugs in the Universe to stop him.

Well, them "Eyetalians" finally threw their hat into the ring and here's betting they get their feet wet before they get it out. Anyhow, I feel relieved that they finally did one thing or the other. It's enough to have Hessian flies and chinch bugs on your nerves without piling a bunch of organ grinders on top of it.

Old "Josh" Simpson has a grouch on this week. He's "sore" because his wife spent $1.75 for a new summer hat. He says that "wimmin are gettin' too high-falutin"—that a sun bonnet is "plenty good enough"—that $1.75 would have kept him in "chawin' terbacker fer a whole munth."

Say, there's some mighty good alfalfa "dope" on the third and fourth pages of this issue—and the more of it you get into your system the better. There isn't any law in this state against growing alfalfa—and if every farmer had a five or ten-acre patch it would stop millions of dollars going out of Missouri for feed.

Old John Barleycorn is certainly having a tough time. Just as he was getting ready to sit up on the rail fence and watch the boys fight it out over in Europe, the whole outfit turned on him—and what they are doing to him and saying about him is a caution. About the only staunch friend he's got left is old man Huerta who used to be President down in old Mexico.

I see where "Teddy" got the best of a fellow by the name of Barnes up at Albany, New York, the other day. As I get it, "Teddy" threw his "hat into the ring," bared his teeth, gritted them, looked mad and mean as a bull dog that hadn't been fed for a week, yelled "Whoopee!"—and then began to talk —and after he had talked for four days hand running, everybody who wasn't under the table had taken to the tall timber.

Met a farmer in an implement store the other day. He was looking over some new self-binders. "Got a fine wheat crop comin' on and reckon I'll have to buy one of them things. Had a good one but it's been standin' out in the weather for the last three years and it's pretty badly used up." He's one of the kind that the new Land Bank Law won't help very much. He doubtless needs a new binder—but he needs a guardian a whole lot worse.

Two years ago The Missouri Farmer was the first publication of any consequence in Missouri to inaugurate a fight against the Single Tax fallacy. Since that time it has been ceaselessly pounding away for an Agricultural Credit System for Missouri farmers—and it contributed no small degree in bringing about a condition of public sentiment which led to the passage of the Gardner Land Bank Law in the recent Legislature. In other words, it is a home paper that really stands for the best interests of Missouri farmers —and I wonder, my good friends, whether you appreciate this fact? Or, are you among those who write the Publisher a "sour" letter when he asks you in a kindly way to renew your subscription and tell him that you are "taking a lot of other papers?"—papers owned by men who don't live in Missouri and who don't care a continental about the interests of the farmers of this state. I know there are not many of this kind of farmers in Missouri—but now and then you find one.

PHOSPHORIC ACID AND PLANT GROWTH

All plant food elements in the soil are important because they are essential, but we suppose those most abundant are most important. The three elements given first consideration usually are nitrogen, potash and phosphoric acid. The nitrogen we should aim to supply and maintain by carefully saving all the manure produced on the farm and then by growing more nitrogen gathering crops such as the clovers, cowpeas, soybeans and alfalfa. We can maintain and even increase the nitrogen content in the soil by growing these crops without any cash outlay, but for the other two elements, phosphoric acid and potash, in addition to the barnyard manure we will need to buy in some form these elements to supplement the manure.

Barnyard manure if applied too abundantly will cause a rank growth of straw and that is because it is not well balanced. A much better return can be had from the manure if it is spread evenly and more thinly over the field and there is used with it from thirty to fifty pounds of acid phosphate to each ton of manure. Where about six tons of manure are put on an acre, which is considered a light application, there should be 200 to 300 pounds of acid phosphate put on with it.

At the Ohio Station where 40 pounds of acid phosphate was applied for each ton of manure for every dollar expended for the acid phosphate there was a return of $5.48 in the increased value of the crops. A profit of $4.48 for a dollar invested in fertilizer is worthy of consideration. Either acid phosphate or rock phosphate will give good results but the acid phosphate will show the quickest returns and as most farmers need their profits at once it is perhaps better to use the acid phosphate.

A good way to mix the acid phosphate with the manure is to spread over the manure produced by each horse or cow about one pound a day and keep the manure under cover where it will not be leached out by rain. No other method has been found for spreading manure that equals the manure spreader. Where the manure is spread on the land every week there is little loss from burning or leaching and the most profit is obtained from it. Where the manure is allowed to remain in the barn lot and take the rains it does not take long to wash out one-fourth its value. Wasted manure is lost money.

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THE MISSOURI FARMER

COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE
AND THE MISSOURI EXPERIMENTAL STATION

Making Good

In the last front page story I referred to the "forks of the road" and the old guide post at the foot of which every boy is permitted to linger for a little while as he approaches manhood—and the fact that sooner or later he must choose between the two paths that lead out in opposite directions. I referred to the stern "Path of Duty" and the fact that years ago some of the great men of our Country had traveled over its rough and hard way. I said I would refer to the subject again and I am doing so because I don't want you to get the wrong impression. First I wanted you to realize that the man who accomplishes anything worth while in the World must be willing to toil and suffer—that there is no royal or flower-strewn path to success. It has ever been thus and thus it will ever be.

But I don't want any boy to misunderstand. Next to having no ambition at all it is almost as bad to have ambitions which are unreasonable or impossible. What this great Country of ours needs most in this momentous hour is more men who can make good in the humble, every-day walks of life rather than lawyers, orators or poets. Of these we shall always have an over supply as we have indeed at this very moment. We are living in a more enlightened age than the World has ever known before. Men no longer listen with open mouths to the dramatic exhorter as they did years ago—because today they know as much about public questions and policies as the exhorter and frequently more. And thus it has come to pass that we have more lawyers than clients, more doctors than patients and more authors than people who care to read the drivel they write—but out in the Nation's myriad fields, the chemist's shop and in the factory—there is where real opportunity beckons and in this arena will the future destiny of our great Republic be determined.

What is the real cause back of the great European tragedy? Are tens of thousands of men dying in the trenches merely that the name of another Napoleon or Frederick the Great may be written across the pages of history—or is it to avenge some imaginary ancient grudge? Not a bit of it—but back of the red-stained battlefields are desires for a more assured "place in the sun"—a herculean conflict which is driven on in its fury by the zeal of future commercial and industrial advantage. That, in the final analysis, the game is not worth the candle—that the whole terrible drama is unholy and a sarcasm upon the enlightened age in which we live—all these things may be true enough but for the time being they do not change the stern facts—and it is for us here in this great and blessed free Country of ours to demonstrate during the next twenty-five years that these ambitions, worthy within themselves, may be more triumphant in peace than in war.

Therefore, I say to you that what the Nation needs as never before at this time is a more universally capable citizenship—men who are enlightened and who stand for the best there is in manhood, who love their families and their Country—who make good in their chosen tasks however humble they may be—and among these tasks none is so important as that of the farmer who feeds and clothes humanity. I would rather own a good farm home and conspire with nature to bring golden harvests and fine flocks into being than arbitrate the petty quarrels of men in a musty-swelling court room for I would know that greater happiness and peace was in store for me and mine—and as for glory, what finer fame can man aspire to than the conscious knowledge that he is more necessary to his Country and to society than any other man who walks beneath the sun?

Fate has decreed that most of us shall be humble workers in the vineyard. Immortality comes to but few at best—and then only as they pursue some great task with a zeal which forgets everything but the thing in hand. Suppose that some farmer boy were to discover some new secret of the soil which would revolutionize American farming? Can you imagine any statesman being received with the plaudits which would greet this chemist of the fields? The true victories of the future will be won upon the farm, in the laboratory and at the forge—and of the three I would choose the farm every time.

—By the Author of After-Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VII JULY 1, 1915 NO. 13

WILLIAM HIRTH
PUBLISHER

MAINTAINING LIVE STOCK STANDARDS IN EUROPE

Most of our well known breeds of live stock are of European ancestry. In fact, our breeds of American origin have been created from animals with European blood lines more or less remote. Therefore, it may be taken for granted that Europe must have been the possessor of many breeds of merit.

Familiarity with live stock conditions on the other side of the big pond will teach the American stockman lessons that will profit him greatly if he sees fit to apply them.

The visitor abroad is impressed with the fact that the people recognize the adaptability of certain breeds to local conditions and are largely governed in their breeding operations by this information. Some breeds, it is true, are more universally adaptable than others, but even then, the breeds in Europe are very generally restricted to special local environments. Perhaps this might be well illustrated by stating that in Scotland, excepting in the case of Shorthorn cattle, nearly, if not quite all, the breeds are of Scotch ancestry. At the Highland and Agricultural Society Show, the most prominent one in that country, the breed shown is emphatically Scotch. Excepting the Shorthorn, the English breeds are essentially unseen at this show.

The crossing of breeds in Europe is practiced but by well known combinations of blood lines and for definite purposes. This more particularly applies to beef, cattle and sheep. The breeds of horses in their native homes are maintained pure, while dairy breeds are rarely crossed. It is only for the butchers' use that the stockman practices crossing. The people do not have grade stock in the sense generally understood in America. Years ago I spent a most interesting day with Mr. George Adams, who owned 500 Shorthorn cows , which were used for furnishing milk for the London market. In reply to the question, "Are your Shorthorns purebred?" Mr. Adams said: "They actually are pure-bred. For a great many years I have bought no females and have used pure-bred registered males, so that my cattle are just as pure-bred Shorthorns as those of registered herds." That was, in fact, true, but here in America we would call this a grade herd.

The European breeder has a high standard of excellence. As a rule, he has the instinctive sense of a judge of animals, and he culls out his herd, so that under usual conditions much uniformity prevails among the animals. One does not find the wide extremes so common in the American herd or flock. All American visitors are impressed with this superior excellence of foreign herds.

If the breeder emphasizes the need of uniformity and merit in the females, he is sure to put a distinct premium on the males to head the herd. Foreign governments have been so impressed with the value of the high-class sire that they have not only offered great attractions to breeders to produce males of real merit, but they have also put restrictions on their sale, so that they might be retained, at least for a time, to the benefit of the herds of the country. This policy, in the hands of either the government or of the breeding association, has done much for some of the breeds, and particularly in Belgium, France and the Channel Islands. In fact, at the present time the British government is spending a consideable sum of money annually in promoting the use of superior sires. The French government for much over a century has expended a great sum of money each year for stallions and for their distribution over France. Prior to the present war, France had in her government studs and depots in different parts of the republic in public service something like 3,000 stallions. Each year the government has bought, at high prices often times, many of the best prize winners at the shows, to be dedicated to the public studs. No wonder the people of France have the best horses in the world when we take everything into consideration.

The European stockman as a rule selects his sire with a view to his special needs. He is a discriminating buyer, and does not hesitate to pay a high price as values go in his community. He recognizes that in general worthy animals are not cheap. Yet in Europe speculative, sensational prices are very rarely heard of. A friend of mine living among the hills in the border country of Scotland purchased at a sale in his neighborhood a Cheviot ram for about $600. He was a large breeder of these sheep and wanted this ram. Yet we have but few breeders in America who would pay over $50 for a Cheviot ram, and at no time in our history, in all probability has a breeder paid more than $100. Yet these figures are common in Scotland.

Perhaps the most important characteristic of many European breeders is to give a valuation to the chief sire in the herd that is not measured by money considerations. The breeder regards the sire as fundamental to the upbuilding of his herd and to the maintaining of his reputation as a breeder. And so he persistely refuses to price his animal. Americans have repeatedly attempted to buy breeding animals in Great Britain where no offer would tempt the owner. A friend of mine of very large means, who could well afford to pay almost any price, took a great fancy to a heifer at a Scotch show, and tried to buy. He made various large and tempting offers to the owner, but after each offer the reply was, "No! No! I dinna care to spare her." This is not an isolated case. It has been repeated many times in Britain.

In a consideration of a few of the factors that have been instrumental in the development of live stock abroad one should not overlook the importance of the instinctive love the foreigner and more especially the Britisher has for his farm animals. His life is one of unselfish devotion to his dumb beasts. The caretaker of the herd of every degree finds a pleasure in association with the animals in his care that is expressed in many thoughtful and kindly acts. No more tender, devoted and sympathetic lovers of the dumb beast are to be found than are to be seen guarding the herds and flocks of England and Scotland. No duty is so disagreeable as to deter one of these herdsmen from the thoughtful care of his charge. This explains very largely why those American agricultural colleges maintaining the most valuable and best herds of live stock place them in the direct charge of men of British blood or near ancestry. If one will but look about on the show grounds here in America, among the best herds and flocks, they will be surprised at the large number of English and Scotch lads in charge of the stock. Could there be a greater tribute to their worth?

Charles S. Plumb,
In Purdue Agriculturist.

[Professor Plumb is one of the best known live stock men in the country. He was formerly connected with Purdue, Indiana, University, but for the past several years has been head of the Department of Animal Husbandry, Ohio University.—Editor.]

WHICH IS THE MOST USEFUL WOOD?

There are about seventy-five woods that grow in the United States in quantities sufficient to give them importance in building and manufacture, and that are made into lumber for that purpose. In the event that some of these varieties should become extinct—the available supply should be entirely consumed—sometime in the remote future, which of the seventy-five, do you think, humanity could least conveniently do without? Which is the most useful wood we have—which serves the greatest number of persons for the widest variety of uses?

Few persons could answer that question in an off-hand guess. Many would say oak, because it is proverbially strong and dependable, and serves a great number of needs in building and manufacture, as well as having an established reputation for excellence as fuel. Some might mention hickory, or walnut, or ash, or fir, or redwood, or elm, or birch, or cypress—all have many uses and all are consumed in enormous quantities. But none of those is the wood in question.

The most useful wood that grows in America is Southern Yellow Pine, "the wood of a thousand uses." Not only is Southern Pine adapted to a greater variety of uses in building and manufacture than almost any other wood, but its by products, aside from the most important purpose of making lumber, are remarkably varied in their nature and application. So intimately is yellow pine and its products associated with the daily life of humanity that very few persons have any idea of the many ways in which it serves us. In city or country, day and night, whatever, our occupation or condition in life, Southern Yellow Pine is contributing something to our well-being, literally "from the cradle to the grave." Ordinary household and commercial uses of yellow pine we are familiar with—its use in furniture, house building, farm construction, implement manufacture and repair, bridge building, street paving, cars and other vehicles in which we ride. Many of us know that it is among the most important of woods used in shipbuilding, for ties and tresles in railroad building, and that it is extensively employed in the making of equipment of our play—outing goods and musical instruments. It even supplies wooden limbs to replace those we may lose in the vicissitudes of this life, and wooden caskets in which to bury us when we depart finally. But in addition to these more or less well known uses it has many others which you probably never would suspect. For instance the paper on which this is printed may be made of southern yellow pine—much of it goes for that purpose. The carpet your feet rest on may be southern yellow pine—southern pine needles undergo a process that transforms them into a fabric extensively used in coarse weaving and in upholstery. If you scent a disinfectant in the air it probably is one of several extracts from southern pine. If you catch a cold, rub your chest with turpentine (a yellow pine product) and lard, and swallow a little pine tar syrup (another yellow pine product).

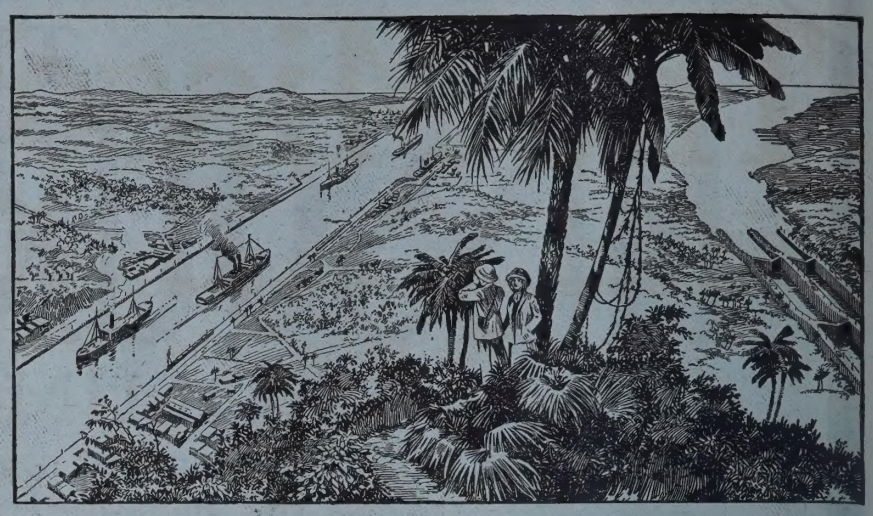
Among the by-products of the Southern Yellow Pine forests are: pine tar, pine oil, pitch, charcoal, turpentine, resin, excelsior, paper, pine wool (used in weaving fabrics), pyroligneous acid, terpinol and an extract or distillate of the wood used in the manufacture of synthetic camphor. Pine oil is much used in the manufacture of varnishes and eventually may supplant linseed oil for use in paint.

So varied are the uses of Southern Yellow Pine that 36 per cent of all the commercial lumber consumed in the United States is that wood. More than 2,000 sawmills operate every working day in the year, sawing up logs to supply this demand for southern pine. And great shiploads of it are constantly going across the ocean, even in this time of war in Europe, to supply the demand for it in other countries.

Henry Schott.

Earn a Fine Piano

The Missouri Farmer is offering a beautiful Piano as a subscription prize to some ambitious farmer girl in every community in Missouri. Write at once how old you are, how far you live from your postoffice and in what direction. Also whether, if we give you the first chance in your neighborhood you will make a real hard fight to win this beautiful prize. We will consider it a great favor if housewives will bring this matter to the attention of some bright girl in their neighborhoods.



The Price of Progress

THE Panama Canal stands as one of the most marvelous achievements of the age. Into its construction went not only the highest engineering skill, but the best business brains of the nation, backed by hundreds of millions of dollars.

Suppose conditions not to be foreseen made it necessary to replace the present canal with a new and larger waterway of the sea-level type, to be built in the next ten years.

Also suppose that this new canal would be the means of a great saving in time and money to the canal-using public, because of the rapid progress in canal engineering.

This sounds improbable; yet it illustrates exactly what has happened in the development of the telephone, and what certainly will happen again.

Increasing demands upon the telephone system, calling for more extended and better service, forced removal of every part of the plant not equal to these demands. Switchboards, cables, wires and the telephone instrument itself were changed time and again, as fast as the advancing art of the telephone could improve them.

It was practical to do all this because it greatly increased the capacity of the plant, reduced service rates and added subscribers by the hundred thousand.

In ten years, the telephone plant of the Bell System has been rebuilt and renewed, piece by piece, at an expense exceeding the cost of the Canal.

Thus the Bell System is kept at the highest point of efficiency, always apace with the telephone requirements of the public. And the usefulness of the telephone has been extended to all the people.

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One Policy *One System* *Universal Service*

The Missouri Farmer

VOLUME VII JULY 1, 1915 NUMBER 13

The Farm Tractor Will Find a Place on the Farm

By Geo. B. Ellis, Managing Editor

The farm tractor is finding a more general use on the farms of this country every year. It would not find favor among farmers unless it filled a want. A few years ago when the automobile made its appearance there was a lot of prejudice against the "gasoline wagons" because it was thought by some that the automobile would eliminate the horse. Certainly some horses have been displaced by automobiles but there are a greater number of horses in the country today than when the automobile was first invented, and the horses are better in quality and worth more in price. When I was a boy it required two strong men to cut and bind two acres of wheat in a day. Today a fifteen-year-old boy and three good Missouri mules aided by a modern self-binder will cut and bind six to eight times as many acres of wheat as the two men could do forty years before. The two men harvesting wheat in the good old way needed but little capital but they needed a lot of time if they had much wheat to harvest. Today one man or a boy using an equipment of machine and horsepower costing $600 or $700 will do what it required twelve men to do under the old regime. But that is not all. Any one who has followed the old scythe and cradle in the harvest fields knows that enough wheat was wasted to have more than seeded the ground for another crop. It is at least safe to say that compared with the old method of harvesting wheat with scythe and cradle that the self-binder pays for itself in grain saved when it has harvested two hundred acres. In the early days of the self-binder many a farmer bought a machine on time, paid for it in the saving of grain and labor and saved his own health and strength in the bargain.

Horsepower Expense Has Increased

We hear men today offering some of the same objections to the farm tractor that have been made against practically every improved machine now in common use on the farm. One of the first objections urged against the farm tractor on the medium size farm is that it costs too much. That objection had some weight a few years ago when the farm tractor was a large, cumbersome and expensive machine that could be put to practicable use only on very large farms, but as horses and mules have advanced and as the cost of feed very greatly increased the expense of keeping farm teams, manufacturers have improved their opportunity and have built farm tractors suited to the medium size farm and at a moderate cost. The farm tractor is not going to displace horsepower on the farm, at least not for a long time yet, but it is here to supplement horsepower and to do work that the horse can not do.

One of the first advantages of the tractor over the horse is in the saving of labor and expense when not in use. It costs a great deal to keep a horse when hay is worth $10 or $12 a ton and corn 60 to 70 cents a bushel. If we could work our horses in winter and let them go idle in summer we could greatly reduce the cost of keeping by turning them on pasture, but unfortunately for this we have little use for horses in winter time when they must be fed hay and grain and when spring work comes on they must be fed hay and grain and we can not escape the heavy expense.

After the tractor has plowed through the long hot July and August days it is ready to pump the water, grind the feed and saw the wood without grumbling. The above tractor is an "Avery" made in Peoria, Illinois.

The Horse Eats When Idle

A recent investigation made by the University of Missouri gives the cost of keeping a horse in this state as $88.33 a year. This cost represents actual records kept on fourteen farms with seventy-four horses altogether. Counting up this cost against 312 work days in a year we have a daily charge of more than 28 cents for keeping a horse whether idle or at work. On 20 farms records were kept showing the time the horses were employed and the time they were idle. Counting ten hours to the day the horses on these 20 farms were at work 112 days and were idle 200 work-days. If in place of the horses we use the tractor, a small tractor that will do the work of five horses, then for every idle day we effect a saving in expense of $1.40 less the interest on the cost of the tractor.

The Tractor Never Tires

The last decade has seen a marked progress in the use of draft horses for farm work and a corresponding decline in light horses. This has been brought about by necessity. The larger use of machinery displacing hand labor, the use of larger machines, and the knowledge of the value of deeper plowing and better tillage have all contributed to the displacement of light horses by draft horses. For these same reasons the farm tractor will find its place on the farm. While the depth of plowing is not yet a matter of exact knowledge we do know that at least an occasional deep plowing is a good thing on most soils. Deep plowing brings up added fertility, gives greater water storing capacity, affords better drainage and aeration, all of which aid in producing bigger crops. When the ground is dry and the days are scorching hot there are few plowmen so inhuman that they will not lower the clevis a notch or two to lighten the burden of an overworked faithful horse.

The oil tractor is the world's greatest plowman. The deep, smooth furrows are a pleasure to the lover of good farming. The above machine is one of the many tractors made by the International Harvester Company of America.

How many farmers using horses for power who will plow seven to nine inches deep when the ground is dry and hard in July and August? Not many, I should say. At the Kansas Experiment Station it has been proved by three-year trials that land plowed 7 inches deep on July 15 produced 6.34 bushels of wheat an acre more than land plowed on the same day and treated in the same way except that it was plowed only 3 inches deep. These trials run through the years 1911, 1912 and 1913. For the year 1913 the difference in favor of the deep plowing was 13.38 bushels an acre, an amount that would practically double the wheat yield of this country.

Early Plowing Doubles Wheat Yield

Most good wheat raisers realize the value of early plowing and thoroughly working down the seed bed but owing to rush of other work and the need of the horses for finishing corn cultivation, haying, etc., it is not always possible to neglect the other work and do the plowing at the right time. Here is where the tractor will serve the wheat raiser to good advantage. In the series of trials above mentioned at the Kansas station, land plowed September 15th to a depth of 7 inches produced an average for the three years of only 14.15 bushels as compared with 27.11 bushels on the field plowed July 15. This is a difference of 12.96 bushels per acre, and it would not take a very large acreage of wheat at this difference to pay for a good farm tractor outfit.

The early plowing of stubble ground and frequent cultivation of the seed bed has been mentioned in frequent articles in The Missouri Farmer as a means of preventing damage from Hessian fly. The Hessian fly does not feed very generally on any other crop except wheat and where the wheat stubble is plowed deep and plowed early and all volunteer growth of wheat kept down the fly damage is reduced to a minimum.

Another decided advantage of the tractor is that in emergencies it can be worked 15, 18 and even 24 hours a day without injury. Ten hours is a good days work for a horse and twelve hours about the limit but by crowding the gas tractor through long hours for a few days the plowing may be finished in the best time and the job is out of the way of other work on the farm. Often the time for plowing wheat ground is the very hottest season of the year and under such

conditions horses can do little more than half work, but hot weather is no handicap for the tractor. The driver can ride very comfortably in the shade while the tractor will move along all day indifferent to the scorching rays of the sun.

An item of more importance than usually recognized is the labor necessary to care for work teams both when they are at work and when they are idle. The farmer who uses a team of four or five horses to do his farm work does not need to be told that it requires a considerable amount of time and energy to go to the barn, feed his horses, groom them, harness them, water them and get them ready for the day's work. In comparison the farm tractor may be utilized morning, noon and night to lighten the farmer's labor. While the farmer is eating his meals the tractor may be utilized to pump water for the cattle or to grind the grain for the hogs. On

The Bates Steel Mule, Joliet Oil Tractor, Company, Joliet, Illinois

bad days it may be utilized to saw the wood, drag the roads and in season will drive the ensilage cutter and fill the silo. The farm tractor has already demonstrated its value in the economy of farm management and other work will be found for it to do as its use becomes more general.

The farmer who is planning to buy a tractor should investigate carefuly, buy of a reliable company and buy only that machine which the company is willing to back with a good guarantee. If the company is responsible and gives a good guarantee of the quality of work the machine will do, the buyer is taking no risk when he gives the tractor a trial. A prominent manufacturer gives this advice to buyers: "In buying a horse, you consider first the quality of the horse and then the price. So in buying a machine you should consider first the quality of the machine and then the price. * * * It is not by any means always the most advisable thing to buy the cheapest horse, and the same applies to machines. It is a question of getting the biggest dollar's worth of value for your money, rather than the exact amount of money you invest." This is sound advice for the man who is buying any kind of a machine. The life of a machine and the quality of the work it will do will determine its worth in the end and these are the first things to consider when you are ready to buy a farm tractor.

Those who object to a greater use of labor-saving machines on the farm should ponder over this fact: The best arranged, best improved and most profitable farms in about nine cases out of ten are the farms where the latest improved farm machinery is utilized to its fullest extent.

FEEDING THE UNBORN PIG THE ALFALFA WAY

How shall we winter the brood sow most economically and efficiently so as to have strong, lusty litters of pigs that will "save" and suckle well in the springtime? The answer is to use largely corn plus alfalfa. Of course common salt should be allowed by all means, giving the sows free access. Wood ashes are a most excellent swine feed, and prairie farmers are unfortunate in that they have so few of them. But cob ashes are good, and charred cobs are of exceptional value because they furnish a form of charcoal, that hogs relish and do well with.

At the Iowa Station we have had considerable favorable experience with alfalfa as a brood sow feed. In the year 1910-11 we fed some gilts, five in a lot, the figures on the most important groups of which follow:

USE ALFALFA WHEN FEEDING THE BROOD SOW
Results of Animal Husbandry Section of Iowa Experiment Station

Ration Fed	Av. Daily Gain	Average Feed Eaten Daily: Corn—(Shelled Basis)	Supplement	Size of New-born Pigs. Wt. Av.	Strength of Pigs: Strong %	Medium %	Weak or Dead %	Feed Cost of a new-born pig—cents
Ear Corn only..	.35	3.65	none	1.74	68	16	16	41
Ear corn plus 13% tankage..	.63	2.75	.43	2.23	93	5	2	22
Ear corn plus alfalfa in rack	.63.	3.74	1.11	2.29	89	8	3	26

In making these charges on the new-born pigs we figured corn at 50 cents a bushel (shelled basis), tankage or meat meal $50 a ton, and alfalfa hay at $10. The surplus gain left after farrowing as compared to the time of breeding is credited in all cases at $5 a hundred pounds. Thus the costs given are really net feed costs, crediting the gain value. The charge on the gilt as a breeder begins at breeding time.

Gratifying, is it not, to note that the **unborn** pigs fed corn and alfalfa through the dam came strong, of good size at a relatively low cost? Generally speaking, loose alfalfa on the farm is not valued at $10, the charge made. Any reduction from this figure will lessen the cost of the corn-alfalfa produced pigs, making it less than 26 cents. The corn alone pigs cost 41 cents each, and many of them were dear at 20 cents, light coated, small "boned," weak "voiced," miserable creatures of a fateful destiny that they were.

Meat meal tankage, even though costing $50 a ton, is a relatively economical feed to balance corn with because of its great effectiveness per pound of weight. It is very, very rich in exactly the materials that corn is poor in. Furthermore it contains a minimum of starchy like elements so abundant in corn, and this is well. Why haul back to the farm that which you already have an over-supply of, such as the starches?

What happened in 1913-14 with the rations, including alfalfa, which we fed? Here are the Ames figures on the same:

EFFECT OF RATIONS FED GILTS ON RESULTING LITTERS

Ration	No. in Litter	Size and Av. Wt.	Av. Circumference of shins, fore and hind, inches	Strength of Litters Average 100—perfect
Corn only	5.6	2.12	1.86	79
Corn plus 200% buttermilk	9.8	2.23	1.85	88
Corn plus 140% ground alfalfa	9.6	2.19	1.86	88
Corn plus alfalfa rack	7.6	2.13	2.00	92
Corn plus 10% meat meal	8.8	2.48	2.01	95

In spite of the fact that the "corn sows" protected themselves (and the word "protected" is used advisedly) in that they fertilized but 5.6 ova on the average, yet the pigs are not as large, nor so strong as when suitable and efficient supplements are used. Buttermilk, meat meal and alfalfa, ground or whole, are superior supplements to corn grain. Salt was allowed at free will, all lots.

The feed eaten and gains on these gilts ran as follows:

SUPPLEMENTS FOR CORN SHOW GOOD GAINS

	Average Daily Gain	Corn Grain	Supplement	Costs per day at 5 cents crediting gains
Corn only	.37	4.11	none	1.82
Corn and buttermilk	.51	2.84	5.83	1.45
Corn and ground alfalfa	.50	2.11	3.00	1.49
Corn and whole alfalfa	.50	3.94	.48	1.26
Corn and meat meal	.49	3.24	.33	1.27

*Corn 50 cents (if ground 53 cents a bushel); buttermilk 25 cents cwt.; alfalfa $10 (if ground $12); and meat meal $50 a ton.

It is quite suggestive that all gilts receiving supplement to corn should make cheaper maintenance figures—suggestive that corn as the lone grain is inefficient physiologically (low gains) as well as economically (highest maintenance cost of all).

That the meat residue called tankage or meat meal should do so well is not particularly surprising because in all feeding trials at the Iowa Station it has uniformly been of much merit. The $50 a ton looks **big** but the superiority of the animal feed is not to be questioned. A happy combination of alfalfa and meat product should be ideal in physiological as well as economical virtues. This is especially sifinificant if alfalfa is worth more than $10 or $12 a ton.

We have experienced some difficulty in getting some sows to eat sufficient alfalfa out of the rack in order to insure the "kind of litters hog men want"—hence the reason of our grinding procedure. The ground alfalfa mixed with ground corn most assuredly is a "sure shot" mixture, and one worries little about a lack of consumption under such a regime of feeding. One year our yearling sows farrowed weak "corn alone sort" of litters because they simply ignored the alfalfa in the rack, good quality though it was. This word of caution may not be amiss: Be sure your gilts and old sows carrying litters eat at least a half pound, better over a pound, of alfalfa daily; otherwise, if the deficiency is not remedied somehow, there'll be regrets expressed on farrowing day.

Corn, alfalfa and meat meal tankage should make a very exceptionally good trio of brood sow feeds if happily combined. A suggestive ration which would be quite economical would be to give the sows, gilts and older ones, enough corn to keep them in good condition, adding alfalfa in a rack and giving them about 1-5 to 1-4 pound of meat product daily. The alfalfa may be ground and mixed with corn, say 100 pounds corn to 100 pounds alfalfa, and same allowed in a self-feeder. An average gilt of 250 pounds will eat about 5 to 6 pounds of this daily, so to get the necessary tankage into it mix with every hundred about 5 pounds of this meat product. If the sows get too fat, increase the proportion of ground alfalfa accordingly—the results should be happy ones at farrowing time. Don't forget the common salt at free will, and plenty of good wholesome water.

John M. Evvard and Russell Dunn,
of the Iowa Experiment Station.

NEXT YEAR'S WHEAT CROP

Whether or not any particular farmer will find it profitable to grow wheat at all is to be determined only by himself. While upon the whole we think statistics will show that live stock farming is generally more profitable in Missouri than wheat raising, yet there are few farms where wheat does not fit in nicely occasionally to keep up the rotation, to furnish a nurse crop for seeding timothy and clover and perhaps a minor consideration is to grow a crop that will pay its way and at the same time furnish bedding for the live stock. The latter is perhaps of more importance than most farmers realize when it is known that about one-half the value of manure is in the liquid form and without a liberal supply of bedding most of this part of the manure is wholly lost.

But this article is not written to encourage farmers to sow or not to sow wheat but for those who are going to sow to try to point out how they can improve upon the ordinary methods of growing wheat and increase the chances for a bigger yield The writer realizes that there are many difficulties in the way of doing everything at the right time on farms where a mixed system of farming is carried on but possibly if we knew just how much more profitable it generally is when growing a crop of wheat to do certain things on time we could find a way to do it even at the neglect of other work. A difference in methods that will make a difference in yield of six to ten bushels per acre is worthy at least a careful consideration and some extra effort to bring about.

The best wheat raisers in the winter wheat belt invariably understand the value of a good seed-bed in raising wheat, yet in passing through the country most any season any observer will see that much of the crop, generally the bulk of it, is planted on land poorly prepared. It is not only necessary to have the soil fine but it must be thoroughly settled with a couple of inches of mellow surface for planting the seed. This condition can not be obtained in a day or a week but it requires considerable time and hence the necessity for early plowing. The experiment stations did not discover the fact that early plowing was best for wheat for good wheat raisers had learned this long before the first experiment station was established in this country.

But some of the stations have by numerous careful and accurate tests proved that early plowing for wheat will produce a bigger yield than late plowing. Another fact that has been

discussed for at least fifty years among wheat raisers is that it is better to sow wheat in rotation with other crops than to sow it continuously on the same field for a number of years. Farmers have learned this fact by experience and observation and the experiment stations have proved it and have given us the scientific reasons for it. In the face of these facts we find some farmers who persist in sowing wheat after wheat for a number of years on the same land and then when disaster comes they wonder why insects are getting worse and other causes prevent them from getting the yields they once did.

Now as to the difference between early and late plowing for wheat, the Kansas station has found as a result of numerous trials that land plowed in July produced 2.12 bushels per acre more wheat than land plowed in August. In some cases the difference was greater but this was the average of all trials. A man sowing twenty-five acres would on this basis earn 53 bushels of wheat by getting his land plowed in July rather than waiting until August and the longer he waits after July the greater will be his loss. The trials at this station gave 15.23 bushels per acre more wheat on land plowed in August than the same kind of land produced which was plowed in September. And so it is that the man with twenty-five acres for wheat will have 380¾ bushels more wheat if he will crowd his work and plow the land in August rather than wait for the hot days to pass and plow it in September. If we compare the July and September plowings there is a difference on this basis for twenty-five acres of 434¾ bushels which is more than some farmers get for their whole year's work. As we have already stated farmers can not always let their work of plowing corn, making hay, etc., go undone, but for this amount of extra pay they can afford to put on a little extra labor or work a little over time to get the wheat land plowed early.

The depth of plowing is not so important as the time of plowing and yet it is necessary in whatever system of farming we adopt to occsaionally, that is once in every four or five years, to plow deep. Where a rotation is followed there should be at least one deep plowing during the four or five years of the rotation.

Early plowing for wheat has another advantage and that is that it is the best plan for the control of the Hessian fly. For this purpose, however, the ground must be kept thoroughly cultivated and all volunteer wheat kept down. The early plowing will turn under the fly while yet in the "flax seed" stage and thus destroy most of them and if the ground is kept thoroughly worked and no volunteer wheat allowed to grow there will be little danger from fly in the next crop unless they come from some other field.

Another matter of importance in growing wheat is proper fertilization even on land in a good state of fertility the right kind of fertilizer will usually pay a profit. Fertilizers not only usually increase the yield directly but by hastening the ripening a crop may be saved from rust or damage from a wind storm and by stiffening the straw a fertilizer may save a crop from lodging and serious loss. The kind of fertilizer to use will depend upon the type of soil as well as the way the land has been previously handled. One thing is certain, however, and that is that a high grade fertilizer bought from a reliable manufacturer is always to be recommended over a cheaper grade. Where a brand has been used in the neighborhood with good results it is generally safe to use it, and it may save the farmer money to write the experiment station for suggestions before buying.

THE ONE-MAN TRACTOR FOR EVERY MAN'S WORK

Judging the significance of an invention by the number of people whose lives are affected by it, the self-binder has never had a serious competitor for first honors in the field of agriculture invention. Through its influence on the price of bread and other grain foods, the harvesting machine has influenced the life of every individual. Without it, practically the entire population would be required at harvest time to gather sufficient grain for the year's food supply.

Now comes another development which bears the traits of an epochal invention and which, it seems probable, will be second only to the binder in economic importance.

With the appreciating cost of horse flesh, of feed, of farm help, and of interest charges on land, the cost of producing crops has lately become so considerable as to imperil farm profit. According to figures issued by the Department of Agriculture based on a test of 5,000 typical farms, the average cost of raising an acre of wheat is $11.15, of which the labor item is $5.38. When it is considered that the ten year average farm value of an acre of wheat to the Montana farmer is $19.98, the serious nature of farm labor costs and the small margin of farm profits become apparent. Carrying these figures out for oats, the average cost of production per acre is $11.91, with the labor item $4.73, and the ten-year average value $18.90.

In examining into the causes of this situation, it becomes evident that most of the blame may be attributed to the inefficient character of horse power. F. L. Peterson of the University Farm, Davis, California, has estimated that a horse must be fed and cared for 9,000 hours for every 1,000 hours it serves, and that one acre out of five under cultivation is required to provide feed for the horses and mules. The thermal efficiency of the horse is quoted as not more than six to ten per cent.

A remedy which for some years has been applied successfully to the farm of many acres is the substitution of oil for horse power. Some of the large farm machine companies have spent millions of dollars in perfecting tractors which will consume cheap fuels and which will apply to the multiplicity of farm tasks. The success with which this substitution has been made was discussed by the Kansas Farmer in its issue of January 9, 1915. This publication estimates that 79 per cent may be taken from the cost of belt work by the substitution of a tractor for horse power, 69 per cent from the cost of hauling wheat, 56 per cent from the cost of plowing under ordinary conditions, and 23 per cent from the cost of harvesting.

"Our figures are only comparative," says the Kansas Farmer, "but they will serve to show the saving a tractor makes, and whether costs (in different localities) are higher or lower, we believe our percentage will hold."

The presence of such optimistic achievements by large tractors on large farms impels the conviction that the application of oil power as a tractive and motive force to the small and medium sized farm will affect the costs of producing the world's food and enhance the profits of the world's farmers. The development which has made this application possible is the one-man tractor with a grip on the earth of eight mechanical horse power and a driving force of sixteen horse power at the belt. The tractor is 4 feet 8 inches wide, about 5 feet high, weighs 5,000 pounds, and has a wheel base of 90 inches, which is less than the average automobile. The tractor can turn in a circle with a radius of 10 feet, which enables a farmer to plow practically every inch of his field. The danger of packing the soil with the machine is negligible, as its weight per square inch on the ground is only 10 pounds as contrasted with the weight of a horse which is 20 pounds. The tractor has three forward speeds of 1 4-5 miles, 2 miles, and 2½ miles per hour.

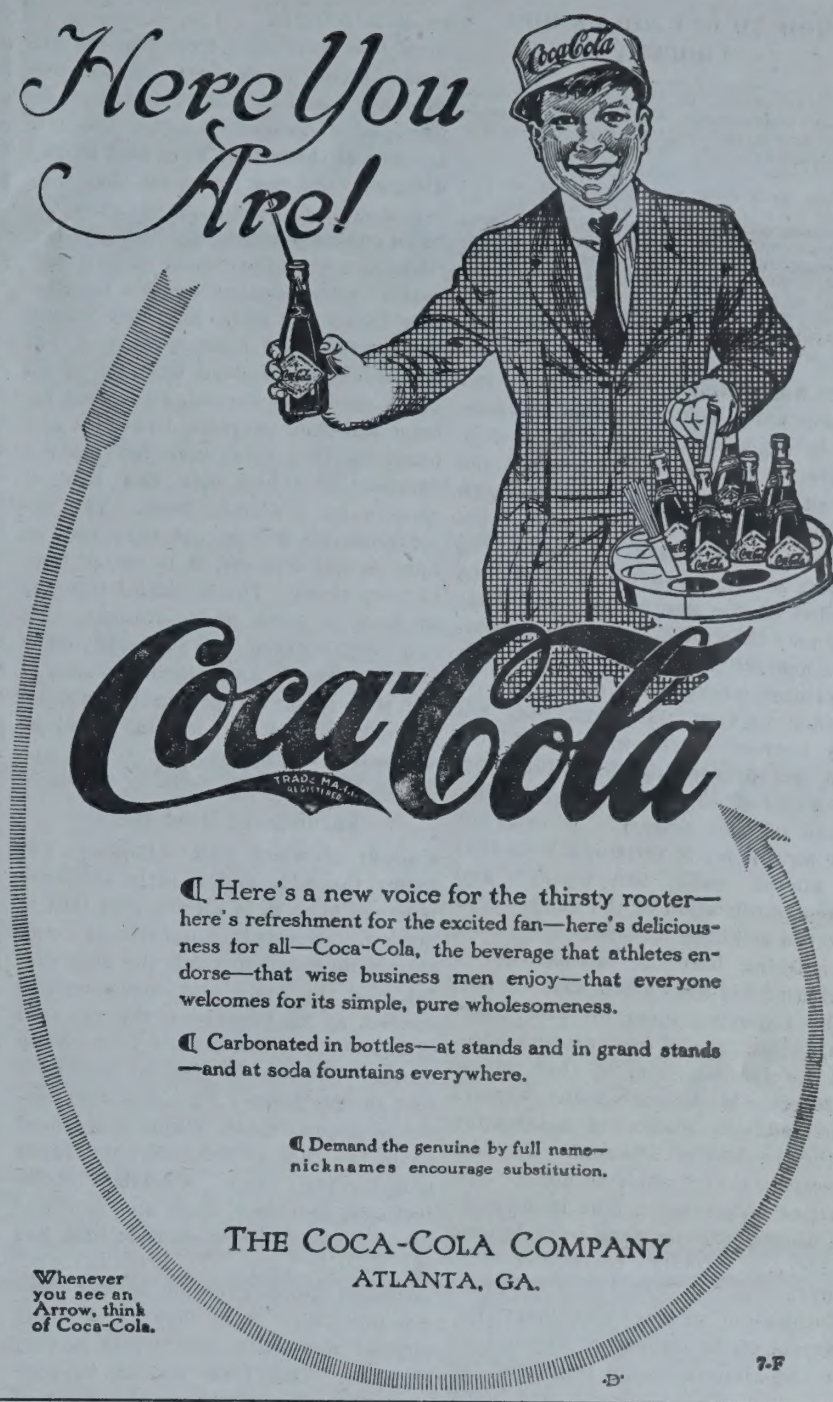
The 8-16 horse power tractor will pull two 14-inch plows, and in doing this work will consume not to exceed four gallons of kerosene per acre. The drawbar activities extend to all the processes connected with planting, harvesting, threshing, and delivering the grain and hay crops, with the possible exception of cultivating corn. It will draw disk harrows, manure spreaders, binders, corn-binders, mowers, hay loaders, drills—all machines which are drawn by horses.

In addition to supplanting the horse at the drawbar, this tractor will operate every machine on the farm to which a pulley and belt can be attached. It will drive a small thrasher, an ensilage cutter, a feed grinder, or a sheller. It will run an irrigation pump, operate a husker and shredder, and furnish power for every machine on the place. It will go from one task to another from the week's or year's beginning to its end, and is no respecter of its work. In view of the fact that it does so great a variety of work which horses could not do, it would not be necessary for it to supplant a great deal of horse power in order to pay for itself. It will supplant this horse power, however, and substitute a highly organized, highly efficient form of power for the one which has been consuming the farmer's profits.

The fuel equipment of the 8-16 H. P. tractor is characteristic of the way it has been planned and manufactured as a money saver to the farmer. It will burn gasoline, kerosene, and distillate equally well, thus enabling the individual user to take advantage of the fuel which is cheapest in his community.

The 8-16 H. P. tractor is not a large tractor made small, but it has been devised and created as a distinct development. Its mission is to universalize oil power and make it adaptable to the farm of the common man. For the first time in history, oil power has become generally available, and the machine which has achieved this may justly be termed one of the most significant inventions of the age.—George F. Whitsett of the International Harvester Company of America.

About the best way we know to beat the wheat speculators is for farmers to stack their wheat and let it dry out thoroughly and then it can be kept until the market suits.



HOW TO GET RID OF HOG CHOLERA

J. W. Connaway, D. V. S., M. D., Veterinary Department, College of Agriculture and Experiment Station, University of Missouri.

[This article is a continuation of the article in our June 15 issue and will be continued until the whole subject of hog cholera control is thoroughly discussed. We suggest that every swine raiser who reads The Missouri Farmer should file away all these papers containing this article and they will then have the most valuable treatise on hog cholera that has been published.—Editor]

(2) **Notification:** Publicity is an important aid in the prevention and control of hog cholera. And it is the duty of every swine raiser to prevent the spread of the disease from his own premises in every way he can, if the disease should attack his herd. The owners of adjoining farms should be notified of the danger, in order that they may take all the precautions possible against the disease. The simple precaution of removal of a herd to another part of the farm, may not only prevent losses in a neighbor's herd, but prevent the formation of a new focus of infection, for the further spread of the disease. A neighbor may have a lot of fattening hogs that are almost ready for market, and prompt notification of the danger may save the neighbor hundreds of dollars, by showing him the advisability of marketing his hogs a few days earlier, or by removing them to safer quarters, in the case of his breeding hogs, and vaccinating them if that seems advisable. In the past, many farmers neglected this matter of notification of the neighbors, although the law prescribes that it shall be done. The spirit of co-operation that is developing among the farmers to help one another, is rapidly correcting this matter.

Notification of the Veterinary Department of the College of Agriculture that hog cholera serum is needed for the control of the outbreak will bring a response from that department with sufficient serum for the purpose, and such instruction and official aid as lie in the province of that department. The new $50,000 serum laboratory will enable the department to meet promptly every proper demand for serum.

In the event of the infraction of the laws, relating to the disposal of hog cholera carcasses, or when services, requiring the application of official quarantine or veterinary police measures are necessary, the State Veterinarian should be notified; as it is the function and duty of this officer to investigate and prosecute such infractions. Or the prosecuting attorney of the county may be notified. Every neighborly effort to correct illegal and dangerous practices, or negligence, should be exhausted before resorting to drastic measures. Our experience with the plan we have in operation shows that resort to law is rarely necessary.

(3) **Disinfection:** One of the most important matters for the farmers to consider in the work of preventing and eradicating hog cholera is that of "disinfection." Precautionary measures in the way of a frequent "clean-up" of the feed lots and hog houses, and a proper disinfection of the same are advisable, and especially at times when cholera is prevalent in the district. The destruction of the seeds of the disease, or virus of hog cholera, is essential to success in eradicating hog cholera. The oldest and most efficient means of destroying disease germs is fire, and it is especially recommended for the destruction of hog cholera infection. The carcasses of hogs that have died from cholera are particularly dangerous, as disease producers, and should be destroyed by fire. It is obligatory under the law to **burn all hogs that have died of any disease.** The law presumes that they are capable of producing outbreaks of some contagious disease. The old law that permitted the burial of hog carcasses was repealed by the Legislature two years ago. Not only should the carcasses of hogs be burned, but the carcasses of dead animals of all kinds should be burned, since they attract infection carriers, like dogs and buzzards that may have fed upon a carcass of a hog that has died of cholera on a distant farm. The destruction by fire of the carcasses of hogs is not difficult, it is easier than to bury them. The essential thing is to have a good under-draught, this can be secured by scooping out a shallow trench and placing across it a few bars of scrap iron to hold up the carcass; an old mower wheel or a discarded iron harrow frame answers the purpose well. A small

Burning the Dead Hogs

amount of wood and kindling put under the hog, and a little kerosene pourned over it, is all the fuel that is needed. Several longitudinal cuts should be made through the skin and fat, and the belly and chest cavities opened so as to expose the internal organs to the heat, turn the belly down. The fat in the carcass adds fuel to the flame. Fire however cannot be applied under all circumstances as in the case of infected barn yards and feeding pens. **Chemical disinfectants,** therefore, have an important place. Among these, **caustic lime** has the highest value, for practical purposes, in the destruction of hog cholera infection. It is cheap and easily applied, and when used freely is very effective. The lime should be purchased in the barrel, in the form of the unslacked burned limestone, and should be used freshly air-slacked. The head of the barrel can be removed and the lime-rock emptied on a dry place under shelter, then sprinkled slightly with water to start the slacking process. When slacked sufficiently to admit of scattering freely with a shovel it is ready for use. Infected feed lots should be disinfected as follows: Pieces of boards, rails, corn stalks, cobs and other rough litter lying around in the infected feed lots should be piled up on the middle of the lot and burned. Then lime should be spread thickly over the ground, so that the ground will look as if covered with a light snow. If large feed

Use Plenty of Lime

lots are to be covered, a lime spreader may be used. But a wheelbarrow and shovel answer the purpose well enough even for large feed lots. Keep stock off the ground for a few days then scrape up the manure into "windrows" by means of a two-horse board scraper (home-made). Scatter more lime on the windrows, and shovel the manure and lime into rounded piles, sprinkle more lime over these piles, and let them stand for a few days. The addition of a little water to these piles is advisable if the barnyard manure is dry This will start the slacking and heating process which will effectually destroy the hog cholera germs. The eggs and embryos of five or six different kinds of worms that commonly infest hogs, and occur in hog dung will also be destroyed by the lime. The manure and lime will help to sweeten and fertilize the soil, where you intend to start an alfalfa or clover field. The money spent for lime is not wasted. The cleaned feedlots should be covered again with another dressing of lime. The hog houses, cots and fences should be white-washed inside and outside with

Compound Cresol Solution

a hot lime-wash. The Compound Cresol Solution made according to the U. S. Pharmacopeia has been found by laboratory tests at the United States Bureau laboratories to be one of the most efficient chemical disinfectants for destroying hog cholera germs and may be applied in the form of a spray. Mix 1 pint to 3 gallons of water. This is useful in disinfecting wagon boxes and hog crates, and walls of hog houses. Lime, however, seems to be preferred by most farmers, especially for use on the grounds, and its reliability has been thoroughly demonstrated both by laboratory and field use. Besides it has an advantage over the cresol, and the ordinary carbolic stock-dips, in being of value to the soil instead of harmful. I may mention that one of the best swine breeders in the state was able to restock his breeding quarters within sixty days after having had severe losses from cholera. He used nothing but fresh air-slacked lime, but he did a thorough job. An experiment was made by the Veterinary Departmen of the Experiment Station in the disinfection of an infected pen, in one of the local railroad stock yards (a pen in which a number of hogs had died from cholera) this pen was treated to an application of fresh air-slacked lime. In a few days six pigs were turned into the pen, and fed there for three weeks. They did not receive any medical treatment nor special care, no symptoms of illness had developed at the end of the period. These same pigs were put in a clean pen for a few weeks at the State Farm for further observations; none showed any signs of cholera. Then, as a test of their susceptibility, they were exposed to infected pens at the serum plant. They promptly took the disease, and nearly all died. This experiment demonstrated that quick-lime or freshly air-slacked lime is an efficient agent in disinfecting badly contaminated hog lots in the stock yards.

Sunlight a Good Disinfectant

The ordinary carbolic dips and disinfectants are not as efficient, in destroying hog cholera infection as the Compound Cresol Solution, according to tests made by the U. S. Bureau of Animal Industry.

The thorough disinfection of large fields, pastures, and woodlands, by means of chemical disinfectants, such as lime and Compound Cresol Solution, is of course impracticable, yet such fields can be made safe for susceptible hogs. If hogs are kept out of infected fields for a sufficient time, the germs of the disease die out. The germs do not seem to have the power of growing outside of the body of the hog. Although the life of the germs may be conserved for awhile outside of the body if conditions are favorable. It has been observed that the hog cholera infection dies out more quickly in open fields well exposed to the rays of the sun than in moist, shaded places. The cholera germs on exposed grounds are killed quicker during the summer months than in winter. Strong sunlight is a good disinfecting agent for a number of disease germs, and among them hog cholera. It is advisable to put cattle, horses or sheep on the cholera infected pastures, and let them crop the grass closely, so as to give the grounds a good exposure to the hot rays of the summer sun. Hogs are not so liable to contract cholera in the large fields as in the smaller feed lots, since the infection would not be so concentrated, so far as the droppings from sick hogs are concerned. The more thorough disinfection of the large fields and pastures can be assured by making a search for carcasses of pigs, and for the bedding places that sick hogs have used. Fire and a little lime can be used to advantage in destroying the cholera germs in these.

The time required for the cholera infection to die out on large fields and pastures will vary with the conditions of weather and soil, and exposure to sun, as well as the degree of infection. Under the most favorable conditions large fields that have become infected will probably not be entirely safe for susceptible hogs under 90 to 100 days, though cases are reported where infected fields were apparently free from the infection in less time.

Every possible effort should be made to prevent large fields and pastures from becoming infected with cholera germs.

(To be continued next issue)

THE DAIRYMAN'S DANGER

The indications are that the foot and mouth disease is under control in this country at the present time. The expense of stamping out this dread epidemic has been enormous. There has also been much loss because of quarintine regulations prohibiting the moving of live stock. When we consider that this is the most contagious diease known among animals and the many sections of the United States in which outbreaks occurred, we should be thankful our losses were no greater. The disease was prevalent in three states adjoining but Missouri did not have a single case thanks to quarantine restrictions and their strict enforcement by our state authorities.

There was considerable falling off in prices at cattle sales during the winter and spring, due entirely to the foot and mouth trouble, but with the assurance of its elimination come better prices and an increased demand especially for dairy stock, and it looks as though normal conditions will soon prevail.

No doubt that a general realization of the seriousness of this malady with earnest and effective co-operation of all forces was the cause of getting such splendid results, and now the stock breeders should realize the seriousness of tuberculosis and contagious abortion in cattle in this country and make a united effort to rid our herds of these troubles. Neglecting to do this is causing the loss of hundreds of thousands of dollars annually, and as these diseases are contagious their prevalence will not grow less without effective efforts are made toward elimination. Probably the most common way of spreading these complaints is through buying what is supposed to be healthy cattle at sales. Too often these cattle are infected; they are turned with healthy cattle and in a very short time the contagion has spread throughout the entire herd. Buyers should exercise every care to know the cattle they buy are entirely free from communicable diseases.

E. G. Bennett,
State Dairy Commissioner.

FARM LOANS AND CREDITS

On the continent of Europe where farmers are able to get money at as low a rate as the government gets it, says Col. F. D. Gardner in a recent address, at the inception of land credit institutions these organizations were aided and are still aided by the government.

The earliest record of long time loans was the system established by Frederick the Great in Germany about 150 years ago, at which time he made an appropriation from state funds of $432,000.00. The latest is that of the English government which has floated one billion dollars worth of agricultural bonds, and this money is loaned to the Irish farmers at 3% plus ½ of one per cent per annum, or a total of 3½%, which amortizes or pays off the loan in 68 years. These are examples of the oldest and newest rural credit institutions abroad. In Ireland the rural population was formerly nine million, but under a system of tenantry, and the inability of farmers to secure money for the development of agriculture, the population decreased to four million. Since this new system was put into operation four years ago the rural population has increased by 500,000. The Secretary of Agriculture in Ireland told me that one million farmers had availed themselves of loans, and that the government had not lost a single cent because it in turn had re-sold the bonds on the market without loss to itself. This money, of course, has been deposited with banks and used for purchasing building materials, farm machinery, fertilizer, etc., and it has brought about general prosperity to all classes of people.

What would be the term of the loan under the Gardner Land Bank Bill? The law provides that the loan may be for five to twenty-five years. That the rate of interest will be 4.3 per cent with ½ of one per cent to be added to pay expenses and to create a reserve fund and that 1.7 per cent would be added on account of principal, making a total of 6½ per cent, which would retire the loan in twenty-five years paying off the interest and principal in full. Whatever expense there would be to the state would be taken out of the ½ of one per cent but there should be very little other than the cost of the appraisal and clerk hire, as the bank would be under the management of the State Bank Commissioner without additional salary.

It has been stated in a previous issue of The Missouri Farmer that a St. Louis manufacturer can secure money from New York at 3½ per cent while the farmers of Missouri are paying 8 per cent or more and that is true. The money that is now lying idle in New York was produced by the agricultural people of this nation. And yet this national government has failed to provide financial machinery whereby this money may be returned through the sale of agricultural bonds to the rural districts. In other words, the farmer may not have the use of wealth which he himself has created on equal terms with the merchant or manufacturer. We must all acknowledge that the wealth of the nation is produced from agriculture. Does it not follow, therefore, that the farmer should have the money on equal terms with any one else?

You ask, "What benefits would be derived from a state bank financed and controlled by the state?" The benefits would be simply this: The great sums of idle money now lying in the large financial centers would flow out into the agricultural districts. The National City Bank of New York has 325 million dollars; the National Reserve Bank of New York has 250 million, and so on. Money was never so plentiful in the large centers and never so cheap. On the other hand, it was never so scarce and never so high as at present in the rural districts, showing that an intermediary of some kind is needed, and that intermediary must be state bonds. The state does not guarantee the bonds. It merely loans the capital and manages the bank.

If through that process we can bring one or two hundred million dollars of new capital into the state do you not see the immense benefit it will be to all classes of our people? The money will immediately be utilized by the farmer for productive purposes. It will mean an increased yield per acre, increased tonnage for the railroads, increased deposits for the commercial banks, increased business for the merchant, and an increase in food supplies, which the large cities now need so much. It will keep the boys on the farm instead of their being forced to the cities to become strap-hangers and inmates of boarding houses. In addition to all of these benefits, it will prevent the large number of unemployed in the cities from forcing a collapse of the wage schedule, which, in my opinion, would be very disastrous to the country. With so many thousand men out of employment in the cities, how much longer can the laboring people maintain a high wage scale?

HEALTHY ANIMALS MAY SPREAD DISEASE

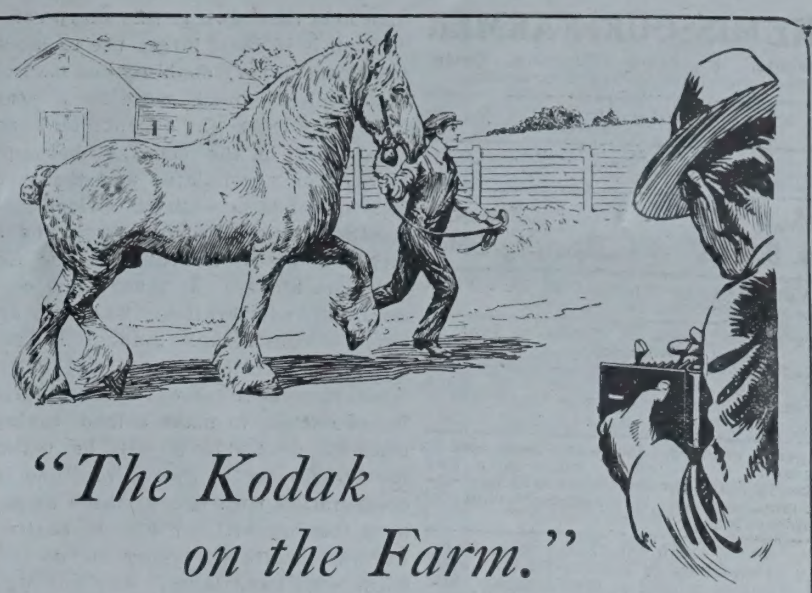
The medical profession has known for a long time that one of the menaces to which health is exposed is the infectious material often carried and unconsciously expelled by seemingly healthy persons and animals, but the true importance of this fact has begun to receive the wide recognition it merits only in recent years.

Today we know that many persons after recovery from typhoid fever continue to discharge typhoid germs from thier bodies and that such persons cause numerous cases of typhoid fever unless they are properly controlled, and we know that exposure to diphtheria, even when it does not lead to the development of disease, means that the exposed individual often becomes a carrier of diphtheria germs, which are located in his throat, a region from which they are expelled in a way dangerous to the health of susceptible persons. And we also know that this same problem of seemingly healthy carriers and disseminators of disease germs must be given careful consideration because of its bearing on the health of our domestic animals.

The possibility that animals may become persistent carriers of disease germs is not limited to any one or any kind of disease. For example, if we take three diseases, southern cattle fever, infectious abortion of cattle, and foot-and-mouth disease, we have one which is caused by an animal micro-organism, one by a vegetable micro-organisms or a true bacterium, and one by an undistinguished, probably ultramicroscopic organism or a germ too small to be seen, even with the aid of the most powerful microscope. Regarding southern cattle fever, the Bureau of Animal Industry proved some years ago that recovered cattle continue to carry its specific cause in their blood for years, so that the injection of a small quantity of such blood under the skinf o a susceptible animal almost invariably causes a typical attack of southern cattle fever. Fortunately, this disease is not transmitted through contact directly from animal to animal; the only known method of transmission under natural conditions is through the agency of the cattle tick. Later the bureau demonstrated that cows affected with abortion disease, long after they have seemingly recovered and resumed the normal production of calves, continue to expel abortion bacilli with their milk. One cow now under observation has continued to discharge such bacilli with her milk without showing a symptom of disease for more than six yeas. And recently the claim was made by European investigators that animals recovered from foot-and-mouth disease may expel the infectious material of this serious plague as long as eight months later.

There are other diseases of which it is definitely known that seemingly recovered cases remain carrier of their specific causes, but it is unnecessary to speak about them here, as the object of this short article is to call attention to a source of danger in a general way rather than to discuss it in detail.

We may say that what is true of three infectious diseases, the character and specific causes of which are as dissimilar as those of the three named, must be assumed to be true of all infectious diseases until the contrary is proved; hence, that animals which have recovered from or have been exposed to infectious diseases must be regarded with suspicion. Farmers and animal husbandmen often can avoid serious trouble among their animals by making careful inquiries relative to the history of the animals they contemplate purchasing for introduction into their herds or flocks. The purchase of an animal lacking a clean bill of health from its birth until the time it is offered for sale, or of an animal from a herd or flock in which an infectious disease is known to have occurred, should be regarded as courting trouble.—Bureau of Animal Industry, U. S. Department of Agriculture.



"The Kodak on the Farm."

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THE CORN ROOT-APHIS

Thousands of dollars are lost to the farmers of Indiana every year by reason of the depredations of this insect. It belongs to the sucking class or true bugs, and does its work on the roots of the corn plants, where it sucks the life out of the plant. Being wholly under ground, it is difficult to reach with insecticides.

These aphids are usually attended by ants, as the latter are very fond of the "honey dew" which is given out by the aphids through two little tubes, which are situated on the back of the adult insect. The ants even gather up the aphid eggs and store them in their nests where they are cared for during winter. During April and May, as soon as the smart-weed and foxtail-grass make their appearance, these eggs begin to hatch and the ants carry the aphids and colonize them on the roots of these plants. As soon as the young corn plants are well started, the second brood of lice begins to appear and the ants transfer them to the corn roots where they continue to increase with great rapidity, and to suck the life out of the corn plants.

Remedies.—It is evident from the above, that the land seldom becomes infested with these aphids until the second or possibly the third corn crop. If, therefore, a three or four-year rotation is practiced in which corn appears only once, there will be but little damage done by the insects. Then, too, the proper fertilization of the soil is of great importance, as it often enables the corn to make a crop in spite of the aphids.

As the ants protect the eggs in their nests during winter, it is a good plan to plow the field, which is intended for corn the second year, as late in fall as possible and as deeply as possible, in order to break up the ants' nests. A couple of good, thorough, deep cultivations during the month of April will also help to hold them in check. This will also assist in destroying the weeds which serve as a starter for the aphids in the spring.

Various kinds of materials have been tried with a view to finding something that would act as a repellant and so prevent the lice from attacking the plants. We have found that one hundred pounds of kainit per acre, drilled in the row at the time the corn was planted, served to almost completely protect the plants; but, owing to the European war, it is quite likely that it will be difficult to get kainit this season. Dr. S. A. Forbes, of Illinois, has found that by mixing the seed corn with a solution of oil of lemon and wood alcohol, the lice were very much reduced. This was prepared for use by mixing one part of the oil of lemon with ten parts of alcohol, and three ounces of this mixture was thoroughly mixed with a gallon of corn. This did not injure the germination any to speak of. The expense was only about ten cents per acre. At the present price of the oil of lemon, the expense would be even less. Either of these remedies is recommended, especially on black ground where the aphis is commonly found.

J. Troop,
Chief in Entomology, Indiana Experiment Station.

THE MISSOURI FARMER

Devoted to Better Farming, Better Farm Homes and Better Citizenship.

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There is yet plenty of time to mature a crop of early cowpeas or soybeans and these crops will pay much better than a crop of weeds.

The farmer certainly has some cause for complaint this year but as grumbling will not bring clear weather he had just about as well make the best of it as it is and console himself with the fact that too much rain is better than too much drouth.

A few years ago we saw good sound merchantable corn exhibited at the state corn show that was raised from corn planted July 26. We have frequently seen a fine lot of feed raised from corn planted on various dates in July from the 1st to the 15th. As a rule corn planted in July will not mature corn that will do to crib but it will make the very finest of forage to feed out in the early part of the winter.

COST OF FARM EQUIPMENT

It requires more capital to equip a farm for operation now than it did to buy both farm and equipment thirty years ago. This condition presents a more serious problem for the young man just starting in farming than the older men had to deal with. Then, too, the margin of profit is very small now and it follows that if the farmer makes much headway towards owning land he must make his volume of business as large as possible. We do not want to be understood from this statement that we are urging farmers to buy larger farms because we consider that for most men quite impossible but we do mean that farmers must do a large volume of business. They are gradually doing this but not to the extent that ought to be done.

Farmers have increased their volume of business in live stock production by introducing better stock and by using better methods of feeding. A generation ago hogs were marketed at twelve to eighteen months of age and were no larger than the hogs finished now at six to ten months old. And about the same improvement has been made in cattle. The improvement in the world's transportation facilities has practically put the farmers of this state in competition with those of every other state and the farmers of this country in competition with the farmers of every other country on the globe.

The principal reason why the farmers of the United States have more than held their own in this sharp competition is in their larger use of labor saving machinery enabling one man to produce very much more in a year than the farmer who depends on hand labor. But as the country becomes more thickly populated and the land as a matter of necessity is divided into smaller farms, how are we to find a larger and still a profitable use for farm machinery? It must come certainly by co-operation. There is already a considerable amount of co-operation, but there must be more. When the amount of work on one farm is not enough to make a labor-saving machine profitable it will be better for the farmer to own a machine in co-operation with two or three neighbors than it will for him to destroy his own health by trying to do his work with hand labor. Any one who has seen the bent form at the age of forty of our pioneers who cleared the forests, fenced the land and dug the ditches, all by hand, will not want to go back to the "good old" days of hand labor.

In our leading article of this issue we call attention to some of the advantages of the farm tractor and we think that is one machine where co-operative ownership could be utilized to good advantage. While on large or even medium size farms plenty of use may be found for a medium tractor to make it pay, on the small farms it may be necessary for farmers to join together to find enough work to make the use of a tractor profitable. But will not this co-operation be better for farmers than to do like the pioneer did and kill himself off by the time he has reached the middle of his usefulness?

TAX DODGING

This is about the time of year when the assessor comes around and the newspapers are having a lot to say just now about tax dodging. We think there is less tax dodging among farmers than among most any other class not because farmers are any more loyal to the state than others but because there is less opportunity for them to keep their property hidden from the assessor. Nearly all the farmers' wealth is invested in farms, live stock and machinery, and it is no trouble for the assessor to find these things. Another thing in favor of farmers listing their property more completely than city people is in the difference in the rate of taxation.

The average total rate in the country districts is perhaps not more than $1.50 on each hundred dollar valuation but in cities the rate is much higher. If a farmer has money in the bank drawing 3 per cent interest and the tax rate of his district is $1.50 on the hundred he is required to give for public use one-fourth of the income on his money, this under the rule of listing money at 50 per cent its face. If the taxpayer happens to live in town where the rate is $3 and his money is assessed at 50 per cent the public gets one-half his income. Under these conditions it is not strange that those who have money, or who own notes or bonds will try to keep from paying taxes although it is a serious offense to fail to list all the property with the assessor.

It has been contended that under these unjust conditions that it was impossible to enforce the proper assessment of this invisible property, but it is only because our judges, prosecuting attorneys and assessors have not the moral courage to do their duty. Over in Ray County a few years ago the people elected a man to the position of Circuit Judge who considered it as much his duty to instruct the grand jury on tax dodging as to instruct them on "bootlegging." The result has been, according to the newspaper reports, that more than $5,000,000 of taxable wealth has been added to the tax lists of that district and there is no need of making special levies to have sufficient money for current needs.

But while one judge has shown that it is possible to enforce our tax laws reasonably well it remains a fact that tax dodging is the rule among the holders of intangible property. This ought to teach us that our present system of taxation is wrong and ought to be changed.

One of the first changes we think that ought to be made is to separate our collection of state and local taxation. A great deal of our state revenues is now collected from other sources than property taxes and we see no good reason why all our state taxes could not be produced without levying any property tax at all. A state income tax and a general inheritance tax such as several other states collect would provide all the money the state would need. This would leave the property tax entirely in the hands of the local community and if any district failed to enforce its tax laws it would not then work a hardship on any other district where the laws were enforced by conscientious officers.

FUTURE WHEAT PRICES

It is apparent to any one familiar with conditions that something other than legitimate supply and demand has been influencing the price of wheat for the last few weeks. True the Government forecast a month ago was for a crop in this country of about fifty million bushels more than last year, but what is fifty million bushels when compared to the world's wheat crop of nearly four billion bushels. If it should materialize it would only increase the world's crop a little more than one per cent, and then we are starting in with a less reserve held over than we had last year. No authentic information has been given out concerning the European wheat crop but it is evident that most of the warring countries cannot possibly produce their full normal crop by several million bushels. The conditions in several states since the June Government report was issued have been unfavorable, and it is quite probable that instead of this country producing more wheat than it did last year that it will produce considerably less. Kansas, the largest producer of winter wheat, will fall short forty or fifty million bushels from her record crop of 1914, Missouri will have a few million bushels less wheat than last year and Iowa and Nebraska will hardly come up to last year's average. There is plenty of time yet for frost or rust to cut the prospect down in the spring wheat country of the Northwest, and so taking the whole situation into consideration there is no valid reason that we can see for the big loss in the price of wheat.

The Missouri Farmer never assumes to advise its readers when to sell a crop for there are too many influences in control of market prices for any one to forecast the future. There is one thing quite certain, however, and that is, that a rush of wheat to market as soon as thrashed will help the manipulators keep the price down.

In order to hold wheat safely it ought to be well stacked and in this way it can be held for several months without loss or expense. After the wheat has dried out thoroughly in the stack it is easily kept in the granary without loss, but there is great danger of farmers storing wheat thrashed out of the shock. In the climate of Missouri there is very great danger of serious loss from weevil in wheat that is thrashed out of the shock.

We pointed out the conditions surrounding wheat prices last year and those of our readers who took advantage of the information made good money by it, and we see no reason why they should not do the same this year.

CONVICTS ON PUBLIC ROADS

For more than two years we have had a law in Missouri permitting the working of state convicts on the public roads but up to this time very little has been accomplished. Organized labor has forced a change in the old policy of the state to sell its prison labor to contractors and now the state authorities are up against a problem of finding something for the convicts to do that will earn the expense of their maintenance. In some of the Southern and Western states convicts have been worked in large numbers on public roads and the system seems to be satisfactory, but for some reason we are not making any headway with the plan in Missouri.

Under our Missouri law any county can have a number of convicts to work on the public roads just for paying the cost of guarding and feeding the prisoners which should not be more than one-half the cost of free labor. We certainly need the roads and the convicts need the out-door work, but if the people are opposed to having a camp of convicts in the neighborhood then some other employment must be found for them. This feeling against having the convicts in the neighborhood and the lack of sufficient interest in better roads in a great many counties must be the reason for not utilizing the convicts for road building. In discussing this subject the Kansas City Star in a recent editorial said:

"There isn't a single rock road across the state between Kansas City and St. Louis. There isn't a single highway from the Iowa line to the Arkansas line rocked all the way or even a quarter of the way.

"In the Missouri State Penitentiary there are between four hundred and six hundred convicts, outside all the kitchen and dining room help, who haven't a thing to do. They stay in their cells, the worst form of cruelty that could be devised, from meal time to meal time, except for occasional exercise periods. These four hundred to six hundred convicts, the number varying from time to time, are men above the number now used by the iniquitous contract system.

"The experimental convict road camp which has been established in Osage County, has proved, after three weeks of work, that the convicts are tickled to get a chance to work out in the open on such work as road work; that they do as much, or more, as the labor hired at $1.50 and $2 a day to do such work and that it costs the counties between seventy and seventy-five cents a day per man to feed and guard them.

"The board of prison inspectors could put those five hundred convicts, who are doing nothing, at work building a permanent highway across the state. It would be an act of humanity to the convicts and result in Missouri getting something concrete and definite done toward a great cross state highway.

"The prison board is made up of the state treasurer, the state auditor and the attorney general. Those gentlemen can do something worth while for Missouri and leave a monument to their administration. It is a great opportunity."

STARVE THE HESSIAN FLIES

The loss in the 1915 wheat crop from the ravages of the Hessian fly in some sections will be the greatest in several years. From late May or June to October, 1914, the department issued repeated warnings and advisory statements telling of the impending danger of a serious outbreak of the pest during the year 1915. It is now too late to do anything toward lessening the devastations of the Hessian fly in this year's crop. Now is the time, however, to begin the work of saving from the fly the millions of acres of wheat which will be planted on the present infested area within the next few months.

In order to understand the situation fully, it is necessary to know what the fly is like, how it is capable of causing such enormous losses, and how it transforms from the egg to the fully developed insect. Comparatively few farmers are able to recognize this pest, excepting in what is known as the "flaxseed" stage, which even then is often mistaken for the egg.

There are two generations of the Hessian fly each year, one in the fall and one in the following spring, the latter being the children of the former. Therefore, if there were no flies to lay eggs in the fall, it stands to reason that there could be none to lay eggs in spring.

In the course of its development the insect passes through four different stages. The adult is a small, long-legged, dark colored fly, very much resembling a small mosquito. The egg is very small, long, slender, and of a shining, reddish color, and is placed by the female fly in the grooves on the upper surface of the wheat leaves, both in spring and fall. The maggot hatches from the egg, makes its way down the leaf, and wedges itself between the leaf sheath and the stalk of the plant, where in some cases a dozen or more may be found partly overlapping one another. When it becomes full grown its skin hardens, changing to brown, and from its form and color it is then commonly known as the "flaxseed," which is the pupal or resting stage of the insect.

Beginning about April 1, flies emerge from the "flaxseed" that have passed the winter in the fall wheat, whether early sown or volunteer. These flies deposit their eggs on the leaves of the uninfested plants, the eggs hatch into maggots in from 4 to 8 days, and the maggots become grown in about 20 to 30 days and then change to "flaxseeds." This constitutes the spring generation. After harvest the "flaxseed" of this generation can be found in the stubble just above the ground, or often higher up where the straw has broken over.

While, as stated, the Hessian fly emerges from the "flaxseed" stage throughout an extended period of time within the entire area of its distribution, in any given locality this emergence of the adults in destructive abundance occupies but a few days. The life of the female after she makes her way forth from the "flaxseed," probably does not extend beyond a period of five or six days. Thus it is that a delay in wheat sowing in the fall until after the flies have appeared and largely disappeared becomes of such vital importance.

The first flies of the second or fall generation begin to issue from the "flaxseeds" about the middle of August and continue to issue till about the last of October, according to latitude, the maximum emergence occurring during the last two weeks of September or the first week in October, depending on the locality. This second generation infests volunteer wheat and all wheat sown before the fly-free date. The "flaxseeds" of the second generation remain on the plants of fall-sown wheat till April of the next year, when adults issue from them and begin another season.

No farmer need be in the least uncertain as to the extent to which his wheat is infested in the fall. An infested plant stands straight upward in the drill row, with broader leaves of a darker green color, does not tiller, and therefore does not spread out and cover the ground between the rows. The Hessian fly attacks wheat, rye, and barley, but not oats.

Nowhere, either in the East or West, should wheat be sown on wheat stubble if this course can possibly be avoided. However, in the East, as well as in some portions of Iowa and Missouri, the wheat stubble is universally seeded to timothy and clover, and therefore any kind of cultivation of these stubble fields is rendered impractical, though in many cases it would be far better to sacrifice all except the very best seeding. Neither can the fields be burned over without destroying the young seeding, and where these conditions prevail the only practical method that the farmer can use is that of delaying his wheat sowing until the flies have made their way from the stubble to the fields and died there without being able to find any plants upon which to deposit their eggs.

It should be borne in mind that the most practical and effective methods of controlling the Hessian fly are identical with the best methods of producing the maximum yields of wheat. It is entirely possible for the farmer to fight the Hessian fly by the process of good farming, involving thorough cultivation, good seed, and a rotation of crops. The most serious objection to the most practical and effective method that can be employed to control this pest in the field—namely, late sowing—is that there is danger of so delaying the growth of the plants that they do not become sufficiently advanced to enable them to withstand the winter.

Starve Out the Hessian Fly.

The Hessian fly, being in the "flaxseed" stage in wheat stubble and in unharvested wheat from June till September, or even October in the South, can be destroyed by carrying out the following methods of control:

1. Burn, where possible and safe, all stubble and ruined wheat.
2. Disk all stubble and ruined wheat immediately after harvest, where burning is impracticable.
3. Plow under deeply all stubble and ruined wheat fields before August 15, harrow the ground, and roll if necessary.
4. Harrow, disk, pasture, or otherwise effectually destroy all volunteer wheat.
5. As a measure preparatory to sowing, plow as early and deeply as existing conditions will permit; disk, harrow, and roll until a thoroughly pulverized, compact seed-bed is obtained.
6. Do not sow wheat until after fly-free date.
7. Rotate your crops if possible.

A FERTILIZER TRIAL

About September 10, 1914, I sowed a certain field to wheat. The whole of the field was prepared alike and put into good condition. After making considerable inquiry as to the proper quantity of seed to be sown to the acre I was in much doubt about the matter. I had also heard that more wheat could be raised on the same ground by drilling half the quantity of seed wanted on the ground and cross drilling the other half. This field, like most fields, had thin spots and more fertile ones. To make a test of the matters in doubt I drilled ⅞ bu. of seed to the acre with 75 lbs. of commercial fertilizer and then cross-drilled with the same amount of seed and fertilizer, but left a strip about ten feet wide through the middle of the field that was drilled and fertilized one way only. The field was pastured all winter, regardless of weather, until about April 1st, after which it was not pastured at all. Enough stock was kept on it to keep it eaten off rather closely during all the time that it was pastured. On June 9th, 1915, it was ready to harvest. I then went to the test strip with an iron hoop from the top of a coal oil barrel, let the hoop down among the wheat sown on a thin spot and drilled one way only, then gathered all the heads inside. I found that there were 59 heads and that they weighed 2 ounces and 6 drachms, using apothecaries weight because I had no other weights to use on so light a weight with sufficient accuracy. In the same manner within a foot of the same spot, all conditions being the same except that it had been double-drilled and fertilized as aforesaid I found 65 heads within the hoop that weighed exactly 3 ounces. I find that the heads from the thin sowing on the thin land weighs 91 and 2-3 % as much as the other. I estimate that the double sowing on this land will make 12 bu. to the acre, and if so where sown with half the seed, half the fertilizer and drilled one way only would make exactly 11 bu. per acre.

The same test made in the same manner where the land was strong and where the double sowing will probably make 20. bu. per acre showed 81 heads on the thin sowing weighing 4 ounces and 6 drachms while where it was cross drilled and double fertilized there were 93 heads but they weighed only 4 ounces and 5 drachms.

From the foregoing it would appear that on this land and this season the additional yield of wheat upon the thin land is far short of the additional expense while on the better land the yield was actually less than where only half the seed was sown and with only half the fertilizer. The quantity of fertilizer used where cross drilling was done was not excessive. On other land I used the same season even more with good results. J. B. Daniel.

Editorial Comment: We can draw no reasonable conclusions from the above trial by Mr. Daniel because there is not sufficient information to base an opinion upon. There is a great deal of difference in the quality of fertilizer on the market and whether this particular brand of fertilizer was suited to the need of this soil we can not tell. Then we do not consider one trial sufficient to prove anything. Then the uncertainty of accuracy of the hoop method of determining the yield might make a considerable difference.

WANT A GOOD FARM HAND?

In these days when one of the most puzzling problems that confronts thousands of farmers is a sufficient supply of farm help, a dependable gasoline engine is becoming more and more an every-day farm necessity—and we feel confident that if farmers generally realized what a great help a good all around engine can be—how many different things it can do and thus economize on time and energy, the sales of the past would be more than doubled in a short time.

To begin with, if the average farmer would make it a practice to grind more of his feed he would get a much greater value out of it for his live stock such as hogs, young colts, cows, calves, poultry, sheep, etc.—and we have reached a point where we must have the maximum results out of the things we feed and for which, during short crop years, Missouri farmers pay out millions of dollars. With a small gas engine and a feed grinder the task is rendered easy and simple.

But this is only one of the many uses of a gas engine. It will pump your water, saw your wood, run your ensilage cutter, cream separator, churn, washing machine, spraying outfit and anything else that requires power on the farm—thus saving lots of time, hard work and worry.

On the last page of this issue you will find the advertisement of the Witte Engine Co.—one of the most reliable concerns of this kind in the Country, and just as a matter of future information we would suggest that every reader of The Missouri Farmer drop them a postal card and ask for their literature—for it contains a lot of facts and shows you how you can do a lot of things which you are now doing by hand in one-fourth the time and at much less cost. Whether you want to buy an engine at this time or not makes no difference. Their literature contains a lot of information which will be valuable to you in any event—and worth the postal card many times over. When you write tell them you saw their advertisement in The Missouri Farmer.

The Missouri Farmer is offering a beautiful Piano to some bright farmer girl in every community in the state. Many girls are already at work and will soon have won this beautiful prize. We will award only one Piano to each community—so it will be a case of "first come first served." If you are interested, therefore, you had better write us today. We will appreciate it if every friend of the paper will bring this offer to the attention of some bright farmer girl in his or her community.

The Missouri Farmer offers bright country girls a choice between a beautiful Piano or a free round trip Railroad and Pullman ticket to the great Panama Exposition. One of these prizes will be offered in every community in the state. Read the ad on page 13 and then write us which prize you prefer.

Free Offer

EVERY CAR OWNER will appreciate this fine rubberized, waterproof Tube Bag. Send us your dealer's name and address and the make of tires you use and we will send one free. It will keep your Inner Tubes in prime condition.

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THE FLIES' REVENGE

Ten little flies
All in a line;
One got a swat!
Then there were....

Nine little flies
Grimly sedate;
Licking their chops—
Swat! Then there were....

Eight little flies
Raising some more—
Swat! swat! Swat! swat!
Then there were ....

Four little flies
Colored green-blue;
Swat! swat! (Ain't it easy)
Then there were....

Two little flies
Dodged the civilian—
Early next day
There were a million!
—Buffalo News.

Swatting flies helps some, but not much. The best way to remove these carriers of typhoid and other diseases is to clean up their breeding places—piles of refuse about horse stables. Do it now, and enjoy a flyless summer.

CANNING OF FRUITS AND VEGETABLES

(Lessons for Boys and Girls Canning Clubs)

Vegetables and fruits should be canned so as to resemble the fresh condition as nearly as possible in order that they give the best results in the diet. Therefore use as little sugar, salt or other preservatives as possible in canning.

Proportions of Sugar to Be Used.—One-half cup of sugar to one quart for fruits of medium sweetness. Three-fourth cup of sugar to one quart for sour fruits. This will not be as sweet as people ordinarily like but it will retain its shape and color in the fruit. Too much sugar destroys the fresh condition of the fruit and it will not be as valuable as a food.

Proportions of Salt to Be Used for Vegetables.—One teaspoon of salt to one quart of vegetables.

Canning in a Syrup.—For some fruits, the larger ones especially, a thin syrup is to be preferred to packing fruit in sugar. A syrup may be made with equal parts of sugar and water. Heat it enough to dissolve the sugar, then as soon as the jars are filled with fruit the hot syrup is poured over and the lids are placed on loosely and the jars are sterilized as given under directions.

Sterilization of Jars.—The secret of successful canning is complete sterilization of food material and jars. Sterilization is destroying by heat, all living bacteria (very small invisable bodies) in the food material and in all parts of the can that will come in contact with the food, then sealing perfectly so no more bacteria may enter. Therefore, it is safer to sterilize the jars before the food material is packed into them. If they are carefully washed and placed in a pan of cold water on their side and allowed to come to the boiling point and boil for twenty or more minutes it will be sufficient to make them sterile. Be careful in taking jars from pan in which they have been boiled, to sterilize them, not to place finger tips in top of jar because it is possible to carry enough bacteria or germs on the finger tips to spoil the contents of the jar. Do not wipe out with cloth. Simply take out of water by grasping by the side and place ready to fill. If fruit and vegetables are to be put into them it should be done immediately.

Storage of Jars.—A place should be prepared for storing the jars after filling. A section of the cellar may be partitioned off and shelves built so that the fruit may be arranged in a systematic manner. If neatly labeled and in order it will save handling to find the jar desired. The store room should be clean and dry and preferably dark, as light has a chemical effect on some fruits and vegetables and destroys the color.

IMPROVED KITCHEN TOOLS

The Columbia Kitchen Tools are improved Kitchen Tools—time-savers, labor savers. Our $1.00 Combination (6 pieces) consisting of Egg-beater, Cream-whip, Potato-masher, Cake-turner, Mixing-spoon, Egg-boiler and server helps you get better results. Made of steel and heavily tinned. Fully guaranteed. Satisfaction or money back. Sent PREPAID upon receipt of $1.00

KITCHEN UTILITIES CO.
Special Agents Proposition. Columbia, Mo., Box 368 D

Preparation of Vegetables for Canning

Greens.—These vegetables are a great resource in cold weather when green vegetables are scarce. (Spinach, Swiss-chard, lambs quarter, dandelion, mustard or beet tops are best). They have little food value but are refreshing and have slightly laxative qualities which make them a valuable addition to the more substantial foods. They contain little starch and only a suggestion of sugar but are rich in mineral matter or ash.

To clean spinach, cut off the roots, break the leaves apart and drop them into a large pan of water. Rinse them well in this water and put them in a second pan of water. Continue washing until there is not a trace of sand on the bottom of the pan in which the vegetable was washed. If wilted, let stand in cold water until fresh and crisp. Swiss chard is much more easily prepared for canning than spinach, and if kept cut it will remain tender until August. The leaves are so much larger that it takes at least 20 leaves of spinach to equal one of chard, and the surface of the chard leaf does not hold sand and dirt as does the spinach leaf and thus it washes more easily and quickly. As a green the Swiss-chard is the most practical for use.

Packing in Sterilized Jars.—After greens have been cooked down until tender in an open kettle in order to shrink them, pack in jar tightly, add enough hot water to fill the jar full but this should be very little, because jar should be packed full of greens. To this add one teaspoonful of salt and place the lid on loosely without the rubber. Place in boiler on rack. Put enough water into steamer to come two-thirds up on the jar and boil for one hour for each of three days. On the third day of boiling, about fifteen minutes before time is up unscrew tops, put on rubbers and screw down tight and place back in steamer for fifteen minutes so as to seal rubbers. See also that jars are full of sterile water at last cooking. Do not place jars in cool draft when removed from boiler or they are liable to break.

Asparagus.—All vegetables must be young, tender and freshly gathered. To clean asparagus, cut off the woody part scrape the lower part of the stalks and wash well. Cut stalks into even lengths or into short pieces of uniform size. Pack in sterile jars if in whole stalks, with tips up, add one teaspoonful of salt for every quart of vegetable. Cover with cold water and screy on top lightly without rubber. Place in boiler and steam for three successive days, one hour each day. Place rubber on jar the third day about fifteen minutes before time is up. Carrots and parsnips may be canned in the same manner.

Rhubarb.—Because the growth of bacteria is checked by acid in fruits and vegetables, rhubarb and gooseberries containing such a large per cent, require no heat in order to keep. The washed rhubarb can simply be placed in the can and freshly boiled water poured over it and the jars sealed but there would be no advantage in canning rhubarb by this method. Why not prepare it so that it will save the preparation when taken from can? Place alternating layers of rhubarb and sugar in a can and steam for forty minutes in boiler. This is a good practical method.

Gooseberries.—Gooseberries may be prepared in the same manner as rhubarb.

Parsnips and Carrots.—Many people do not like parsnips and carrots because they do not know the difference between the small tender young ones and the large strongly flavored ones. The smaller ones may be canned in the spring time and they make a delicious winter vegetable. Or they may be planted late in the summer and if the season is good they will be about the right size to put away for winter without canning.

To Can Parsnips and Carrots.—Boil until skins can be taken off easily. Remove skins. Pack in jars whole or sliced, add boiling water and one teaspoon salt to each quart. Place in boiler and steam—one hour each day for three successive days. Placing rubber and screwing on lids tightly during last steaming.

Peas and beans are called legumes and are the vegetables which can be substituted for meat in the diet to a certain extent, because they contain much of the same tissue building or muscle making food material, called protein, that meat does. Thus they are valuable foods for use during the whole year. With these as with all vegetables they should be canned while they are tender and when freshly gathered.

Peas.—Select young tender well grown peas, shell, put into clean sack or wire basket and place in boiling water for five minutes. This shrinks the peas slightly and the hard yellow ones may be picked out. Pack firmly in sterile jars, fill with clear cold water, add 1 teaspoon of salt to each quart of water. Place lid on loosely and steam in boiler for one hour each day for three successive days. The lid is tightened between each steaming and then loosened again for each successive steaming. The sterile rubber is placed on jar during last steaming and lid tightened.

Lima Beans.—Carefully hull and can as quickly as possible after hulling. Pack in sterile jars and add clean water and one teaspoon salt for every quart. Steam as given under direction for peas.

BREAD MAKING.—No. III

(Continued from last issue)

Short Process or Straight Dough Bread Using Liquid Yeast.—It is called short process bread because it takes a shorter time to make it than the long process bread, when a sponge is set. This is sometimes called a "straight dough" bread.

Proportion for one loaf:
1 cup of liquid (½ cup scalded milk, ½ cup boiled water)
1 tablespoon of butter or lard
1 tablespoon of sugar
1 tablespoon of salt
¼ or ½ cup of liquid yeast or
¼ cake compressed yeast
3 to 4 cups of flour

Method.—To the shortening, sugar and salt in a bowl, add the scalded milk and hot water. Cool to lukewarm temperature and add yeast. Add flour to make a batter that can be beaten. Beat thoroughly to mix ingredients and to get air into the batter to make the yeast plants grow. Add the remainder of flour to make a stiff dough that can be kneaded. Knead on a board or in a bowl till the dough is quite smooth and elastic and bubbles appear under the surface. It usually takes about a half hour. Thorough kneading is necessary to scatter the little plants even throughout the bread; also to break up the gas bubbles so the bread will not have big holes on the inside, but small even holes. This is called the texture of the bread. Too much kneading will destroy the elastic quality of the gluten and spoil the flavor of the bread. Never knead over thirty minutes.

Place in a clean bowl and let rise until double its bulk. Then shape into loaves. Let rise again till doube in bulk and bake in oven from forty-five to sixty minutes.

Materials and Size of Bread Pans

A blue black shiney iron, called Russian iron, is considered about the best material for bread pans. Tin pans are also very good for bread baking, giving a crust which is satisfactory both in color and in texture. Granite and enamel pans are not so good because the loaf draws away from the sides and bottom making a concave surface. In aluminum pans the loaves do not brown as well on the sides and bottom. In order to get the same results with sheet iron and granite as with tin, the oven heat must be at a lower temperature.

Bread pans of a uniform size about four and one-half by three and one-half by nine inches for baking in single loaves are best for bread baking. This will insure a more thoroughly baked loaf and give a crust of the proper texture. When several loaves are baked side by side in a large pan it is very hard for the heat to reach the center of the middle loaves and the crust of those on the outside would almost have to burn before those in the center would be baked.

Graham Flour.—Graham flour is made by taking the whole wheat grain and grinding it up. In making the white flour much of the husk or covering of the wheat grain is removed but in the graham flour this is left in, so it is much coarser than the whole flour. It contains more mineral matter than the white flour because this food material is found next to the skin of the fruits and grains and when this is removed we remove this food. On the other hand there is a great deal of waste material in graham flour because there is so much woody fiber present in the husk of the grain that is not good as food. The cheaper grades of graham flour are often made by mixing an inferior grade of flour with bran.

Entire Wheat Flour or Whole Wheat Flour.—The very opposite of what its name would indicate, the whole wheat flour is not made by grinding the whole wheat grain; part of the bran coats are removed. It is also usually more finely ground than graham flour.

Graham Bread.—On account of the coarseness of the graham flour the bread is more light and a better quality when the graham flour is mixed with white flour for use. Half and half of each is a very good proportion for good results.

Proportion for one loaf:
1 cup of liquid
1 tablespoon of sugar
1 tablespoon of fat
1 teaspoon of salt
¼ cake of dry yeast or ¼ cake of compressed yeast or 1.4 cup of liquid yeast
3 to 4 cups of flour, ½ graham and ½ white flour

If dry yeast or liquid yeast is used make bread by long process or sponge method. If compressed yeast is used make by short process or straight dough method, as given in previous article.

Addie D. Root,
Agricultural Extension Service,
University of Missouri.

GET RID OF THE FLY

The United States Department of Agriculture has recently published the results of experiments to prevent the breeding of flies and states that the sprinkling of a small amount of borax in layers in manure will entirely prevent it.

The following are directions for the use of borax: For every eight bushels (or ten cubic feet) of manure sprinkle with a flour sifter or any fine sieve .62 pounds (slightly more than half a pound) of borax, particularly around the outer edges of the manure heap, and over this sprinkle with a watering can or otherwise two to three gallons of water. The borax coming into contact with the eggs prevents their hatching. Maggots gather at the outer edges of the pile. Consequently most of the borax should be applied there.

Experiments show that no injurious action on most crops will follow the application of manure so treated, but its cumulative effects have not been determined and its action on all crops has not been studied. It is recommended, therefore, that not more than fifteen tons per acre of such treated manure should be applied to a field.

Until the wished-for object of destruction of flies is accomplished, it is necessary to take precaution against spread of disease by flies. The two chief measures required for this are (1) **to disinfect the discharges,** especially those of patients suffering from intestinal diseases and (2) **to keep the house well screened.** In other words the fly must be prevented from feeding on discharges which may contain disease germs and secondly flies which may have so fed must be prevented from reaching people who are

well. Next to keeping the premises cleaned up, the most important thing both for people in the town and in the country is to keep the house well screened. This costs only a small amount and the saving in doctor's bills in a single summer will often pay many times over the small expense involved. In addition to this the comfort of being rid of the fly is worth many times the trouble and expense involved. The chief necessity is in so fitting the screens that no openings will be left for the flies to enter. In case some do get in they should be killed at once with a fly "swatter." It is especially important to kill all flies that appear early in the season. One fly killed in April means millions less in August.

The author visited one day last year in the State of Missouri a home in which one of the members of the family was very sick with typhoid fever. No precaution whatever had been taken to exclude the flies and they were swarming about the patient by hundreds. One person was kept continually busy fanning them away, and if for a moment the vigilance was relaxed, the flies settled down on the patient in a swarm. No prophet was needed to predict that other members of the family would be almost certain to be attacked by the same disease. The expenditure of a few dollars for screens would not only have contributed a great deal to the comfort of the patient but would have greatly aided in preventing the spread of the disease. The message, which above all others, this article ought to bring to country homes is **"screen your houses."**

The following extracts from a publication of the Indiana State Board of Health, give the history of the house fly by dates and make it easy to remember approximately how the different changes take place:

Journal of a Female House Fly

Thursday, November 2, 1911. Went into winter quarters.

April 20, 1912. Barely lived through the long, hard winter. Came out of winter quarters and laid my first batch of eggs—120 in number—in a manure heap.

April 21, 1912. My first 120 eggs have hatched.

April 22, 1912. Larvae have undergone first molt.

April 23, 1912. Larvae has undergone second molt.

April 26, 1912. Larvae transformed into pupae.

May 1, 1912. One hundred and twenty full grown flies, sixty of which are females.

May 3, 1912. Laid my second batch—120 eggs—this time in the filth of an uncared-for privy.

May 13, 1912. One hundred and twenty flies came from my second batch of eggs. Laid my third batch in a kind neighbor's garbage can.

May 20, 1912. The city has offered a prize to the school child who will kill the largest number of flies. The boy at the house where I live is killing flies right and left. And to think **—we have all been eating at the same table with him.**

May 21, 1912. Laid my fourth batch of eggs. Left alone and unhindered, by September 10, 1912, my descendants will number 5,598,720,000,000.

Fly Catechism

Where is the Fly born? In manure and filth.

Where does the Fly live? In all kinds of filth and he carries filth on his feet and wings.

Where does the Fly go when he leaves the manure pile, the privy vault and the spittoon? He goes into the kitchen, the dining room, and the store.

What does the Fly do there? He walks on the bread, fruit and vegetables. he wipes his feet on the butter and he bathes in the milk.

Does the Fly visit patients sick with consumption, typhoid fever and cholera infantum? He does and he may call on you next, carrying the infection of these diseases.

What diseases does the Fly carry? Typhoid fever, consumption, diarrheal diseases, diphtheria, scarlet fever, and in fact any communicable disease.

How can the Fly be prevented? By destroying all the filth about your premises; screen the privy vault; cover the manure bin; burn all waste matter; destroy your garbage; screen your house.

Either man must kill the fly or the fly will kill man. **Prevent the fly.**

M. P. Ravenel,
Professor of Bacteriology and Preventive Medicine, University of Missouri.

COOKING GREEN VEGETABLES

If we think of vegetables in terms of the 85 per cent to 95 per cent of water diluted with color, flavor and a small amount of solids, then the price of water masquerading as vegetables seems high.

But, if we think of the need for flavor and mineral matter to induce a better appetite and keep the body in good health the purchase of the vegetables, in season, will seem less costly than tonics from the drug store.

It is most important when preparing vegetables to save the portion which gives flavor and that which provides the mineral matter needed by the body. At least 20 per cent of all iron required by the body has its source in vegetables.

Experiments have shown that flavor and mineral matter are lost in less or greater measure when these vegetables are cooked in too much water which is later thrown away. It is best to use as little water as possible in boiling green vegetables and to keep this water to be used later in soups or sauces.

The loss of mineral matter from vegetables through boiling may be as high as 36 per cent in spinach, celery, cabbage, Brussels sprouts, cauliflower, carrots and not more than six per cent when these same vegetables are steamed.

Flavor, when its source is from a product which is readily given off in steaming, may be retained by cooking at temperatures below the boiling point. It is for this reason that peas, asparagus, celery, cucumbers, and carrots should be cooked at simmering temperature.

Strong flavor may be lessened by cooking rapidly in open vessels. This is true of cabbage, cauliflower, onion, and pepper. Cabbage may be "cooked" at the end of twenty minutes. Longer time develops strong flavor and, in hard water, may darken the color.

Those fresh green vegetables, which consist of leaves and stem, may be steamed; or may be cooked without added water if heat is applied slowly, causing the water in the leaves to escape in such amounts that the plant cooks in its own juices.

Delicately flavored vegetables, as peas, string beans, squash, and rutabagas, may be served in their own juices, seasoned only by salt, pepper, and butter. Brussels sprouts are improved in flavor if cooked in meat broth made as for soup stock, or in water flavored with boullion cube. Carrots, celery, cucumbers and summer squash may be improved in appearance and flavor by first cooking in water, then draining and covering with white sauce.

Abby L. Marlatt,
University of Wisconsin.

THE GROWTH OF THE FLOWERS

June is the crowning month of the year for beauty. Then all the plains are clothed in bright green and the barren hills glorious with blooms. It is the flowers that deck thee with an indescribable loveliness. Where flowers bloom Eden's beauty returns. The rough places are made beautiful. When the flowers fade and die the hills lose much of their charm and the valleys their loveliness. No wonder the children of men love the flowers and are sad at their departure. The flowers are the treasures carried by the race when it lost its first paradise, and in all its weary pilgrimage on earth they have never left him. They comfort him when he is said, they soothe him when he is sick, they add to his gldaness when he is happy. The flowers are always welcome. They have ever a carte blanche. They are never out of place, either at the open grave when there is weeping, or at weddings when there is rejoicing. Creatures so universal and so beloved must certainly have a message for us.

Christ standing in the presence of lilies matchless for beauty directed the attention of the multitudes to them. He was talking to many who were old before their time. Ugly lines were ploughed deep in their foreheads, care and discontent were spelt in their upturned faces. Some worried over children , others wondered what they would have to eat tomorrow. Some fretted whether they would have the recognition of the people higher up. Others were feverishly anxious over their investments. The Son of Man grieved in His heart to see so much useless and foolish worrying. Turning to the lilies that bloomed at His feet He called upon them to open their lips and speak comforting truths to these poor, toiling, worrying people. With one voice they cried out, "Behold us!. We toil not, neither do we spin and yet we are arrayed in robes more beautiful than Solomon in all his glory ever was. Behold how we grow into forms of matchless beauty without a thought of care."

We are invited to consider how flowers grow into such exquisite loveliness. How they develop such glossiness of leaf, delicacy of stem, splendor of tints and colorings. Hear the answer as it comes from millions upon millions of flowers:

"We grow to such perfections and into forms divinely fair because we never fret, or exhaust our forces in anxious thought. We trust the God who made us so lovely will be able to keep us in our present loveliness and add increasingly to our beauty. We do not grow pale in the face of the storm cloud. We do not worry over the sun. We do not grow anxious over the rain. We accept the present blessings with thanks, believing that on the morrow the same kind hand will provide for us. When night comes we retire to our rest, never doubting that the dews and rains and sunbeams will come in their rounds laden with timely gifts. Thus always trusting, always grateful for gifts however small, always hopeful for a greater tomorrow, we climb out of the dark earth and grow into forms of celestial beauty."

The flowers speak truly. Never in the wide world could the flowers grow marvelously fair if they fretted or worried. The life to come is serene. If ever we are to attain its blessedness we must take to ourselves its large spirit of cheer and serenity. Worry is an enemy to growth, physical and spiritual. It is not by taking anxious thought that the merry children add cubit unto cubit unto their physical stature. They run, they leap, they tumble, they climb, they play, they work, they sleep, and eat, never thinking as to their growth.

Again say all the flowers: "We grow beautiful by simply obeying the conditions of our flower life. We do not have to furnish the conditions of our growth. We do not have to run after the rain, or exhaust our energies to bring the golden sunshine to us, or worry ourselves to death for the refreshing dew. All these are given us freely. The rain pours upon us in showers. The sun gladdens us with its warm sunbeams. The dew deposits its rich treasures of the night upon us, the only thing we have to do is to open our chalices of gold and silver and receive in gratitude the treasures of the clouds, the showers of sunbeams that fall, and the dews that form in silver beads. We simply obey the laws and conditions of our lives. The thing required of us is that we be found in the pathway of the summer showers, the rays of the sun, and the mighty dews. This is our great work. Doing this with joy and prompt obedience the result is our harmonious growth and blooms that are fairer than ever were woven in the looms of time." After the self same manner must we, the children of our Heavenly Father, attain to that fullness of stature that is within our reach and bear that noble fruitage that is expected of us.

Rev. Philip Jamieson.

Early Operation Is Only Cancer Cure

To conquer cancer requires only 5 per cent of the energy required to conquer tuberculosis, according to figures given before the Ramsey County Medical Society by the executive secretary of the Minnesota Public Health Association. This is true because the treatment of cancer is so much simpler and acts so much more rapidly than the treatment for tuberculosis. Although deaths from cancer have increased 22 per cent since 1910 and are now almost three-fourths as frequent as deaths from tuberculosis, early operation would reduce the death rate by half and if resorted to in every case would save practically all.

The great cause of deaths from cancer is the neglect of the growth in its early stages. At the present time, the patient goes to the physician just about one year too late.

The Missouri Farmer would like to have letters from the women readers giving their experiences with labor-saving machinery. There are so many little inexpensive conveniences for the farm home but a great many homes are without them.

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OUR NEED

The arts of peace demand more plowshares,
The old are obsolete.

Where are the cannon which in ages past
Have hurled their murderous bolts through quivering flesh,
As Nations, cursed like Cain, fought face to face?

Where are the flashing swords,
Which gruesome dripped his brothers' blood,
Ere they were wiped and sheathed?

Where all the vast artillery of war,
The tons of steel in ships which plow the seas;
A menace to the peace of all the lands?

Come, bring them all, the farms in every land
Require more steel for tools of every kind;
Our Nation's weal, our brothers everywhere
Demand that sword be wrought to useful share.

We need these boys, who 'foretime went to war,
To till our fields, that's what their lives are for;
Earth's had enough of fields where carrion lies,
The food for vultures from God's cloud dimmed skies.

Marshal their vast array, these thousands strong,
Turn this great host to peace through all the years,
The hours of war are short, the years of peace are long;
And stop the agonies of pain, the woe, and woman's tears.

—E. M. R., in Successful Farming.

Farm Management

D. H. Doane, University of Missouri

And this for comfort thou must know,
Times that are ill won't still be so;
Clouds will not ever pour down rain;
A sullen day will clear again.
—Herrick.

Your Wife's Cooking and Your Plowing

On the cover page of the Progressive Farmer for June 5, a very interesting and short article under the above heading appeared. It is worth repeating.

"What sort of a housekeeper would you call your wife if she were regularly to offer you bread from half-worked dough, with clods of flour and salt, raw and indigestible, all along through the bread? You'd certainly think she wasn't doing her duty as a housekeeper, wouldn't you?

"Well, she has just the same right to say you are not doing your duty as a farmer if you are preparing your land with like shiftlessness. There's not much more excuse for a good farmer's having unbroken, indigestible clods mixed with the good plant food in his fields every year than there is for a good housekeeper's having big, unbroken, indigestible lumps mixed with the properly prepared family food on her table. Good, complete, thorough-going harrowing, genuine pulverization, of the fields is just as necessary as good, complete, thorough-going kneading of the dough in the breadtray.

MORAL: Your part is to feed the crops. Your wife's part is to feed the family. Do your part as well as she does hers, and you'll prosper more and have less feed and food to buy."

The New Land Bank Act

This paper has so strongly supported any constructive legislation that will tend to assist the farmers in getting cheaper money that it might seem almost superfluous to attempt to add anything to what has so ably been said editorially and otherwise. However, the subject is one of so much importance and concerns each of us in such a vital way that it would seem hard to say too much upon this subject.

We know that the past few years have indicated that it was almost impossible for us to put any constructive laws on our statute books by means of amendments voted upon by the people. This is a shame, and a fact greatly to be regretted by all thinking voters; however, we have to face the facts. The next time we go to the polls we will have an opportunity to vote upon a bill which will make constitutional a land bank act which has for its main purpose the providing of cheap money to farmers. There is one thought that comes to me at this time. I do not believe for a moment but what the farmers will, as a rule, stand behind this measure and vote for it, particularly if it is the only amendment to be voted upon. The question is, is there not a probability of someone attempting to slip in some other amendment that the majority of voters will be against, thinking that in an effort to kill the objectionable amendment the good one will go with it. Such a thought is not wholly a dream, for we have to think back but to our last election and remember quite vividly that two or three joker amendments were slipped in at that time in order to defeat certain good amendments that were to be voted upon. Unquestionably, the sentiment in favor of this land bank act will carry. I believe it could be carried today if it could stand upon its own merits. Now each of us must ask ourselves the question, "Can I vote for that which I want and discard that which I do not want?" This is the question. Those of us who know that we can, cannot help but feel a certain duty in assisting those who have fears on that subject. Let us put our best efforts into the circulating of petitions for this non-political, non-sectarian bill, and then go to the polls and vote like thinking men.

Boys at the State Fair

I wonder how generally it is known that is it possible for two boys to go from every county in this state to the State Fair each year? The Fair Board has set aside a sum of money which pays all entrance fees and the entire expenses of the boys during fair week. The boys chosen to make this trip are generally selected through the State Board of Education by competitive examinations. I have lots of boy friends in the country who have never attempted to win this most desirable trip. Think it over, boys, and write to I. J. Walker, manager, Jefferosn City, Mo., for the new circular just published on the school. Be prepared so that you can be one of the 114 boys at the State Fair this coming year.

In addition to the two boys from every county, there will doubtless be some boys and girls taken from some of the Farm Adviser counties to do certain contest and demonstration work as illustrating what is being done in the counties mentioned. Only young folks who have made good at the particular line of work concerned will be eligible to the trips from the Farm Adviser counties. In a short time we hope to be able to make a general announcement showing the basis on which these boys and girls will be selected. Watch for this announcement and keep in touch with your Farm Adviser so that you may be one of those selected.

Last year three little girls for one of the Farm Adviser counties prepared and served a dinner for Governor Major and three other guests. The Governor kindly invited these little girls to spend a day and night with him at the Governor's mansion in Jefferson City. These things are worth while, young folks, and they are honors that are worth working for to the best of one's ability.

A Caution

A year ago Sudan grass was very scarce and expensive. At present it is more plentiful and less expensive. However, there is quite a good deal of advertising going on at present in reference to large quantities of Sudan grass seed available for planting, and according to the advertisement, after oats and wheat crops. This seed is supposed to come from Texas and in one advertisement we find the grower offering to purchase all the hay that the farmers will raise at $15 a ton, f. o. b. the farmer's loading point. I am not in a position to say that this advertisement is false, but here are a few facts. The price that he is charging for the seed is over double what realiable seed has been purchased for this year. This man is a Texas grower and unless Sudan grass be purchased from an absolutely reliable source in the south, great caution must be used on account of the almost identical resemblance of Sudan grass seed and Johnson grass seed. In fact, our experts here at the University in the seed testing laboratory do not pretend to be able to tell the difference between Sudan grass seed and Johnson grass seed. The particular advertiser mentioned claims that the yield will be from three to ten tons. Let us figure five tons to the acre. According to his statement he has enough seed for twenty thousand acres. This would make a hundred thousand tons of hay; at $15 a ton you can see that this gentleman would have to have a considerable capital to buy back the amount of hay his seed would raise, according to his own statement. It is well to proceed with the Sudan grass seed cautiously.

Gas Tractor Equal to Fifteen Horses

I think the gas tractor is all right. I have an Avery 20-35 and it will pull equal to fifteen big horses or mules. It will pull five 14-inch plowers 7 inches deep in dry hard "gumbo" and do it all day and all night if you will stay with it and you need only to stop to fill the oil and water tanks. It will pull a 28-48-inch separator and thrash from 700 to 1500 bushels of wheat per day. It will furnish power for the silage cutter, wood saw, road grader, harrows, binders, wagons or anything you may want to hitch it up with. It costs about $100 per horsepower.

I thrashed 2200 bushels of wheat in two days and used only 58 gallons of gasoline which cost 11 cents a gallon and 2½ gallons of gas engine oil at 27 cents a gallon or a total of $6.92 for the two days thrashing.

They should last a long time if well cared for. I had never started a gas engine until I got mine and after the help of an expert for only three days I got along all right. I do a lot of work with the engine but cannot get along altogether without mules.

F. A. Brown, Beaman, Mo.

TANKAGE FOR HOGS OUTDOES OIL MEAL

Tankage, as a supplement to corn rations for hogs, is more profitable than linseed oil meal at present prices, and for nearly all classes of hogs is a more valuable feed.

Recent tests at the Minnesota Experiment Station are of interest to every Minnesota hog raiser who does not have plenty of milk or buttermilk. R. C. Ashby, in charge of swine at the University Farm, gives the following results with hogs fattened for market last winter.

Of five lots of hogs fed from December 22, 1914, to February 24, 1915, three were fed on corn, shorts, and tankage, and one on corn, shorts and oil meal. The average ration for the tankage lots was:

Shelled corn	84.45	per cent
Tankage	7.47	" "
Shorts	7.37	" "

The average ration of the oil meal lot was:

Shelled corn	77.83	per cent
Shorts	8.20	" "
Oil meal	13.58	" "

The initial weight of the oil meal lot was 136.75 pounds; the final weight 211.70 pounds; the average daily gain 1.17 pounds; the number of pounds of grain for each 100 pounds of gain was 531.13; and the profit per bushel of grain 5.3 cents. The average initial weight of the three tankage lots was 138.83 pounds; final weight 228.17 pounds; the average daily gain 1.39 pounds; the number of pounds of grain for each 100 pounds of gain 482.16; and the profit per bushel of grain 12.5 cents. All feeds were paid for at the following prices: Corn 50 cents a bushel; shorts $26 a ton; oil meal $36 a ton, tankage $50 a ton.

From December 24 to March 23, Mr. Ashby had on feed five lots of fall pigs, each lot receiving somewhat different rations. Of these one lot was fed corn, shorts, and tankage, while a second lot was fed corn, shorts, and oil meal. The tankage fed lot made an average gain of 0.722 pound a day, and the oil meal lot 0.621 pound a day. The tankage fed lot made 100 pounds of gain for each 376 pounds of grain eaten, while the oil meal lot required 460 pounds of grain for each 100 pounds of gain. The feed cost of 100 pounds gain on the tankage lot was $4.32 and on the oil meal lot was $5.27.

Tankage is a product marketed by the packing houses and is obtained from animal carcasses—blood, meat scraps, etc. It contains 60 per cent of protein and from 15 to 17 per cent of mineral matter, while oil meal contains 31 to 33 per cent of protein and from 6 to 7 per cent of minerals. Mineral matter is used to build bone and frame, and protein is used to develop muscular tissue, blood, and vital organs. Tankage is rich in lime and phosphorus, two materials greatly needed by young hogs and brood sows.

A certain amount of oil meal is good, but a mixture of the two feeds is better. The man who can supply all his feeds at home is fortunate. He who must buy should secure those materials which serve his purpose best and give the largest return for their cost price.

The Missouri Farmer offers bright country girls a choice between a beautiful Piano or a free round trip Railroad and Pullman ticket to the great Panama Exposition. One of these prizes will be offered in every community in the state. Read the ad on page 13 and then write us which prize you prefer.

A FEW THINGS TO DO TO BETTER LIVESTOCK

1. Treat cows gently and avoid excitement.
2. Be regular in time of milking.
3. Keep stables clean, well-lighted and ventilated
4. Weigh the milk of each cow at milking time.
5. Get your neighbor to share with you in owning a Babcock Milk Tester, and test the product of each cow.
6. Discard the animals which have failed at the end of the year to pay for their keep.
7. Breed your cows to a pure-bred, registered dairy bull from a family having large and profitable production of butter fat.
8. Raise well the heifer calves from cows, which for one or more generations, have made large and profitable productions of milk and butter fat.
9. Breed heifers to drop their first calves at 24 to 30 months of age. Give cows 6 to 8 weeks' rest between lactation periods.
10. Join a dairy cattle breeders association. It will help you keep posted and in touch with the best and most modern ways of managing your dairy herd.—George C. Humphrey, College of Agriculture, University of Wisconsin.

I seek the opportunity of serving you and will cheerfully furnish any information desired about rates and service.
W. S. George, G. P. A., St. Louis, Mo.

The Missouri Farmer is offering a beautiful Piano to some bright farmer girl in every community in the state. Many girls are already at work and will soon have won this beautiful prize. We will award only one Piano to each community—so it will be a case of "first come first served." If you are interested, therefore, you had better write us today. We will appreciate it if every friend of the paper will bring this offer to the attention of some bright farmer girl in his or her community.

IN THE COUNTRY

I'd rather lay out here among the trees
With singing birds and bumblebees,
A-knowin' that I can do as I please,
Than to live what folks calls a life of ease,
Up thar in the city.

It's kinder lonesome, mebbe, you'll say,
A-livin' out here day after day
In this kinder easy, careless way,
But an hour out here's better'n a day
Up thar in the city.

As for that, just look at the flowers aroun'
A-peepin' their heads up all over the groun'
And the fruit a-bendin' the trees way down;
You don't find such things as these in town,
Or ruther, in the city.

As I said before, sech things as these,
The flowers, the birds and the bumblebees,
And a-livin' out here among the trees
Where you can take your ease and do as you please,
Makes it better'n the city.

—James Whitcomb Riley.

BETTER SETTLE IT!

Forgive and forget! It is better
To live on the quiet than scrap;
For while you are fighting about them
Life's apples may roll from your lap!
And the fellow who fights becomes lonely,
And nothing to pay him remains
When he loses his friend and finds only
A patch on his eye for his pains.

Forgive and forget! It's not funny
To glare at some fellow you meet,
And there's no lasting plesaure in having
A brawl as you walk down the street;
And the friends who would back you—forget them!
They are out for the fun of a row,
And they'll go with the winner! so set them
Down friends of the other man now.

Of course you could lick to a frazzle
The chap whom you think of with hate,
But to let the past go, and forget it,
Marks you as a winner with Fate!
It's better to live on the quiet—
To shake hands with friends as you go,
Than to make yourself boss of a riot,
And shake all the friends whom you know.

—Farm, Stock and Home.

BUCKSHOT BY THE PROFESSOR

About the only snakes that are left in the Country are those we think we see. Better take the pledge, Brother.

It seems to me it would save a lot of time and trouble if marriage licenses these days had a divorce blank attached in the beginning.

I see where they're using beer kegs to keep self-binders from miring down in the wheat fields over in Kansas. But after all, an empty beer keg isn't much account.

We used to say that there were a pile of fiddlers down in the warm place but they don't amount to a corporals guard compared to the generals and leaders down in Mexico.

The hoe may be an ancient instrument but it's just as good a cure for cockle burs and rag weeds today as it was when you and I were compelled to break our backs with it years ago.

I've got a scheme. Let's get about a thousand mules, fasten a machine gun on each one—then time the machine guns to go off, get a lot of green horse flies and chase the mules across the Mexican border. Don't you think it's brilliant?

If you don't get the flies they're apt to get you. Many a man, woman and child has been sent to an untimely grave by typhoid fever or some other disease that was introduced into their systems by the fly. So "swat 'em"—for they're as dangerous as rattlesnakes.

Stay in your corn field just as much as possible. If the corn get's too tall to work with a cultivator, get you some little single horse harrows and keep the top of the ground well stirred and pulverized. A lot of farmers who plowed their corn wet are going to permanently injure it if they don't stay in the field.

It's only been a few years ago since people wondered whether we would ever be able to fly—and even during the last year or two the life of the average aviator was only about 90 days. Now hundreds of air ships hover over the armies in Europe and it's much safer than being in the trenches. Believe me, Mike, we are living in an age that "goes some."

I see where 35,000 people fought for a chance to listen to William J. Bryan at Madison Square Garden in New York the other night—which only goes to show that, whether you like him or not, he is one of the truly remarkable men this Country has produced in recent years. Sometimes people will fight to listen to a man out of curiosity for a little while but when they keep it up year after year there's something to him besides just wind. So call old Nebraska Bill what you please, you've got to admit that he's one of the unusual men of his time.

Tractor for Plowing and Harrowing.

I will tell you what I know about the gas tractor for farm power. My outfit consists of an Average 40-80 tractor and 36-60 separator and an eight-bottom self-lift plow which cost me $2500, $1200 and $800 respectively. The tractor is all the company claims for it.

We only use the tractor for plowing and threshing. The cost of plowing is about 50 cents an acre. I can plow with the tractor when the ground is too hard to plow with team. Can easily plow two acres an hour. Were I going to buy another one I would get a 20-40 tractor and a five-bottom plow. This tractor would be light enough to use for harrowing and seeding. This tractor will work week in and week out without getting tired.

Any farmer who plows one hundred acres every fall should make a tractor pay for itself in a little while.

Walter Hobson,
Rosendale, Mo.

Free Barn Plans

If you contemplate building a barn this fall and will drop a postal card to the Southern Pine Association at 619-D Inter-State Bank Building, New Orleans, Louisiana, and ask them to send you their free barn plans they will be glad to do so. This book should be in the hands of every farmer even though he does not expect to build an entirely new barn because it will help him to rearrange his old one so it will be much more convenient. Better write for the free plans today and mention The Missouri Farmer.

A Free Trip to the

Great Panama Exposition

For Farmer Girls

THE MISSOURI FARMER wants to furnish a FREE round trip Railroad and Pullman ticket to the Great Panama Exposition to some bright farmer girl in every community in Missouri. Commemorating as it does the greatest engineering feat in history, it is the most interesting as well as beautiful Exposition ever held in the United States—and between Missouri and San Fransisco lies a "Wonderland" which baffles description. Think of riding across the Western Plains in a luxurious Pullman car—of the snow capped peaks in the Rocky Mountains and the "Fairyland" of California. Surely this is a trip of pleasure and interest which should appeal to every bright farmer girl in Missouri. Write at once for full particulars. We can accomodate only ONE girl in each community.

The Missouri Farmer

Columbia, Missouri

FLEAS IN HOUSE AND BARN

A correspondent from Barton County states that his place is over-run with fleas about the barn and in the house and they have become very annoying. Mr. Leonard Haseman of the University was requested to give a remedy and replies as follows: The common flea, which at times causes so much trouble in different parts of Missouri, seems to be the one which breeds so rapidly on cats and dogs, or more especially, where they are permitted to harbor. In some cases, however, they seem to breed largely in hog houses and similar places. The flea is quite similar to the fly, as regards its stages of development. The eggs are deposited usually around any dry rubbish and the small maggot-like larva of the flea feeds on waste products from animals and other filth. After becoming fulfed the pest transforms to the active, jumping flea and after that it feeds largely on the blood of different animals.

In a campaign against this pest, therefore, the first and most important thing to do is to thoroughly go over and clean out barns, hog houses and other places where the fleas are breeding. Clean out all dry rubbish and then thoroughly flood stables and other breeding places with water. This will kill the young stages and will help to drive out the adults. Along with this the liberal use of coal oil or stock dips will help further to rid the places of the young, as well as the adults. Your first effort may not be entirely effective and after about two weeks you may find it necessary to repeat the operation, but if you can prevent them from having dry, filthy places in which to breed you can soon prevent the increase of fleas and in time you can get rid of those that are alreday present.

In the home one cannot always apply the same treatments that he would use in the barns, but if cats and dogs are not allowed to harbor in the house or under houses the flea will not likely continue to breed in the home and by thoroughly driving out all that are present in the home and preventing others from getting back from the barn and other breeding places, in time one can get ride of them in the home. Carpets and other floor coverings should be taken out and thoroughly dusted and all floors carefully scrubbed with hot soap-suds, or in case of finished floors the light treatment of gasoline will serve the same purpose.

This is a pest which has troubled man for centuries and while it is one which is fairly easily controlled in the beginning, it is not an easy one to get rid of after it has become thoroughly established. Patience and persistance will eventually rid any place of the pest. L. Haseman.

Taking Pictures on the Farm

There ought to be a good kodak on every good Missouri farm. Farm papers are always "hard up" for good farm scenes, harvest field scenes and pictures of good live stock. The Missouri Farmer would be glad to print any good picture of this kind—but the trouble is we can't find them. Then there are other pictures such as family groups and "The Baby" which will be of loving interest in the years to come when time with its ruthless hand has forever changed the things that were. We know of no more delightful or instructive pastime in which any bright farmer girl can indulge than to learn to take kodak pictures.

$150 PER MONTH and EXPENSES Salary or Commission—Introducing our King Butter Separator. Produces best grade of butter from cream or milk, sweet or sour, in less than 5 minutes. Retails $5 up. Write for free sample and salary proposition. **De King Mfg. Co., Dept. 98-H, Chicago, Ill.**

Elsewhere in this issue you will find the advertisement of the Eastman Kodak Co., and we suggest that you write them for prices on kodaks and full information about how to take pictures. Be sure to mention The Missouri Farmer.

Rhode Island Red Breeders, Attention!

The Missouri State Poultry Association has secured the services of Judge W. H. Card, Secretary of the Rhode Island Red Club of America, to place the awards on all Rhode Island Red classes at its twenty-third annual poultry show which will be held at Joplin, Mo., December 7 to 11, 1915.

In anticipation of very large classes, the Association has offered in addition to the regular cash prizes, $50 in special prizes on all classes totaling 200 birds.

Judge Card will be at the show during the entire week and will be glad to give personal attention to all requests for information to mating and scoring the Reds. He also will give a number of his chalk talks in the lecture hall.

All of the other breeds will be judged by equally well known judges of national reputation.

Through the co-operation of the Commercial Club of Joplin which has guaranteed a building suitable for cooping 5,000 birds, and also a portion of the operating expenses, the coming Missouri State Poultry Show will not charge admission to the show room or to any of the lectures or demonstrations. Fred Crosby, Secretary
Missouri State Poultry Association.

LIVE STOCK NOTES

R. P. Royce, Fieldman

COMING SALES

Spotted Poland Chinas

J. W. Everyman, Gallatin, Mo., Aug. 10.
H. L. Faulkner, Jamesport, Mo., Aug. 11.
H. T. Dickerson, Jameson, Mo., Oct. 6.
Andrews Stock Farm, Lawson, Mo., Oct. 14

Poland Chinas

J. F. Richards & Son, Bevier, Mo., Sept. 8.
Halleck Bland, Centralia, Mo., Sept. 16.
N. R. Riggs, Lawson, Mo., Oct. 7.
Ed. Cook, Pattonsburg, Mo., Oct. 7.
L. L. Freeman, Kearney, Mo., Oct 15.
G. B. Gurthet, Pattonsburg, Mo., Oct. 29.

A Notable Holstein Sale

What is perhaps the most notable sale of registered Holsteins ever made in Missouri was recently consumated when W. F. Phelps of Aurora, Mo., purchased fifteen head of cows and one bull from the Woodcrest herd owned by S. W. Cooke & Sons, Maysville, Mo., at an average price of over $400 per head. Mr. Phelps is establishing a very high class herd, and by his recent purchase his herd at once takes a place in the front rank of Missouri Holsteins. Included in the lot were some of the very choicest high producing cows that ever left the Cooke herd, and all, except two, are cows with A. R. O. records. These cows are all bred to the young Woodcrest herd bull, Prince Segis Walker Pietertje 123955, one of the strongest bred bulls of the breed.

Mr. Phelps was very fortunate in securing the grandson of Pontiac Korndyke to head his herd.

Mr. Phelps is to be congratulated upon securing such a valuable collection of breeding stock and the dairy interests of South Missouri will be greatly stimulated because of his enterprise.

Lockridge's Polands

Will G. Lockridge is now ready to ship spring boars and gilts sired by his great young boar, The Giant, one of the largest boars of his age that the writer has seen in the state.

Angus Bargains

J. D. Blackwell, Fayette, Mo., is offering a nice lot of young cows with calves at foot, heifers due to calve this fall, and several toppy young bulls.

Oakwood Polands and Shorthorns

H. S. Williamson is offering the readers of this paper a splendid opportunity to buy choice Poland China spring boars and gilts of strictly big type breeding, at very reasonable prices. Mr. Williamson also has on hand a number of good useful young Shorthorn bulls, of straight Scotch breeding, that should be in the hands of Missouri farmers who are endeavoring to build up a profitable herd of cattle. Mr. Williamson guarantees satisfaction.

Woodcrest Holsteins

We take pleasure in referring our readers to the advertisement of S. W. Cooke & Sons, Maysville, Mo., in which they call attention to their well known Woodcrest herd of Holsteins.

This herd is easily among the best in the Middle West, and has been selected and bred up for heavy long distance milkers. At the head of the herd stands the young bull, Prince Segis Walker Pietertje 123955. This bull was purchased from the Emblagaard Dairy, Big Bay, Mich. The records of his dam and granddam and the ten nearest dams of his sire average 29.76 lbs. butter in 7 days. Of these twelve, seven are 30-lb. cows; two are over 29 lbs.; one over 28 lbs., and one 27.85 lbs. The dam of his sire, Segis Walker Pietertje (butter, 7 days, 27.85 lbs., test 4.73 per cent, at 3 years of age) and her four dams, going back to the great cow Prillys, dam of Beauty Pietertje, hold the world's record for four and five generations. The records show that only three other families have produced a 30-lb. cow that has produced a 30-lb. daughter and a 30-lb. granddaughter.

At present Messrs. Cooke are almost sold out of mature cows, owing to the sale of fifteen head to W. F. Phelps, Aurora, Mo., but they have a choice lot of young heifers either bred or open, and eight exceptionally good young bulls, that they are offering for sale. The herd has been regularly tested twice a year for the past eight years for tuberculosis and as yet there has never been a reaction.

We recommend this herd very highly to any of our readers who are in the market for choice stock. In writing please mention The Missouri Farmer.

Thomson Bros. Durocs

Last week the writer visited the herd of Durocs owned by W. H. and Geo. E. Thomson, Columbia, Mo., and was gratified to see the class of young stuff that will soon be ready to ship. The litter out of Miss Crimson Col. I Am is among the top litters of the year and justifies the judgment of Messrs. Thomson in adding this remarkably good sow to their herd. The spring pigs by Col. Wonder II, the prize winning son of Col. Wonder, are very attractive, and are the kind that will meet with ready appreciation from our readers who are looking for Durocs with size, stretch, bone and quality. Several litters by the good son of Beauty's Model Top, Beauty's Col., out of some of the best sows in the herd, furnish choice material to select from. Messrs. Thomson are determined to own a herd of the best, and even now their herd will compare with any of the better herds of the state. They have built up a large and growing business by selling their Durocs on an absolute guarantee of satisfaction and we urge our readers to visit this herd before making their purchases.

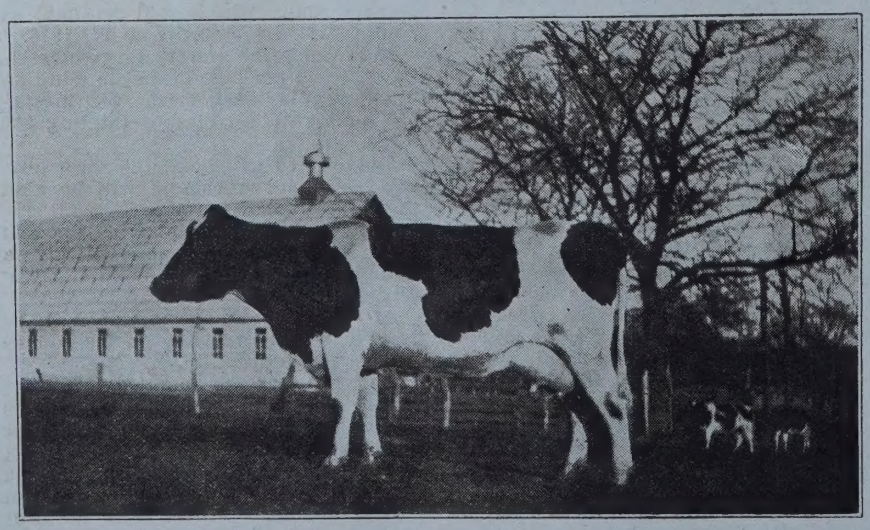
Bruns' Jerseys

Wm. H. Bruns & Son, Concordia, Mo., are in excellent shape to furnish our readers with Jersey cows and heifers or young bulls. Theirs is a working herd and is making good for Messrs. Bruns. Young stock from such a herd will make good for the purchaser.

Duroc Boars and Gilts

R. L. Hill, proprietor of Adenhill Farm, Columbia, Mo., reports the following recent sales: One boar by Col. Wonder II to W. H. Jackson, Blackfoot, Idaho; one boar by Col. Wonder II and out of the prize winning sow, Missouri Lady Again, to Ray A. Niel, Aldrich, Mo.; one boar by Col. Wonder II, out of a Beauty's Model Top dam, to M. P. Mattingly, Owensboro, Ky., and one boar by Crimson Commander, out of a Defender dam, to Geo. E. Shedd, Anabel. Four gilts, three bred to Col. Wonder II and one to Rexall Col., to W. B. Matthewson, Yellville, Ark. Mr. Hill also states that the Shorthorn calf he recently advertised was sold to Geo. H. Kyd, Green Ridge, Mo.

Mr. Hill is meeting with marked success as a breeder and at present he has a very desirable lot of spring pigs coming



A high producing cow in S. W. Cooke & Son's herd

DUROC JERSEYS

Select Col. II--Crimson Col. I Am

I can furnish spring pigs, fall yearlin gs and tried sows. Bred the way the winner's are. Priced reasonable. Come and see my herd.

A. WHITE, JR. Box 422 PALMYRA, MO.

ADENHILL DUROCS--SPRING PIGS

Spring pigs sired by Col. Wonder II out of sows carrying as good blood as the breed affords. Get my prices before you buy.

R. L. HILL - - - - - - - Adenhill Farm, Columbia, Missouri

THOMSON BROS. DUROC JERSEY'S

We have the best lot of spring pigs coming on that we have ever raised. Ready to ship soon. Prices moderate and satisfaction guaranteed.

W. H. and GEO. E. THOMSON, Columbia, Mo.

DUROC JERSEY SWINE

Large type, heavy bone, lots of quality. Ninety spring pigs ready to ship last of June. Two May yearling boars, good ones at bargain prices. I always guarantee satisfaction.

A, C. BROCKMAN, Route 2, - - - - Centralia, Mo.

DUROCS and SHORTHORNS

Immune bred gilts and tried sows $20 to $50; also some choice serviceable boars and spring pigs. A pair of good bulls 16 months old at reasonable prices and well bred. Will sell any of above stock worth the money. Write and tell me what you want to buy. Stock sold in 61 counties in Missouri. I believe I can please you.

J. E. WELLER,. FAUCETT, MO.

15 DUROC SPRING BOARS & GILTS

We will have 15 boars and a number of open gilts which we will price to sell quick, and are booking orders now for 25 pigs, farrowed November 10th.

J. C. Garrard & Son McBaine, Mo.

Champion Col. Wonder Durocs

A few yearling boars and bred gilts. Booking orders for spring pigs either sex. Col. Wonder sires my champions—he will sire champions for you. Write or come.

CHAS. L. TAYLOR - - OLEAN, MO.

POLAND CHINAS

SPOTTED POLAND CHINAS

The big boned, thrifty kind. We have a number of boars now ready for service. A choice lot for only $25 each f. o. b. Rocheport.

HALL & RAPP - - - - - - - Rocheport, Mo.

MEGOWN'S SPOTTED POLANDS

No matured stock for sale but booking orders for pigs to be shipped later. Have length, bone, size and big spots. Sired by two of the biggest boars in the State for their age.

B. B. MEGOWN - - - - - - - - - - - - - - New London, Missouri

Faulkner's Famous Spotted Polands

We are not the originator, but the preserver of the Old, Original, Big-Boned SPOTTED POLANDS. Spring pigs now ready to ship. Pairs or trios not akin. A few good fall boars ready for service. Write your wants.

AUGUST 11, MIDSUMMER SALE.
Ask for Catalog.
H. L. FAULKNER, Box R, Jamesport, Mo

SUPERIOR HERD BIG-TYPE POLANDS

I have at all times anything you want in strictly big-type Polands. Special prices on spring boars and gilts in pairs or more—not related. Write me your wants.

L. L. FREEMAN (Successor to Freeman & Russ) KEARNEY, MO.

LOCKRIDGE'S GIANT POLAND CHINAS

In my recent sale gilts bred to my great young boar THE GIANT 72083 averaged $57. THE GIANT is conceded to be one of the greatest boars of the breed. You will want some of his blood. Booking orders for spring pigs. Write at once.

WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

POLAND CHINAS AND SHORTHORNS

Bred sows and yearling gilts bred for May farrow. Extra good fall boars and gilts. Several choice young bulls and heifers.
Satisfaction Guaranteed
H. S. WILLIAMSON, R 6 Centralia, Mo

BAKER'S REAL BIG-TYPE POLANDS

Our winnings at the State Fair prove that we "have the goods." Spring boars and gilts of excellent breeding and individuality at very reasonable prices. Also a number of fall boars, big, stretchy fellows.

W. A. Baker & Sons, Butler, Mo.

Dooley's Spotted Polands

Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pairs and trios no relation. Also registry furnished. Send check with first letter.

EDGAR DOOLEY, ETTERVILLE, MO

CHESTER WHITES

RAUSCHER'S CHESTER WHITES!

One of the Oldest Herds in the West

A few choice spring gilts bred for early farrow. Several richly bred big spring boars. A fine lot of fall pigs. Size, quality, and bone. Prices reasonable and every pig guaranteed.

H. Rauscher & Son, Kahoka, Mo.

Maple Grove O. I. C's

Over 100 spring pigs from 2 to 3 month old at the following prices: Choice of litter, $12; litter average, $10; fall gilts, $1 Bred gilts $20 to $25. Bred sows, $30 to $3 Prize winning blood and the most popula strains. Each individual guaranteed t give satisfaction.

F. J. GREINER, BILLINGS, MO.

on that he is pricing very reasonable. Most of them are sired by Col. Wonder II, the prize winning son of the champion, Col. Wonder, and by Crimson Commander.

These pigs have been handled carefully and have plenty of size, stretch and bone. Among the lot are several good herd boar prospects, but Mr. Hill is pricing them all so that the man with grade sows can afford to buy one of these pure bred boars. In writing please mention The Missouri Farmer.

Moore's Holsteins

Last week our representative visited the herd of Holsteins owned by M. E. Moore & Co., Cameron, Mo. This is the oldest herd owned in Missouri and for years has been drawn upon by discriminating buyers in search of breeding stock of proven merit.

The herd was founded by the late M. E. Moore, and at his death passed into the ownership of his widow and son-in-law. Mrs. Moore has decided to retire from active management of the herd and because of this fact it has been found necessary to reduce the herd to a considerable extent. Accordingly, it is announced that for the next ninety days, or until a sufficient number are sold, very special prices will be made on any individuals in the herd. Buyers have the whole herd to select from and will find most anything wanted. Aged cows, young cows, heifers, open or bred, or bull and heifer calves are in offer at prices quite below what is usually asked.

We feel sure that our readers will make no mistake in visiting this herd as soon as possible, and we gladly call this opportunity to the attention of those interested. It is not often that such a herd is offered for sale without restrictions. Mention The Missouri Farmer.

Remember September 8.

Any of our readers who are interested in Poland Chinas will find that they will be serving their own interest if they draw a ring around Wednesday, September 8. This is the date claimed by J. F. Richards & Son, Bevier, Mo., for their annual sale.

The Pen-Yr-Hyl (which by the way is Welsh meaning on top of the hill) herd is unquestionably one of the best collections of big type Polands to be found anywhere. The offering this fall will be thoroughly high class in every respect and buyers in search of breeding stock of merit will not be disappointed. Don't forget the date, and watch these columns for details later.

Missouri State Fair to Have Seven Day Butter Contest This Fall.

One of the interesting features of the Missouri State Fair at Sedalia, September 25 to October 2, will be the 7-day butter contest to be put on under the direction of State Dairy Commissioner E. G. Bennett, who for the South Missouri Dairymen's Association is offering a $500 purse in this contest.

All that is necessary to enter the contest, open for any and all breeds, is for the exhibitor to secure from his creamery man a certificate that he is selling milk products to that dairy from the animals exhibited.

This should be one of the very best and most attractive features of the animal husbandry department at the State Fair this fall. Dairy Commissioner Bennett hopes to be able to announce soon a series of purses from the Jersey Cattle Breders' Association as well as valuable special prizes from the dairy supply dealers. These prizes are virtually secured and will add a great deal of interest to the contests in the dairy classes in the coming big exposition at Sedalia as they will be among the most attractive given at any state fair this fall.

County Collections Brought Together

The Missouri State Fair Board is again giving liberal premiums for county exhibits at the Missouri State Fair and every inducement is being held out to have the county exhibit feature one of the strong cards of the fair at Sedalia, September 25 to October 2. The prospects for farm and garden products this year are such that it is advisable for those having exceptional specimens to begin to lay them by for the big State Fair this fall. County exhibits this year will be featured up at the fair in a way not heretofore attempted although these exhibits have been encouraged from year to year.

Rauscher's Chester Whites

H. Rauscher & Son, Kahoka, Mo., are offering an attractive lot of Chester White spring boars and gilts from their well known herd. Messrs. Rauscher have maintained a select herd for over thirty years and buyers will get the benefit of these years of experience. Our readers can bank on anything this firm offers.

Carr's Jersey Bulls and Heifers

Ezra E. Carr, Clayton, Mo., is offering ten Jersey heifers that are grand-daughters of the great bull, Noble of Oaklands. These heifers range in age from 3 to 20 months. Two young bulls of the same breeding are also for sale.

Mr. Carr writes that he is pricing this young stuff quite below the usual run of prices, because he is crowded for room. Mention this paper in writing.

Maple Grove O. I. C's

F. J. Greiner, Billings, Mo., is advertising O. I. C. spring pigs at prices that any of our readers can well afford to pay. The Maple Grove herd is one of the best in South Missouri and includes a number of prize winning sires and dams. Write Mr. Greiner for prices and mention this paper.

MISSOURI COUNTY FAIRS FOR 1915

Compiled by E. A. Trowbridge, Secretary of Missouri Association of County District Fair Managers, Columbia, Missouri.

County	Town	Secretary	Date—1915
Andrew	Savannah	Leslia M. Dobbs	Nov. 29-30
Audrain	Mexico	E. H. Carter	Aug. 17-20
Bates	Butler	C. E. Robbins	Sept. 7-10
Bates	Amsterdam	J. D. Sage	Sept. 29-30
Boone	Columbia	R. L. Hill	Aug. 10-13
Barton	Lamar	H. G. Mallett	Sept. 29-Oct. 2
Buchanan	Easton	Louis Boyer	Sept. 1-4
Callaway	Bloomfield	S. D. Waggoner	Aug. 17-19
Cape Girardeau	Cape Girardeau	J. T. Nunn, Jr.	Sept. 29-Oct. 2
Carroll	Carrollton	Leo. Archibald	Aug. 17-20
Chariton	Prairie Hill	C. L. Sears	Sept. 2-4
Clark	Kahoka	P. I. Wilsey	Aug. 24-27
Clay	Smithville	E. B. Iden	Sept. 7-9
Cole	Jefferson City	P. C. Hunt	Not decided
Cooper	Bunceton	S. F. Mauck	Aug. 25-27
Crawford	Cuba	I. C. Walker	Sept. 14-17
Dade	Lockwood	Dr. A. Frye	Sept. 20-24
Daviess	Pattonsburg	R. E. Maupin	Aug. 24-27
DeKalb	Maysville	J. S. Mayes	Sept. 1-4
Dunklin	Kennett	L. R. Jones	Oct. 13-16
Dunklin	Campbell	N. M. Jones	Oct. 6-9
Franklin	Washington	Henry H. Thias	Sept. 3-4
Green	Springfield	Jesse M. Cain	Oct. 5-9
Grundy	Trenton	H. C. Campbell	Aug.31-Sept. 3
Harrison	New Hampton	F. M. Magee	Sept. 1-4
Hickory	Hermitage	Ross Coon	Aug. 24-27
Howard	Fayette	Jasper Thompson	Sept. 15-17
Holt	Maitland	Lester Hodgin	Aug. 17-20
Jackson	Independence	W H. Johnston	Aug.31-Sept. 3
Jasper	Carthage	Emma R. Knell	Aug. 24-27
Jefferson	De Soto	C. J. Davidson	Sept. 28-Oct. 1
Johnson	Chilhowee	Ray Butcher	Sept. 17-18
Knox	Knox City	L. R. Westcott	Aug. 10-13
Knox	Newark	W. A. Henderson	Aug. 24-27
Lawrence	Mt. Vernon	Clyde Hocker	Sept. 28-30
Lewis	Monticello	J. A. West	Aug.31-Sept. 3
Lincoln	Elsberry	H. L. Humphrey	Aug. 11-14
Lincoln	Troy	O. D. Bradley	Aug.31-Sept. 3
Macon	Callao	E. G. Jones	Sept. 14-16
Macon	Atlanta	V. D. Gordon	Sept. 7-9
Macon	New Cambria	W. R. Baker	Sept. 8-10
Marion	Palmyra	G. B. Thompson	Sept. 7-11
Moniteau	California	L. B. Meyer	Aug.31-Sept. 3
Monroe	Paris	Penn Brace	Sept. 7-12
Nodaway	Marysville	E. E. Williams	Oct. 28-30
Osage	Linn	L. M. Lucekenhoff	Not decided
Phelps	Rolla	W. T. Denison	Sept. 21-24
Pike	Bowling Green	H. M. Strother	Aug. 24-27
Platte	Platte City	G. C. Johnson	Sept. 1-3
Polk	Bolivar	W. A. Townsend	Sept. 1-4
Ralls	New London	Not elected	Sept. 28-Oct. 1
Randolph	Moberly	W. F. Hannah	Aug. 3-6
Randolph	Jacksonville	Geo. W. Butler	Aug.31-Sept. 2
Randolph	Clark	R. R. Correll	Sept. 1-3
Scotland	Memphis	J. R. Hudson	Aug.31-Sept. 3
Scott	Sikeston	H. A. Smith	Sept. 22-25
Shannon	Birchtree	C. E. Randall	Sept. 28-Oct. 2
Shelby	Shelbina	Jas. J. Dimmitt	Aug.31-Sept. 3
St. Clair	Hudson	Stella Ritchie	Sept. 9
St. Clair	Osceola	C. E. Higgins	Sept. 16-18
Sullivan	Green City	A. E. Jones	Aug. 17-20
Sullivan	Sullivan	Jno. T. Williams	Sept. 8-11
Vernon	Nevada	S. A. Cubbin	Aug.31-Sept. 3
Warren	Wright City	Wm. Heidtman	Not decided
Wright	Mansfield	Ernest Cody	Not decided

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(Just south of St. Louis)

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Bulls ready for service. They are sired by the Owls Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.
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Seven early calves—3 BULLS and 4 HEIFERS, sired by Dean's Eric 139686. Every one the right kind, and priced to sell.
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Registered bulls and heifers. The market topping kind. Leading families represented. Priced worth the money and satisfaction guaranteed.
Also Poland China hogs.
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PEABODY FARM now offers 12 choice young bulls and 20 heifers. Good individuals; reds and roans. Priced to sell. Also 20 open BERKSHIRE gilts. Get our prices.
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Our 16 H-P. WITTE portable engine is giving satisfactory service. We are using it for threshing and filling silos.—**Chas. H. Clarke, 517 Third St., Des Moines, Iowa.**

Men who thought they knew told me my 6 H-P. WITTE engine wouldn't run it, but I got an Ohio cutter and blower, and cut four tons per hour. The engine is all I can ask.—**Charles O'Neal, Marshall, Ark.**

My 12 H-P. WITTE engine is operating a No. 12 cutter, 34-ft. carrier, and cuts five to six tons of silage per hour in good shape.—**J. A. Gould, East Hampton, New York.**

My 12 H-P. WITTE engine has filled eight silos. Can fill a 12x30 ft. silo in seven hours. Am using a 16-inch cutter.—**A. P. Peterson, Almena, Wisc.**

My 8 H-P. WITTE kerosene engine did fine work filling two silos. If I buy another it will be a WITTE.—**G. F. Kremer, Elsie, Mich.**

The 12 H-P. WITTE engine on my farm has been used for many purposes, and at all times has given the best of satisfaction. Find by comparison with others its cost of operation is considerably less.—**John M. Egan, Pres. Metropolitan Street Railway Co., Kansas City, Mo.**

I had not had any experience when I bought the 22 H-P. WITTE engine, and am highly pleased. If I buy another, it will be a WITTE.—**James A. Lowe, Erie, Kans.**

I am a good friend of the WITTE engine, having used a 22 H-P. for nearly seven years.—**Jas. R. Plumb, R. F. D. No. 1, Emporia, Kans.**

The 22 H-P. WITTE engine which I bought about two years ago is working satisfactorily, and has not given me any trouble.—**H. M. Basford, Hillsboro, Ore.**

During the 12 years, my 12 H-P. WITTE engine has cost me practically nothing for repairs. I run a 16-inch ensilage cutter and cut a wagon-load of green corn in ¾-inch lengths and lift it into the silo in 12 minutes. I still believe that no engine is better.—**John A. Reynolds, Winchester, Kans.**

I filled three silos in 72 working hours with my 6 H-P. WITTE engine. Used a No. 19 Hocking Valley cutter, blower type, with 12-inch knife.—**C. V. Chase, Thompson, Conn.**

My 6 H-P. WITTE engine certainly does its work in great shape. It takes just one-half as much gasoline as the —— make engine which my partner is using.—**M. Steinback, Heartwell, Nebr.**

Our 12 H-P. WITTE engine is running in this high altitude, and I am entirely satisfied with it.—**W. J. Elliott, Webb, Ariz.**

Four years ago I bought my 16 H-P. WITTE engine. I had never had any experience and lived 30 miles from town, but in four years have not had any repairs or trouble.—**Andrew Garcia, Cry, Mont.**

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My Latest Prices:

Sizes:	Stationary Engines	Portable Engines
2 H-P.	$ 34.95	$ 39.95
3 H-P.	52.50	60.50
4 H-P.	69.75	82.75
6 H-P.	97.75	127.75
8 H-P.	139.65	174.65
12 H-P.	197.00	237.00
16 H-P.	308.80	358.80
22 H-P.	389.65	442.15

Portable Engine Saw-Rigs, Complete

4 H-P.	$124.25
6 H-P.	152.25
8 H-P.	202.15
12 H-P.	267.00

NOTE: All Prices are F. O. B. Factory at Kansas City, Mo.

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Gasoline, Kerosene, Distillate and Gas

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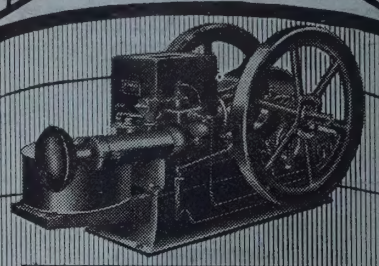
For many years WITTE engines have proved their reliability for steady and continuous running, and easy handling of load up to rated capacities. All sizes are easy to start, without cranking. With my low prices and the fuel-saving, and wear-resisting qualities of WITTE engines, you get your power-cost at the bottom-most notch possible with a general-purpose, liquid-fuel engine. Let me send you what hundreds and hundreds of my customers say in proof of this statement. I want you to know that this is no empty claim. It is a fact of first importance to you as well as to me.

Stationary Engines for less than $17.50 Per H-P. Why Pay More

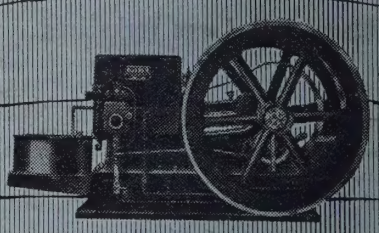
Sold only Direct from Factory, or from Pittsburgh, Pa., Warehouse. Prompt Shipments. Cash or Easy Terms. 5-Year Guaranty.

For 28 years—longer than any other present manufacturer of liquid-fuel engines—I have been making engines—doing nothing else. You will find my engines at all kinds of work, in all parts of this country and in many foreign countries. Everywhere they are used you will find WITTE boosters. I give my old customers the credit for building up my factory from nothing, until now it is one of the largest in the country—when I am the only man in the business who started, or was running, when I started. I couldn't have had my many thousands of boosters without shipping them engines worth their boosting.

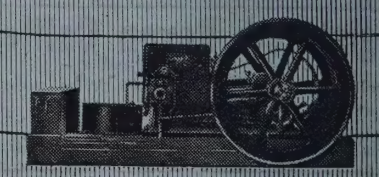
Before you buy your new engine, I ask the privilege of showing you all about the WITTE. The space in this advertisement does not permit the many pictures necessary to show the construction of all parts and their operation, each in relation to the others, as my 28 years' experience has taught me how to build them for better quality. I don't want you to judge my engines alone from my low prices, or from the limited information I can give you here. My new book shows everything—my big factory with free power from my own natural gas well—the mass of newest type machinery needed for low-cost manufacturing—and details of my engine construction.



Stationary Kerosene engine on iron sub-base Sizes, 2, 3, 4, 6, 8, 12, 16 and 22 H-P. Also furnished on skids as shown below. Besides Kerosene and Distillate, this engine burns Gasoline and Naptha without any changes in equipment.



Stationary Gasoline engine on iron sub-base. Sizes, 2, 3, 4, 6, 8, 12, 16 and 22 H-P. Also furnished on skids as shown below. All stationary engines, like the portables, are completely equipped ready to run, for prices quoted.



Stationary Gasoline engine on heavy wood skids. Sizes, 2, 3, 4, 6, 8, 12, 16 and 22 H-P. This is the regular mounting for prices above quoted. Iron sub-base is small cost extra, shipped only on special order.

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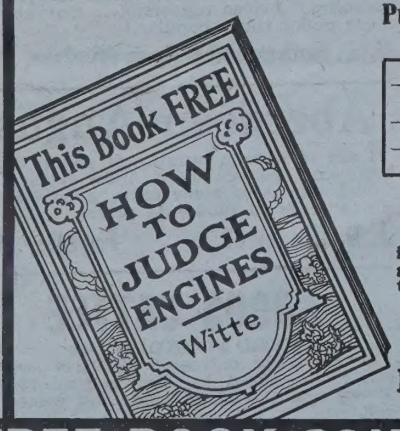
Our Guaranteed H-P. Ratings	2H-P.	3H-P.	4H-P.	6-HP.	8 H-P	12H-P	16H-P	22 H-P.
Actual Power Developed on our Continuous Working Test.	2.9	4.5	5.8	9.1	10.5	14.5	18.9	26.5
Surplus H-P Each Size.	.9	1.5	1.8	3.1	2.5	2.0	2.9	4.5
Per Cent. of Surplus H-P.	45%	50%	45%	51.6%	31.2%	20.8%	18.1%	18%



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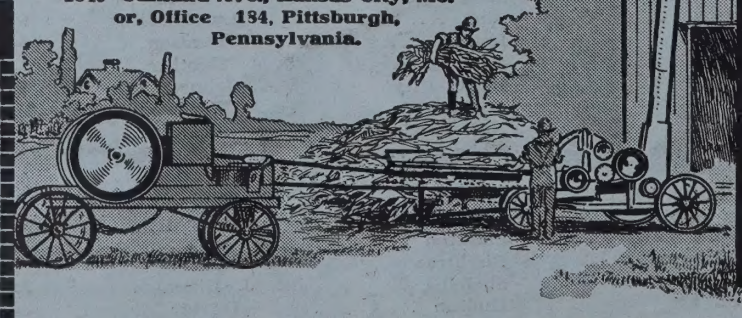

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The War Craze

At this moment we are engaged in writing the reddest page of human history the World has ever known—and that is saying a great deal for there are big splotches of crimson that reach back as far as the recorded scribblings of the historian and beyond that they lose themselves in the gray mist of the first dawn. It is redder and more horrifying than any other epoch civilization has ever known because the mightiest nations on Earth are the gladiators in the present conflict—because millions are flying at each others throats instead of some few hundred thousand and because the very genius of our time enables us to slaughter whole regiments today where we only slaughtered companies in the bloody combats of the past.

Furthermore, we are writing not merely the reddest page in history but also the most shameful and foolish one—and the day will come when all Europe will realize this fact and when the stupendous folly of the performance will smite with the power of a thunderbolt those who still have some degree of reason left. But apparently this hour is still a ways off. Corps after corps of new men are being gotten ready for the slaughter and with each passing day the red furies of the trenches do an ever increasing business.

In the meantime, the war spirit has reached into every sphere and clime and even as these lines are being written the mania is gradually spreading through and over our own beloved Country and scores of great newspapers as well as men prominent in the public life of the Nation are demanding in stentorian tones a Navy and Army capable of holding their own against any other martial power in the World—and this humble publication takes this opportunity to dissent from the new propaganda.

Mind you, we are not opposed to a reasonable degree of National preparedness—but we do protest against the new spirit which seeks to convert this peace loving land into an armed camp in the years to come. Where is the lurking enemy for whom we should thus prepare? Surely it is neither England, Germany, France or Russia whose appetites for war will be well sated at the end of the present conflict and with whom we have no territorial quarrels? Surely it cannot be against the weak republics of South America from whom we ask nothing more than commercial friendship? Surely it cannot be poor famished and war ridden Mexico whom our regulars could subdue within ninety days? Or can it be Japan—that imaginary ogre of the East which has been disturbing our dreams here of late? That our Philippine entanglements have put a more serious phase upon such a controversy, should it come to pass, is undoubtedly true—but, in the end there could be but one outcome should the Mikado ever seek to challenge American manhood and American resources. But, assuming that there is a remote possibility of trouble with Japan, should this mighty Nation be converted into a veritable war camp for years to come merely because there is one sinister cloud on the horizon of the future?

Aided by our splendid geographical isolation, there is no power on Earth which could finally prevail against us and while we heartily favor powerful coast defenses and a Navy which can compel respect for our flag upon the high seas, we protest against a mania which assumes that the chief business of humanity from this time forward will be to destroy and kill. On the contrary, unless we are much mistaken, the World is on the threshold of more certain peace than it has ever known before—once Europe awakes from the pitiful and hopeless folly in which she is now engaged and which a hundred years of thrift and toil will not be able to wipe out.

The future conquests of this Nation should be won upon the farm, in the factory, laboratory and school room. Here lies the true path of our destiny and in this forum brains rather than brute force is the master.

—By the Author of After-Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VII JULY 15, 1915 NO. 14

WILLIAM HIRTH
PUBLISHER

TWENTY YEARS WITH FERTILIZERS

Ohio Circular 144, covering twenty years' experiments with fertilizers, is a most interesting and valuable contribution to agriculture. Director Thorne conceived the idea of conducting a series of experiments in five-year rotations for a period of twenty years on the same land, beginning with corn, followed with oats, wheat, clover and timothy, in order named. Thus four crops of each kind were harvested in rotation in the twenty years, excepting one year when the timothy failed.

In one set complete fertilizers alone were used; that is, fertilizers containing available phosphorus, nitrogen and potash. In other sets phosphorus was used alone and potash alone and phosphorus and potash combined. There were check plats where no fertilizer or manure of any kind was used. In each case with fertilizers, **the complete, available mixtures gave the largest crop yields.** The following table shows the increase where complete fertilizers were used alone, over plats where nothing was used:

	Corn	Oats	Wheat	Clover	Tim'thy
	4 crops	4 crops	4 crops	4 crops	3 crops
Complete fertilizer .....Av.	46.5 bu.	47.1 bu.	24. bu.	1.5 tons	1.7 tons
Check Plats, nothing used .....Av.	28.9 bu.	30. bu.	10.6 bu.	.9 tons	1.3 tons
Increase by use of fertilizers .....Av.	17.6 bu.	17.1 bu.	13.4 bu.	.6 tons	.4 tons
Percentage of increase by the use of feritlizers (E.& O.E.)	60%	57%	126%	66%	30%

The above results are very gratifying, but we think they would have been still more gratifying and far more profitable in dollars and cents if Dr. Thorne had used what we regard as better balanced mixtures: that is, more available phosphoric acid and less nitrogen and potash. In one set Dr. Thorne used twice as much nitrogen as he did available phosphoric acid and in another set three times as much. We would have reversed it. One of the most successful formulas for growing corn in the East, when used alone (based on forty years of commercial experience) is one where the ratio is approximately 3 nitrogen, 10 available phosphoric acid, and 7 potash, also carrying more organic nitrogen and less chemical nitrogen than Dr. Thorne used. Another formula used chiefly for starting crops and improving quality on a good soil or where manure or a green crop is plowed in, is a 2-8-2 mixture.

These Ohio experiments confirm our experience of forty-two years in selling fertilizers all over this country for all sorts of crops and conditions; that **complete, available** fertilizers produce almost invariably the largest crop yields. These experiments, as well as others all over the world, also show that complete fertilizers are not "patent soil medicines" or "soil stimulants" as claimed by Illinois officials, but if properly used are really and truly **soil builders** as well as crop producers.

Profits

It has been said that if the Ohio station had paid the price charged at retail for nitrogen, phosphorus and potash in ready mixed fertilizers, the experiments would have put the profits on the other side of the ledger. As to the profits in dollars and cents, that, it seems to me is, and always must be, a matter dependent on local conditions,—local conditions as to the cost of plant food, and local conditions as to market value of crops raised. To illustrate: If the fertilizer had been given to the potato growers of Aroostock County, Me., the past year, the price of potatoes (40c a barrel in the winter) would not have paid for the cost of seed, cultivation and use of land. On the contrary, if the price had averaged $1.25 per barrel (the normal average) a satisfactory profit would have resulted. The prices which were used in the Ohio calculations were extremely low—corn at 40c a bushel as against an average wholesale price of 48c in Chicago (today's price 75c); wheat at 80c as against an average of 95c (today's price $1.18); oats at 30c as against an average of 34c (today's price 48c). Therefor I do not think it altogether fair to draw conclusions which may be accepted as applicable to the whole country or even to Ohio, especially if based on low or unusual market conditions or on unbalanced formulas.

The Utilization of By-Products

It has been claimed that the materials used in the Ohio experiments were **more effective** than those used in ready mixed fertilizers. It is a well known fact, however, that factory mixed goods as a rule contain some if not all of the materials used in the Ohio experiments. In addition they contain by-product materials which are rendered highly available by the new process of manufacture and thus they are utilized to the advantage of the whole country, by keeping down the price of those things which may be used separately. Also, incidentally, they are **home products,** and keep at home money which otherwise would be sent abroad for plant food. There were millions of pounds utilized in Ohio last year, not including the nitrogen from Ohio coal, in the shape of sulphate of ammonia, which Hall regards as one of the best sources of nitrogen for all crops, and the best source for potatoes. For proof of their availability see Bureau or Soils Bulletin 158, entitled "The Nitrogen of Processed Fertilizers"; also consult the directors and chemists of the Eastern Experiment Stations.

The several million tons of complete fertilizers sold annually in this country could not be made on the Station's simple formulas of acid phosphate, nitrate of soda, dried blood, sulphate of ammonia, seed meals, and muriate of potash, for several reasons; but chiefly because it would boost the price of some of these materials out of sight. Because commercial fertilizers are composed largely of waste and by-products is the reason why the particular materials used were kept down in price, particularly the cost of nitrogen. The fertilizer industry must be given the credit of gathering all sorts and conditions of plant food from all over the world and rendering it available for man's use. Experimenters are naturally interested in keeping the price of plant food down; so are we, for the lower the price the more we will sell; and we are helping to do it by utilizing everything which contains plant food. Therefore, to question **in general** the agricultural value of well-made ready mixed fertilizers seems to me unwise, if not unfair, for it tends to discourage effort to utilize by-product forms of plant food, which must be in the interests of economic agriculture. Should not Government teachers be economists as well as experimenters?

What Farmers Demand

Practical hard-headed farmers apparently have found by experience, the country over, that it pays them to buy ready mixed, drillable fertilizers. Judging by the amount they are using in the United States—about 7,000,000 tons annually—that would appear to be a fair inference.

Out in Iowa a farmer wanted fertilizer for 600 acres of corn, but he insisted that the goods should be dry, drillable and in condition to apply all at one time **by machine.** Perhaps other farmers feel the same, for farm labor everywhere is scarce., dear and poor. Because farmers the country over demand dry drillable, "non-cakable," mixed fertilizers, bagged, delivered, and sold on crop time, is why the industry as a whole is selling 100 tons of factory mixed goods to 5 tons of unmixed, separate materials, and this ratio has not materially changed in many years.

Will It Pay the Middle West Farmers?

It may not now pay Middle West farmers to purchase commercial fertilizers to the extent of largely supplying what their crops remove. And yet I do not see why it will not pay to grow by intensive methods in the Middle West the **same** quantity of cereals on **half** the area and devote the remaining half of the land to grazing, thus reducing the unit cost of a bushel and increasing the live stock of the country; but this I feel sure of, that farmers will soon discover in the Middle West that it will pay them to use complete mixtures in order to hasten maturity and to improve quality—much as a stock breeder purchases some concentrates to give a complete balanced ration to a dairy cow, or to finish off a beef creature—much as he feeds a little milk along with concentrates to give a calf a good start. W. H. Bowker.

A GOOD SEED BED NECESSARY

The preparation of the seed-bed is the most important factor in growing a crop of wheat. An ideal seed-bed for wheat is a firm, well-compacted soil supplied with ample moisture and available plant food. To prepare a firm seed-bed, to store moisture, and to liberate plant food requires time. It is not accomplished in a day, a week or a month; it is the result of many days of settling, some good packing rains and frequent cultivation of the soil. It is, therefore, only possible to prepare an ideal seed-bed when the preparation of the ground is started early in the summer. The advantages of a firm seed-bed that result from early plowing or listing and frequent subsequent cultivation cannot be over-estimated. A firm seed-bed is absolutely necessary if the subsoil water is to be utilized by the young wheat plant. On loose, poorly packed soil there is such poor connection between the soil particles that moisture cannot be raised by capillary attraction from the subsoil. Under this condition the soil may be well supplied with subsoil moisture and the wheat fail to germinate because of the loose condition of the soil, which prevents the rise of water.

A firm seed-bed is only one of a number of benefits that result from the early preparation of the soil. Moisture is conserved and plant-food is made available in this way. The conservation of moisture results from the killing of the weeds that sap the ground of water, and from a looser condition of the soil that more readily absorbs rain. The cultivation of the soil after packing rains forms an earth mulch which prevents the loss of moisture by evaporation.

In the drier parts of the state perhaps the greatest benefit resulting from an early preparation of the soil is the conservation of moisture. Where moisture is more plentiful the greatest benefit results from the liberation of plant-food, and especially of the plant-food nitrogen. Plants use nitrogen in the form of nitrates. Nitrates are formed as the result of bacterial action. The bacteria that form nitrates work only in well-aired soils. Thus the better the soil is aired the more nitrates are formed. It is evident, therefore, that the greatest development of nitrates takes place in soil plowed the earliest and given the most frequent cultivation throughout the summer. Thus the firmest seed-bed, the most plant-food, the greatest accumulation of moisture and usually the largest yields results from the earliest preparation of the soil.

L. E. Call,
Kansas Agricultural College.

BARB WIRE INJURIES

This is the season of the year when stockmen are most frequently annoyed with barb wire injuries to their horses. Just a few things to bear in mind at such times have been suggested by Dr. A. S. Alexander, of the Department of Horse Breeding.

"After a barb wire accident, do not apply axle grease or any rancid ointment to the wound. Wash the wound thoroughly with warm water. Then clip the hair as close as possible around it, and wash again to remove any hair or other foreign substances.

"When sand or hair has lodged in the depths of a deep cut never use a wet sponge to clean it out. Use a piece of absorbent cotten or cotton batting. There will be much less risk of infection.

"It will be useless to put stitches in a wound that is very deep or ragged, or that is located in a place not in perfect rest when the animal is marking natural movements.

"Dry dusting powder has a healing effect on barb wire wounds and other large, moist cuts and abrasions. Such a powder may be prepared cheaply by mixing together equal parts of slacked lime, sulphur and charcoal.

"Prevent lock-jaw dangers in nail wounds of the hoof by opening them up freely, which provides drainage for serum and pus. Saturate with a solution of corrosive sublimate and water in the proportion of 1 to 500. Cover with dusting powder, absorbent cotton and a bandage. This treatment should be repeated daily until the wound is healed."

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The Missouri Farmer

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The Improved Standard of Living Requires More Capital

By Geo. B. Ellis, Managing Editor

The man who would make as much gross return for his time as he did ten years ago must have more capital to work with or he must increase the amount of labor performed. For every dollar invested in farm property in the whole United States in 1900 there were invested two dollars and five mills in 1910. All farm property in this country, including the land, buildings, machinery and live stock, was valued at $20,439,901,164 in 1900 but this sum, too large for us to comprehend only by comparison, had in ten years grown to $40,991,449,090. Every item invested in the farm and its equipment shows a large increase in value for the ten years mentioned. The land itself more than doubled in value during the period and the buildings had increased by 69.8 per cent, the machinery by 61.8 per cent and the live stock by 52.6 per cent.

If we examine the figures for Missouri alone we find pretty much the same general average condition. During the decade all farm property increased in Missouri by 95.3 per cent. Land alone more than doubled and for every dollar invested in the farms of Missouri in 1900 there were $2.043 invested in 1910. Buildings on Missouri farms increased 78.7 per cent in value, machinery 75 per cent and the live stock equipment by 75 per cent. These figures taken from the United States census report teach us an important fact: We must work longer hours, we must do harder labor so as to accomplish more in a day or in a year or else we must have more capital to maintain the present size of our business.

It Requires $7,405 to Own and Operate the Average Missouri Farm

The young man starting to farm in 1910 in this state with the average farm of 124.8 acres of which 88.7 acres were improved land—to own this farm with an average equipment of buildings, machinery and live stock he would require a capital of $7,405, while ten years before he could have bought the same farm and equipment for $3,626. The man then who would farm on the same scale as the man of ten years before must do one of two things: He must either cultivate a less number of acres and fertilize and cultivate more intensively or he must have about twice as much capital to operate with. The so-called experts in the Department of Agriculture and in some of the agricultural colleges who have been telling us that the only profitable agricultural practice is more extensive agriculture, these fellows who would make us believe that much of our farming must be enlarged to make it profitable will have a great big task on their hands to find the necessary capital to work with. The fact is that to operate on the present scale of double the capital required ten years ago is about as hard a problem as the writer wants to undertake.

Costs More Now to Operate a Farm

If every man could inherit a farm and equipment to begin with it would not make so much difference although greater capital would be required to carry on his farming operations. Labor costs more now than it did twenty years ago and to economize in labor we must increase the equipment of labor-saving machinery and the buying of machinery takes more money. The feeding of farm animals is done on a less margin than formerly and there is therefore no longer a profit in feeding scrubs. Buying better animals either for breeding or feeding requires more capital and the only alternative, if we quit feeding live stock, is to turn our attention to grain farming and that as we know too well means the rapid deterioration of soils and the ultimate impoverishment of the farmers. Small margins in live stock feeding and dairying make it necessary to utilize the forage and save the former wastes and this can be done only by building better sheds and barns for storing the crops and by building silos to get the full feeding value of the corn crop.

In those things that go to improve the social, moral and educational life of the farmer and his family there is need for very much more capital than there was with the standards of living thirty or forty years ago. The pioneer could live content in the log house of a generation back because it was the rule, but today when one farmer builds a convenient and comfortable house, puts in running water, a bath and some modern method of heating and lighting, it sets a higher standard of living and every other farmer must make some effort to reach that standard or his family becomes dissatisfied with farm life and he will find the boys and girls leaving for the city and the good wife wanting to move to town. And why not? People have learned that we pass this road but once and we are entitled to all the intellectual, social and spiritual enjoyment our individual capacities are capable of holding. There is just as logical a reason for putting a good piano in the farm home as there is for putting it in the city home. I think there is a much better reason for in the city the members of the family, old and young, have many opportunities to hear the great singers that country people do not have. And so it is with books and the best magazines and periodicals where there is one reason for placing them in the city home there are two reasons why they should be in the country home.

A Higher Standard of Farm Life

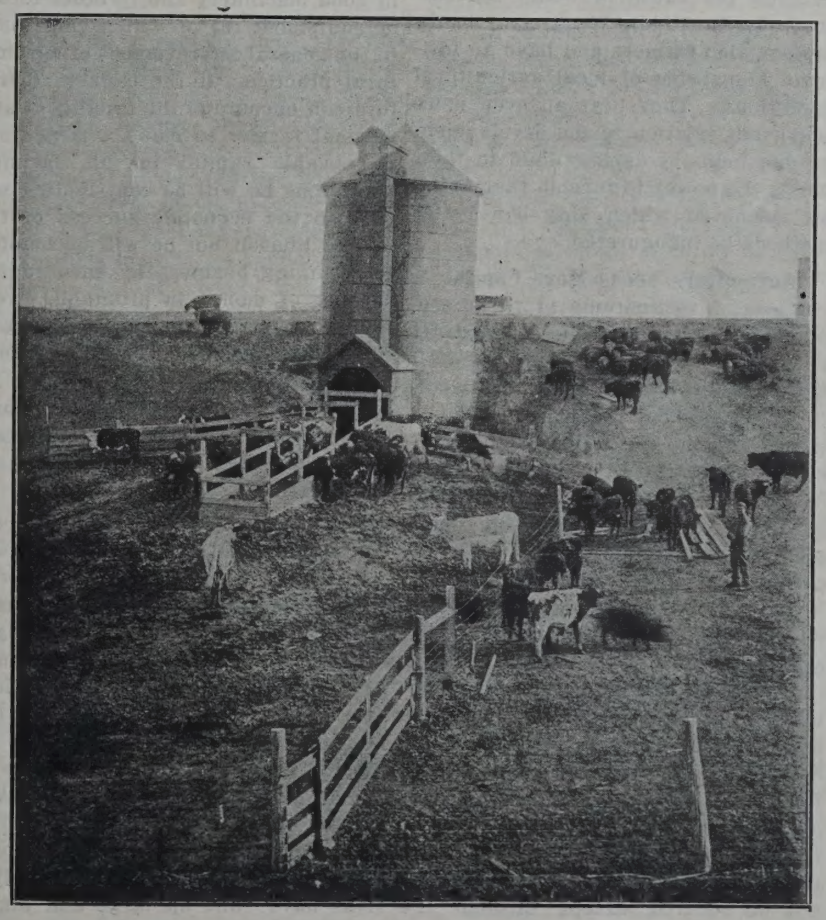
Thousands of pioneer farmer folk went to church and to town in the old farm wagon, but is that any reason we should deny ourselves of the pleasure of riding in a carriage behind two good Missouri roadsters? And if the automobile gives more pleasure because of its greater speed is there any reason the farmer's family should not enjoy it? I am one of those who believe the farmer is entitled to the best the land affords if he can find an honest way to get it.

There is no longer any question as to the necessity for good roads as a factor in the betterment of country life but for years farmers, road officials, legislators, congressmen—in fact every one has been trying to solve the problem of finding the money for road improvement. And whether it is the social, moral, intellectual or economic advancement of country people that we are looking after the first and great need is for more—for larger capitalization.

Better Rural Credits the Remedy

New York and Wisconsin were the first two states to adopt measures to give farmers better credit facilities and Missouri followed closely after them with what we believe to be a much better system than either of the other states. When the people of this state approve the Gardner Land Bank Bill, which will be voted on at the general election next year, the first step will have been taken for the larger capitalization of the farmer's business. The first loan under this law will be made to farmers at the rate of 4.3 per cent annual interest plus a charge of one-half of one per cent for expenses or a total rate of 4.8 per cent. After the first issue of $500,000 is made the rate of interest will be governed by the rate the bonds will sell for in the open market. In the face of the much higher rate farmers have had to pay for their loans, the short time for which they have been made and the extra commissions they have had to pay, farmers have hesitated to borrow money for anything except for purchase money to buy land. If the farmer as a class, however, measures up to the standard of living of bankers, merchants, manufacturers, professional men and others they must use more capital for the improvement of their homes, for building good roads, for maintaining better schools, for increasing the fertility of their farms and other things necessary to the best development of farm life.

The Gardner Land Bank Bill is the first important step we should make to provide the larger capitalization of Missouri farms. No one should oppose this measure because it does not go far enough for if we take the first step in any progressive movement it is then easier to take the next and the next until finally we will reach the desired results. In time there will be need for increasing the amount of the loan above fifty per cent but we must bear in mind that we are entering a new field and must proceed caustiously to avoid mistakes that might hold us back for many years. Some are demanding better credit facilities for poor men who do not own any land and that, too, will come in time by organizing personal credit societies.



Live stock farms are more profitable than grain farms, but it takes capital to buy live stock. Silos are profitable, but it takes money to build them.

CAPITALIZING AGRICULTURAL SCIENCE

Abstract of address delivered before the American Bankers Association, Chicago., by F. B. Mumford, Dean and Director of the College of Agriculture, University of Missouri.

The time is too short and the purpose of this meeting are too important for me to waste any time in traversing again the theoretical discussions of recent years on the various phases of the Agricultural problem. If I shall be successful in pointing out clearly where the interests of the banker and those of the farmer are identical and the interests of both are likewise identical with the best interests of the American nation, I shall be fortunate indeed. But I will have still greater cause for felicitation if I can make such wise, sensible and concrete suggestions as shall appeal to practical men and which if carried out will promote the cause of better farming. increase the prosperity of the farmer and incidentally but no less certainly promote directly the interests of the banking industry.

Business Farming Comes First

The Agricultural problem is a complicated one. It is not alone a question of economics. It involves social intellectual and spiritual factors all of which must be solved before the business of farming will be entirely satisfactory to the farmers themselves, to the business interests of the country or to the commonwealth. While this is true it is also undoubtedly true that the farmers problem is today and always has been chiefly an economic problem. The solution of the economics of agriculture as related to the actual business of farming will carry with it the solution of many of the other problems of the rural community. The agriculture of America compared with that of Europe seems to be far less efficient. We should be slow to generalize extensively on the fact that European countries produce a much larger yield per acre, and that they profitably utilize land that is very low in fertility. It does not necessarily follow that the American farmer would find it profitable or possible to produce yields as large or to bring under cultivation land relatively so poor. The factors of labor, price of product and many other conditions must be recognized. But taking into account all the factors involved, it remains true that the American farmer can largely increase his profits, better maintain the permanent fertility of the soil, and incidentally materially increase crop yields.

The Agricultural Experiment Stations have definitely pointed the way to a peramnently prosperous agriculture. We are no longer in the dark as to specific methods of agricultural betterment. How can this knowledge of improved methods be brought to the farmer in a manner so convincing that he will embody it in his rules of practice? In other words how can this knowledge of agricultural science be capitalized?

Why Farmers Are Slow in Adopting New Methods

The American farmer as a class has been slow to adopt new methods fully justified from the standpoint of profitable economic returns. It is sometimes difficult for representatives of the modern organized industries to understand why farmers have not promptly accepted the teachings of the experiment stations and thus capitalize these results in actual practice. The managers of the organized industries like manufacturing, railroading or mining, have been prompt to adopt any new and improved method which gave promise of increased returns.

There are those among the organized business industries who have believed that the colleges of agriculture have been entirely too conservative in the extension of knowledge of economic value. Partly as a result of such conservatism, it is said the farmers as a class are less progressive than are the organized industries. I think even a casual investigation will demonstrate the fallacy of this argument. There is no question in my mind but that the more rapid progress made by the organized industries as compared with agriculture, is due to organization. If the general manager of a railroad is convinced that a change in method or the adoption of some new practice based upon scientific discovery will reduce the cost of operation and thus increase the net profits of the system, he promptly gives the necessary orders to all the officers of the company and the new practice is put into operation. There may be ten thousand men involved in the instructions given by the general manager but each member of this organization does the particular thing necessary in order to accomplish and make effective the important change.

The Farmer His Own Boss

But in agriculture, there are ten thousand individual land owners. It is necessary not only to convince one man or twenty men, but it is necessary to convince each one of the ten thousand land owners because each individual farmer is the general manager of his own farm. It does not matter materially in the railroad industry whether every individual workman understands the principles involved and is convinced that the new plan is a good plan. In agriculture it is necessary under our present system of organization or lack of organization to convince all the famers or a very great majority in order that the improved method shall be registered in the sum total of agricultural production.

The bankers of this country are peculiarly well situated to help in advancing the cause of better agriculture. In the Middle West, many bankers are also farmers and have an intimate knowledge of local agricultural conditions. They bear an even more important relation to the development of this industry as they hold in their hands the power to furnish the capital by means of which only can better methods be inaugurated.

Agriculture Needs More Capital

Recent investigations in rural economics have clearly indicated that agriculture in America is under capitalized. The very first step in agricultural betterment requires a much larger amount of capital in our agricultural operations than has been utilized during the past half century. Our soils are generally deficient in phosphorous and humus and in some localities are deficient in potassium also.

One of the most important steps which must be promptly taken by the average farmer of the Middle West is the purchase and application of fertilizers to be used along with a rational rotation. There is no question whatever but that the intelligent use of fertilizers will increase farm profits and benefit directly the individual farmer but fertilizers can not be purchased without money, and money cannot be secured except through the bankers.

It has also been definitely demonstrated by the agricultural experiment stations that the profits in farming might be largely increased by breeding a better class of live stock. If every horse in the United States that is offered for sale was a good horse adapted to a special purpose, it would increase our income from this source by many millions. If every beef animal shipped to market conformed to the best type of a special purpose beef the income from this source would be greatly augmented. The average cow in the United States produces less than 150 pounds of butter annually. On the same feed and with the same cost of equipment and labor it is possible to produce animals that yield 200 or 250 pounds of butter in the same time. If every dairy cow in the United States was a highly efficient milk producer the income again would be greatly augmented. But the American farmer cannot buy the best types of the various kinds of domestic animals without money.

And so I might continue to point out that practically every change in farm practice calculated to result in better farming means a larger use of capital. The real reason in many cases why agricultural improvement has not been more rapid is because either the farmer has not been able to secure money or did not feel justified in borrowing money at current rates of interest for agricultural improvement. It is not my purpose to discuss the question of farm credit, but I may be pardoned for making the suggestion before this association, that unless this question is solved in some way by the bankers it will be solved by the farmers and consumers themselves who are less expert in the subject of money and banking than are the members of this association.

Bankers Should Encourage Farmers

The farm management investigations by the United States Department of Agriculture and various states have also shown that the most profitable farms are those utilizing the largest proportion of movable capital as distinguished from fixed capital. The investments of the farmer which pay the largest interest are the investments in fertilizers, in good live stock, in good machinery and in other forms of equipment all of which contribute to the general improvement of agricultural practice. If the bankers therefore can encourage the intelligent and efficient farmer to make a larger use of movable capital in his farming operations he will be contributing not only to the economic success of the farmer himself but he will be helping the banking business by encouraging the use of money in profitable directions. Any banker or bankers association that is interested in the economic development of the agricultural industry in a given community can promote such development by encouraging the use of more capital on the average farm.

How can the banker encourage the use of more capital for the purposes mentioned? They can familiarize themselves with the facts which have already been determined by the agricultural colleges in reference to more profitable use of capital in the various enterprises of agriculture. They can help in the campaign to convince the farmer that it is more profitable to use fertilizer in a rational rotation and to breed better live stock. This the agricultural colleges have been doing for fifty years. These institutions have built up large and highly efficient extension organizations for this purpose. This is an educational campaign. It can best be made by institutions organized for that purpose. It would seem therefore that the greatest service that the bankers association can render to the agricultural industry in this respect is to stand behind the agricultural colleges in their educational campaign for the betterment of agriculture.

Cheaper Money Is Needed

What can the banker do to encourage the farm borrower to practice those methods of agriculture which are known to increase yields per acre, insure permanent prosperity and indirectly contribute to the upbuilding of the commercial industries, including banking, in the rural sections? This is the day of the Farm Adviser. The farmers have frequently complained that the men engaged in commercial industries, including the bankers, manufacturers and railroad officials have been advising the farmer how to conduct his business. To turn about is fair play. If you will allow a farmer to give advice to bankers, I should like to suggest at this time that the power lies within the hands of the bankers of this country to accomplish more in the development of improved methods of agriculture than rests in the hands of even the agricultural colleges themselves. In some farm communities the soils have become so exhausted that profitable agriculture is almost impossible. In such communities, the use of fertilizer and leguminous crops is absolutely fundamental to any development. Why not loan money out at a very low rate of interest for investment in those methods of farming which will certainly prove profitable. The experiment stations in most states are able to give definite concrete advice based upon investigation made in the local community. Why should not bankers loan money to farmers at a cheaper rate for the buying of registered sires? It is within the power of the money lenders to bring about agricultural improvement by this method. It is worth your careful attention.

In conclusion the bankers of America can promote the cause of better agriculture by co-operating with the agricultural colleges in educational enterprises already existing, by promoting the location of county agricultural agents in every county of the United States; by definitely encouraging better farm practice; by loaning money at a lower rate of interest for the purchase of phosphorous or lime or building silos, or seeding to alfalfa or for registered sires and for all other enterprises which have been demonstrated to be in the interests of a permanently prosperous agriculture and by definitely helping to create public sentiment which shall be registered in legislative appropriations for the support of the educational plans of the agricultural colleges.

How Often Shall Corn Be Cultivated

At the Illinois Agricultural Experiment Station, in a test lasting five years, corn cultivated to an average depth, three to five times as the varying seasons required, yielded 68 bushels per acre, while that cultivated nine to fifteen times yielded but 68 bushels per acre. In years when the soil is packed by heavy and frequent rains and weed growth is correspondingly troublesome, cultivations must necessarily be more frequent than the opposite conditions exist. It is also probably true that cold, wet heavy soils need more frequent cultivations than do the opposite kind. In actual practice, however, it seldom pays to cultivate less than three times or more than five times.—Nebraska College of Agriculture.

SOIL IMPROVEMENT

It will be accepted as a self-evident truth that impoverished soil yields no profits, either to agriculture, to industry, or to commerce; and, consequently, that continued prosperity for the masses in America depends primarily upon the maintenance and improvement of the productive power of our farm lands, for agriculture is the basic support of this great nation. Land whose gross return in yearly crop values amounts to only $4 or $5 per acre cannot support a system of soil enrichment, except the materials are supplied at the lowest possible cost. It is impossible, as a rule, for the owners of poor land to pay large profits to producers and to transportation companies for those materials which are essential for the improvement of their lands. This is a fundamental truth or principle which ought more generally to be recognized by men of influence. Thus the railroad company that insists upon making profit from hauling ground limestone for use in the improvement of poor sour land along its line will make soil improvement impossible; whereas, if the expense to the landowner is reduced so that he is enabled to adopt a system of permanent soil enrichment, then both commerce and industry will prosper from the increased business resulting from the greater crops produced.

Shall We Not Learn From the Mistakes of Others?

For men of responsibility to ignore this basic truth can lead only to land ruin and ultimately to commercial and industrial suicide. Shall we not learn a lesson from the mistakes of our older states? The fact that 45 per cent of what was classified in 1880 as improved farm land in New England was found agriculturally abandoned in 1910 should lead the men who fix prices and rates to look beyond the first dollar and make possible a continuous source of revenue.

The decrease since 1880 in the area of improved farm land in New England, New York, New Jersey, and Pennsylvania aggregates 9,809,834 acres, as reported by the United States Bureau of Census. This acreage of abandoned farms is equal to the total area of forty Illinois counties. In New England the area of agriculturally abandoned land is more than twelve times the total acreage of all cereal crops grown in those states.

I repeat that we should profit from the mistakes of our older states. The greatest material problem for both town and country in the great Middle West is to bring about the adoption of systems of farming under which old land shall become richer than new land. And this is possible, feasible, and profitable; but not by the use of small amounts of such mixed manufactured fertilizers as the farmers of the older states have been induced to purchase at high prices and to apply to their farms in systems of soil stimulation and ultimate land ruin.

There are three lines of soil investigation which should be encouraged and carried forward in every state. These are soil surveys, soil analyses, and the operation of soil experiment fields. An accurate soil survey discovers the different kinds or types of soil and ascertains the extent and boundaries of each type, even down to five-acre lots. The soil analysis determines the amount of every important element of fertility contained in each kind of soil, and indicates what element or elements are deficient and must be applied in order to make permanent soil improvement possible. The soil experiment field establishes the rate at which the existing fertility may be liberated for plant growth under rational systems of farming and also demonstrates the returns under actual field conditions from investments in materials needed for postive soil enrichment.

Such investigations are altogether feasible, and they yield results of the greatest value for practical application in general agriculture. The expense involved is not large. Indeed it is exceedingly small when measured by the need and importance of the work or by the magnitude of the task. Thus the commonwealth of Illinois is expending for the investigation of Illinois soils 1 cent a year for every three acres of farm land in this state—.3 of a cent an acre a year; or 30 cents for a hundred years; but at the present rate of progress, the Illinois soil survey will be completed in less than a dozen years.

The Railroad Must Co-operate

It is not enough, however, for the University of Illinois to survey and analyze the soils of the state and to discover and demonstrate the most practical systems of permanent soil improvement. The limstone, phosphate, or other materials needed for soil enrichment, must be produced and transported and delivered to the farmer at a price he can afford to pay. This requires co-operation between the transportation companies and the state university, a kind of co-operation which already exists in this state. The railroads of Illinois have made and maintained very reasonable freight rates upon these materials which are most fundamental for permanent soil improvement; but this is not yet the case in all states.

Let me report a specific illustration showing some of the difficulties and something of the possibilities in permanent soil improvement.

In 1909 a certain tract of land was selected to represent the most common prairie soil in twenty counties of southern Illinois. A good crop rotation was practiced, good seed was used, and the farm work was well done; but the total returns per acre are represented by 10 bushels of wheat in 1910, by 16 bushels of corn in 1911, by 12 bushels of oats in 1912, by 400 pounds of hay in 1913, and by 2 bushels of wheat in 1914, the last two years having shown poorer results because of a severe drouth.

On another part of the same field the respective yields per acre from 1910 to 1914 were 8 bushels of wheat, 30 bushels of corn, 34 bushels of oats, 1620 pounds of clover hay, and 22 bushels of wheat.

Applied Fertility Made $10.45 an Acre

If we count wheat at $1 a bushel, corn at 50 cents, oats at 40 cents, and hay at $10 a ton, the average annual return per acre for the last four years has been $4.20 from the one part of this field, and $14.65 from the other part. But the soil was of the same character on both parts of the field; the plowing and preparation of the ground were the same; the same kind of seed was used; and both tracts were warmed by the same sun and watered by the same rains. What, then, made the difference of $10.45 in the average yearly return per acre? The answer is expressed in the one word: fertility—not inherent or native, but applied fertility. Of the $14.65 we may credit $4.20 to the land itself, $2.32 to the application of all the farm manure that could be made from the crops grown, $4.78 to 1 ton of ground limestone, and $3.35 to 500 pounds of fine-ground rock phosphate.

In another experiment, where no farm manure was used, the average yearly return from the land itself was $3.75 an acre, while $7.00 was the return from a ton of limestone and $2.65 from 500 pounds of phosphate.

In order to reduce the labor involved, the limestone and phosphate are actually applied in larger amounts at less frequent intervals; but thus far the rates of application have been 1 ton of limestone and 500 pounds of phosphate per acre for each year, although, after the soil is sufficiently enriched, one-half or one-third these amounts will provide for maintenance.

These Things We Know

The principles of permanent improvement for most soil types are already well established. They include the use of ground limestone for correcting soil acidity and for enrichment in calcium; the utilization of atmospheric nitrogen by proper use of legume crops, the application of phosphorus to most soils, and the liberation of potash from the inexhaustible supply already contained in all normal soils. On some soils dolomitic limestone should be used in order to provide both magnesium and calcium; and on certain abnormal soils, such as swamp muck and residual sand, potassium must also be applied.

The solution of the problem of permanent agriculture in America deserves and will require the best thought of the most influential people; and the man who thinks farm products are high in price may learn a lesson in the fundamentals of national economics by trying to build up a piece of impoverished land from the income it produces.

If there is one agricultural fact that needs to be impressed upon the American people, it is that the farmers of this country have been living, not upon the interest from their investments, but upon their principal; and whatever measure of apparent prosperity they have had in favored localities has been largely taken from their capital stock.

That vast areas of land, once cultivated with profit in the original thirteen states, now lie agriculturally abandoned at the door of our greatest markets, is common knowledge; and that the great majority of the farm lands in the North Central states is even now undergoing the most rapid soil depletion ever witnessed, is known to all who possess the facts.

The boastful statement sometimes made, that the American landowner has become a scientific farmer, is as erroneous as it is optimistic. Such statements are based upon a few selected examples or rare illustrations, and not upon any adequate knowledge of general farm practice. Even to this date almost every effort put forth by the mass of American farmers has resulted in decreasing the fertility of the soil. The American farmer does everything except to restore to the soil the fertility required to maintain permanently its crop-producing power.

Larger Crops Are at Expense of Fertility

Thus, tile-drainage adds nothing to the soil out of which crops are made, but only permits the removal of more fertility in the larger crops produced on the well-drained land. More thorough tillage with our improved implements of cultivation is merely "working the land for all that's in it." The use of better seed produces larger crops, but only at the expense of the soil. Clover and cowpeas, as commonly produced and harvested, add little or no nitrogen to the soil. All the domestic animals on all the farms of the United States are equivalent to less than one cow for each ten acres of farm land, and the farm manure is so limited and is spread so thinly that it adds but little fertility to the soil in comparison with that removed in crops and sold in grain and hay, and in bone and meat and milk.

All these are good farm practice, and they should be continued; but we ought also to stop exporting millions of tons of phosphate which is needed on our own lands. We should also apply millions of tons of ground limestone to our acid soils, and we should produce more legume crops, to be plowed under directly or in farm manure. The world must have bread as well as meat, and the decision between live-stock and grain farming must always be based upon preference and profit, and not upon the erroneous assumption that farm manure is either necessary or sufficient for the maintenance of soil fertility.

If the farmers of the great corn and wheat belts of the North Central states are ever to adopt systems of permanent agriculture, it must be done while they are still prosperous, or they too will sometime awake to find their lands impoverished beyond self-redemption.

I realize, of course, that the presentation of these facts is far less popular than boasting of achievements not yet accomplished; but I also realize that the six New England states are now producing less total cereal crops than one county in the Illinois corn belt, and that ten million acres of tillable lands lie unused in old Virginia, because the crops they are capable of producing without enrichment will not pay the cost of production.

Intelligent optimism is admirable, but fact is better than fiction; and blind bigotry paraded as optimism is dangerous and condemnable. Let us face the facts, and proceed intelligently to solve the problem of permanent agriculture for America; with the sincere and helpful co-operation of the banker and farmer, of the farm press and the farmers' institutes, of the farm advisers, the college of agriculture, the railroads and the state.—Dr. Cyril G. Hopkins, in an address before the Banker and Farmer Conference, July 7, 1915.

More Money from Wheat

$7.46 per acre profit, over and above the cost of fertilizers was obtained from the use of fertilizers on wheat ***on farms*** in 10 Indiana Counties when wheat sold at $1 per bushel. ***11½ bushels increased yield per acre*** was obtained from fertilizers.

(See Indiana Experiment Station Circular No. 23, Revised Edition, July, 1912).

Our free wheat bulletin tells how to select and apply fertilizer for ***biggest profits.*** Write

THE MIDDLE WEST SOIL IMPROVEMENT COMMITTEE
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HOW TO GET RID OF HOG CHOLERA

J. W. Connaway, D. V. S., M. D., Veterinary Department, College of Agriculture and Experiment Station, University of Missouri.

[This article is a continuation of the articles in previous issues and will be continued until the whole subject of hog cholera control is thoroughly discussed. We suggest that every swine raiser who reads The Missouri Farmer should file away all these papers containing this article and they will then have the most valuable treatise on hog cholera that has been published.—Editor]

(4) **The control of infection carriers:** The most dangerous infection carriers with which the farmer has to deal are the **sick** and **exposed** hogs; and the control of these in properly constructed isolation sheds and pens has already been mentioned. The driving of sick hogs upon the highways to market is prohibited by law; but the law is sometimes broken by those who are ignorant of the provisions, and sometimes by those who know the requirements of the law, but ignore them, and have no regard for the rights of their neighbors. **Sick hogs** should never be removed from the farm, but should be closely quarantined until they have recovered, or have died. And the infection and infected carcasses should be destroyed. The shipment of sick hogs to market, even when hauled to the shipping station, spreads the disease, and increases the dangers at the local and large central stock yards; as well as being a source of danger to the farms lying along the railroad lines.

Healthy hogs that have been exposed to sick hogs in the same feeding pens may transmit the disease from contamination of their feet and bodies, and should not be **driven** over the roadways to market. They should always be hauled to the shipping station. If driven to market the farms along the highway are endangered. Streams crossing the highway and passing through one or more farms may become sufficiently contaminated from the feet and bodies of the hogs to start an outbreak. Only healthy hogs, from clean farms, should be driven to market; and it is probably a good practice to haul these, on account of the shrinking in weight from driving.

Cattle that have been fed in feed lots where hogs have been dying from cholera may also carry the infection on their feet when driven to market, and spread it along the highway, from whence it may find its way to adjacent farms. The feet of cattle may be easily disinfected by driving the animals through the dehorning chute, in the floor of which every farmer should have a shallow vat, preferably of concrete. The vat should be the full width of the chute and 8 or 10 inches deep. This vat is serviceable in the treatment of sore feet in all farm animals particularly cattle and sheep. A strong solution of copper sulphate (blue stone), or a 5 per cent solution of the Compound Cresol Solution should be used to clean and disinfect the feet of cattle that have been on cholera infected grounds.

The danger of a recently purchased lot of feeding cattle carrying the disease from an infected stock yard to the farm should not be overlooked, and proper precautions should be taken to disinfect the animals' feet, before hogs are exposed to them.

Dogs: It is well known that dogs serve as carriers of cholera infection. It is therefore advisable, during outbreaks of cholera in the neighborhood, to keep all valuable dogs in quarantine, especially at night to prevent them roving about and visiting cholera infected farms, where carcasses may have been left unburned. Worthless stray dogs should be destroyed.

Barn-yard fowls: The infection is easily carried by **chickens** and **turkeys** from the roadway along which diseased hogs have been driven, or from an infected pen to clean pens, on other parts of the same farm. These fowls should be shut away from the hog lots, during outbreaks of hog cholera on the farm, or in the neighborhood. A few dollars spent in poultry netting will be less expensive than buying serum; and will often save hundreds or thousands of dollars to the neighborhood. **Pigeons** are more dangerous as infection carriers, because of their habits of flying to neighboring farms and feeding with hogs that may be suffering from hog cholera. The pigeons should be destroyed; or should be kept in confinement when cholera is in the neighborhood. **Buzzards** and **crows** should be dealth with by shot-gun quarantine. "Simultaneous" and repeated attacks upon the roosting camps of these undesirable birds, by "Farmers' Clubs" or "anti-hog-cholera clubs" will soon rid a neighborhood or county of these infection carriers.

Undesirable persons: The traveling hog-doctor, with his "sure cure" and "preventive" for hog cholera, and all other ills to which swine are subject, should not be a welcome visitor; for he is liable to be an infection carrier. His business takes him to diseased herds; and as a rule these business parasites are not careful to thoroughly disinfect their contaminated shoes and overalls after treating (?) a diseased herd. The itinerant "vaccinators," and the local "farmer-agents" for serum companies are also undersirable visitors; they are more interested in the "commissions" and "fees" than in sanitation; and more likely to spread cholera virus on your farm "with both hands and both feet," than they are to give relief from a threatened danger from other sources. The local stock-buyer is a valuable go-between, for the farmer in marketing small lots of hogs; but he becomes a nuisance and menace, if he forms the bad habit of seeking for bargains in diseased and badly exposed herds. He thus aids in maintaining infected pens at the local stockyards, and carries infection on his shoes to healthy herds and clean farms. The owners of healthy herds should keep stock-buyers out of their hog lots, if they have come from infected premises and have not properly disinfected their shoes. Stock-buyers should join the farmers' "anti-hog-cholera clubs" and do everything they can to aid in eradicating cholera by applying proper sanitary measures. It will serve their own business interests in the best possible manner.

Teams and wagons: Cholera infection may be carried to healthy herds and farms by teams and wagons. Threshing outfits that go from farm to farm should be careful to not drive through cholera infected hog lots, or in fact through healthy hog lots. Inquiry should be made as to the presence of cholera on the farms where threshing is done. And every precaution should be taken by every man on the force to avoid coming in contact with the infection, and to prevent the teams and wagons from doing so. When hogs are hauled to the local stock yards, it is a wise precaution for the farmer not only to disinfect his shoes, but also to disinfect the feet of the team, and the wheels of the wagon, before returning to the farm. Especially if sick hogs have recently been unloaded in the local stock yards. Also disinfect the inside of the wagon box, and the litter it may contain. (See "Chemical Disinfectans"—under Disinfection).

Streams: Hog cholera infection may be carried from one farm to another by the water courses that run through them. It is not the fault of these streams if they become polluted and carry disease; but the fault of the farmers through whose farms the streams run. For by co-operation, and by observing the precautions given above, it will be rare for a stream to become polluted. We cannot change the general course of the streams, nor stop them from flowing; but we can protect them from pollution with hog cholera infection. Sick hogs must not have access to the streams; dead hogs must not be permitted to rot in them; and cholera infected litter and manure must not be allowed to wash into them; these things we can control. But when danger from such a source does occur, losses can be avoided by removing the healthy herds to other fields away from the infected stream. Or the stream can be fenced off from the field occupied by the hogs.

In our county organization plan (see "Organization and co-operation") every member of an "anti-hog-cholera club" regards it as a special duty, to notify the owners of farms whose herds may be endangered by the drainage from his infected farm, and this practice is recommended to farmers in counties not yet organized.

Ponds: On farms where the stock water is supplied from ponds, these ponds may become sources of danger, if not protected from pollution. The pond should be fenced in so as to prevent the hogs from wallowing in it. One sick pig may endanger the whole herd by infecting the pond. Dogs should also be fenced out; for roving dogs have a fondness for stock-ponds, as well as for cholera carcasses, and may infect the pond. The fence should be made of woven wire of proper height, and the top should be guarded by a couple of barbed wires. Watering troughs, set at a level lower than the pond, and at any distance desired, can be kept full of water by means of water pipes and automatic "cut-off."

It is also a wise precaution to protect the drainage area above the pond by fencing out the farm stock, particularly the hogs, since the drainage will carry some of the droppings into the pond. These droppings, even if free from hog cholera germs, often contain great numbers of intestinal worms and their eggs. The drainage area should be put in meadow grasses for hay crops.

Stock cars: Stock cars that have transported diseased hogs may carry hog cholera infection long distances if the litter and cars are not properly disinfected. The recent experience of a number of states with foot-and-mouth disease calls attention strongly to the danger of spreading disease by means of stock-cars.

Provision has been made by the Federal Bureau of Animal Industry for disinfecting cars that have carried hogs to the large markets for slaughter, whenever an interstate shipment is found to contain sick hogs. And a number of states have regulations requiring a "health certificate," and proper disinfection of the cars, for hogs shipped into the state. Adequate provisions, however, have not been made, in many states at least, for the disinfection of cars that have carried hogs from one locality to a distant part of the same state. This is a matter that is left largely to the discretion of the shipper and consignee. And the neglect to disinfect the car at the starting point before loading the hogs, and again at the destination after unloading has, at times, resulted in the spread of cholera. The transportation of infected hogs across the state can scarcely be accomplished without the dropping of infected litter along the right-of-way, and at the terminal station. Many outbreaks of cholera, which have spread widely over a neighborhood, have originated from the shipment of feeding hogs from a distant part of the state, or from an adjoining state. Even shipments of supposedly immune hogs (serum-virus treated) have carried cholera long distances; in one instance, from Missouri to Indiana.

Shippers, consignees, and railroad agents should co-operate to lessen the dangers of spreading cholera through infected hogs and stock cars, even if no official regulations governing the matter are in force. For the business interests of all three will be promoted by getting rid of cholera.

(Continued next issue)

A MILLION DOLLAR ARTICLE

Quincy, Illinois, July 10, 1915.

The Missouri Farmer:

Please send me about a dozen copies each of the June 15th number and the July 1st number of The Missouri Farmer, and put me down for as many copies of all of the following numbers which contain Dr. Connaway's million dollar article on "How to Get Rid of Hog Cholera." I want to send copies of the paper containing this article to a number of my good farmers around here who are still strong believers in the serum-virus method of vaccination.

You see I want the value of this article to spread over into Illinois as much as possible. I really wish the article might be published in bulletin form so that I could put it in the hands of every hog raiser in Adams County. If I could get the farmers in this county to put Dr. Connaway's suggestions into practice the article would be worth a million to this county, and the expense of carrying on the work of the Adams County Farm Improvement Association would be paid in advance many years.

Yours very truly,
E. W. RUSK,
County Agent, U. S. Department of Agriculture.

THE LIMING OF MISSOURI SOILS

M. F. Miller, Department of Soils, Agricultural Experiment Station

The need of lime on many Missouri soils is becoming so evident and the interest in its use is increasing so rapidly that many inquiries are coming to the Experiment Station regarding this matter. In a previous article on lime, 'I discussed the need of lime on Missouri soils. I endeavored to point out that not all soils in Missouri need lime but that a great many do, particularly the older farm lands, the level prairies of northwest and southwest Missouri, and the more worn timbered lands in both north and south Missouri. In general a soil which grows clover well is not in need of lime, although there are many soils which fail to grow clover for other reasons than a low lime supply, particularly a low supply of organic matter, poor drainage, and in some cases a low supply of phosphorus. In a few cases in the state it is quite possible that clover failures have been

due to insect and fungus troubles. The litmus paper test which is very often recommended for determining soil acidity is only fairly satisfactory but if a man will follow instructions closely he can get a fair idea as to the general need of the soil for lime. The Department of Soils of the University sends out to all inquirers a small amount of litmus paper together with directions for making a litmus paper test.

Where a man has determined that his soil needs lime, the kind of lime to use becomes a very important consideration. In general the Experiment Station has found that ground limestone is normally the best form to apply. Water slacked lime or air slacked lime may be used where it can be secured at a low price but as a rule the ground limestone is the cheapest for a unit of sweetening power. Fresh water slacked and fresh air slacked lime are both somewhat more active in sweetening soils than ground limestone, 1500 pounds of either of these being approximately equivalent to 2000 pounds of ground limestone. Old air slacked lime is closely equivalent to ground limestone in sweetening power. Twelve hundred pounds of fresh burned stone lime or lump lime is equivalent to 2000 pounds of ground limestone. This of course must be slacked before it can be used unless it can be ground, the grinding of the lump lime being rarely done in Missouri. From these figures one can readily calculate which of these limes would be the cheapest on his place by securing delivered prices of each from the companies putting them out and figuring on the cost of hauling.

Much interest is being shown in the home grinding of limestone and while few plants have thus far been installed in Missouri, the interest manifest emphasizes the fact that the time is coming when a great amount of limestone will be ground. A number of companies are putting out small and medium sized outfits designed for farmers and groups of farmers. The Experiment Station has not taken up the matter of the cost of grinding limestone from an experimental standpoint but there seems little doubt from the experience of men who are familiar with this method that lime can be ground by these small grinders at a very reasonable figure. This is about the only way that lands back from the railroads can ever be limed. It would seem that the most satisfactory method of handling this proposition would be for several farmers to buy such a grinder in co-operation or for one man to buy the plant and grind for the neighborhood.

The fineness to which limestone should be ground depends considerably on conditions. It costs more to grind some limestone than others because of their hardness. Again it may be cheaper in the long run to use somewhat larger quantities of a limestone, ground only to a medium fineness, if this can be done at the same acre cost, than to use an average amount of very finely ground limestone. In general, it can be said that limestone should be ground to the fineness of cornmeal or finer. A statement that is sometimes made is that it should be ground so that ninety per cent of it will pass a twenty-mesh sieve, that is, a sieve having twenty meshes to the linear inch or four hundred to the square inch. If seventy-five per cent passes the twenty mesh sieve, however, this is fairly satisfactory grinding.

No state in the Union has larger quantities of high grade limestone for agricultural purposes than Missouri. The best grades of limestone for this purpose are the high calcium limestones. These are found in a belt bordering the Mississippi river on the east, a narrow belt extending from near St. Louis practically to Sedalia, about one county wide, that part of northwest Missouri lying west of the counties Mercer, Grundy, and Livingston, and about a dozen counties in southwest Missouri. The bulk of the Ozark region is underlaid by a limemagnesium stone which is almost as satisfactory for agricultural purposes as the high calcium limestone, but it would be classed as second in preference.

Lime is best applied to land if the land has been broken and harrowed once or twice so that it can be run over with a wagon or lime scatterer. It should then be thoroughly disked and harrowed into the surface three or four inches of the soil. It is not usually wise to plow under lime nor to use it as a top dressing, except in a case of permanent pastures. In order that lime may have its full effect in sweetening the soil, it should be in a fine state of division and thoroughly worked into the soil. When wheat is grown it is usually best to apply lime after the land is plowed for wheat. There is usually more time at this season of the year and the roads are better for hauling. Where clover follows wheat the lime will have been in the soil long enough to have a very valuable influence on the clover crop.

Lime is best scattered by a lime scatterer. These implements are now on the market and at prices varying around forty to fifty dollars for an eight-foot size. Where one is to apply much lime, this is the most economical way to do it. As the lime spreader is only used occasionally, however, this is an implement which several farmers can well buy in co-operation. A manure spreader may be used by tacking burlap on the apron, but a lime spreader is much to be preferred where a great amount of liming is to be done. The liming may, of course, be done by dumping in small piles and scattering with shovels but this is a laborious process.

The Experiment Station has recently published a number of bulletins giving the results of experiments on various soil experiment fields in the state, all of which discuss the use of lime as well as of fertilizers and manures. Nos. 119, 129, and 130 deal with south Missouri soils and Nos. 126, 127, and 128 with north Missouri soils. These may be had without charge by addressing the Experiment Station at Columbia and asking for the numbers desired. The Department of Soils also keep on hand a list of companies putting out ground limestone, limestone grinders and ground limestone scatterers which will be sent on application.

Stand of Unlimed Clover, Hurdland Experiment Field, 1914.
Northeast Missouri Dark Prairie

BETTER STACK YOUR WHEAT

If the weather continues showery there will be a lot of damage to poorly shocked wheat. Every wheat raiser should make great effort to get his wheat in the stack at the earliest possible date. In writing along this line, W. L. Nelson, of the State Board of Agriculture, in a recently published bulletin says:

Had the Missouri wheat crop of 1914, amounting to some forty millions of bushels, been stacked and thus held until the advance in market prices it would have meant a net gain to Missouri farmers of not less than $10,000,000. Such a marked increase in value would, of course, not hold true for the average season. The unusual wheat market of the last few months has been due in large part to conditions brought about by the European war. However, it is true that, taking one year with another, it pays to stack wheat. "For thirty years I have been stacking my wheat and taking one year with another it has made me money." This is the testimony of Chris Smith, a prosperous Cooper county farmer. Mr. Smith says, "It is generally true that wheat prices are low immediately following harvest. Nor do prices advance very much until the speculators get filled up. Last year especially it paid me well to stack. Nearly all of my neighbors who threshed out of the shock sold their wheat at 70 cents per bushel, while I got $1.10 for the first I sold and $1.45 for all that was hauled later."

Stand of Limed Clover, Hurdland Experiment Field, 1914.
Northeast Missouri Dark Prairie

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CALF FEEDING PROFITABLE

The Kansas Experiment Station has just completed a trial in calf feeding with some very interesting results which show the possibility of getting a profit on feeding very high priced calves. Last October one hundred high grade Hereford steer calves were purchased and the top forty-five head were selected for the feeding trial. One lot of fifteen which averaged 540 pounds at the beginning costing $8.50 a hundred or $45.90, were fed on ground corn, cottonseed cake, sorghum silage and some alfalfa hay. The calves were fed 180 days and the cost of feed was $35.38 a head. The calves sold on the Kansas City market for $9.50 a hundred, a top price, and made a profit of $1.24 a head. No feeder would want to take the risk of feeding on this small margin but the man who produces his own silage and alfalfa hay will find a better market for them fed to cattle than to sell these feeds on the market.

The corn fed these cattle was valued at 70 cents a bushel, which is above the average farm price for corn sold off the farm. The silage was valued at $3 a ton and with a yield of fifteen tons an acre the farmer would be getting $45 an acre for his sorghum silage. And this is an important point no farmer should lose sight of: That when forage crops can be grown on the farm and fed to cattle at a reasonably fair profit and by buying cottonseed meal to supplement the corn and silage the farmer has adopted one of the surest and best methods for maintaining the fertility of his land, provided, of course, that the manure is carefully saved and applied.

In commenting on the experiment Professor Cochel, head of the animal husbandry department, says: "Although the net profits are not large they show that the farmer having calves weighing 540 pounds in December could have fed them out with greater profit than to have sold them at that time for $8.50 per hundredweight and in so doing could have furnished a market for sorghum silage at $3 per ton or $50 per acre, based upon local yields. This does not take into consideration the pork which is produced in connection with feeding cattle nor the value of manure which is estimated at three loads per steer."

We think the raising and feeding of a few calves every year is a safe line of work for the average farmer to follow. Its advantages compared with grain raising are that more of the farm can be kept in grass and other uncultivated forage crops thus saving the great loss from washing of the soil; the manure can all be returned to the land; the crops are easily marketed after being fed to the cattle; instead of buying so much fertilizer the cottonseed meal is bought to enrich the manure but returns its value in the gain put on the cattle.

The price of cattle will continue to go up and down as it has in the past but the farmer who raises his own cattle and feeds them forage raised on his own farm will be ahead of the grain raiser most every time.

SOW GRASS

If there is one thing deserving our serious attention more than another concerning crops just now we think it is how to increase our profit from grass crops—pastures and meadows. The Missouri Farmer has kept before its readers both in and out of season the fact that the greatest loss our farms sustain one year with another is the loss of soil fertility caused from surface washing. Aside from the benefits from drainage, terracing and deeper tillage, the one thing we can do to reduce this loss to a minimum is to quit plowing so much land and grow grass.

Many of our Missouri farmers believe that they can not afford to keep high priced land in grass, but we doubt if high priced rolling lands can be kept profitably in any other crop except of course the uncultivated legume crops which for practical purposes are classed with the grasses.

If the farmers of Europe can afford to keep land in meadows and pastures which has a value two or three times as much as our best lands, then why does any one doubt that we can do the same thing? The grazing of lands reduces the amount of hard labor and the amount of annual expense in the use of machinery in very great proportion and a less gross return may, on this account, show a greater net profit.

In the first place we should give more attention to pastures and meadows and keep out the weeds just as zealously as we do out of our corn fields. Then we should sow a great number of varieties so as to take advantage of the different seasons. And finally we should take the same pains to fertilize our grass crops with barnyard manure or with commercial fertilizers that we take with the wheat or corn crops.

More grass and fewer acres to plow will be a good motto for most farmers in Missouri to follow.

ALFALFA ON EVERY FARM

We do not know who coined this slogan, but that is immaterial, it is a good slogan any way and one we would like to see adopted in every county in the state. Alfalfa can not be grown on any kind of land without some effort but when we understand the needs of the crop better we will be able to grow it successfully on most every farm in the state. We do not think it advisable for many farmers at least to undertake to devote their whole farm to growing alfalfa, but on every farm where mixed farming is followed, this crop certainly has its place.

We recently had a pleasant visit from Sam Jordan, who has for the last three years been farm adviser for Pettis County, and we found him to be more enthusiastic than ever about the value of alfalfa. When Jordan went to Pettis County there were only about ten farmers growing alfalfa so far as he could determine, but now he has a list of over two hundred who are successfully raising it, and of the whole number co-operating there have been but five failures, and the cause of failure was ascertained in every case. There are few crops, even the standard crops, that will not show as many failures as five to over two hundred successful ones.

Mr. Lewis Monsees, one of the best known farmers in the state, has eight acres growing on up land, originally timber land, that produced from the first cutting this year two tons of cured hay and the second crop ready to cut July 4 was estimated at two tons per acre.

W. E. Files, near Lamonte, has eighteen acres on high prairie land treated with a ton of limestone and two hundred pounds of raw bone meal, which produced one and trhee-fourths tons the first cutting and the second estimated at two tons. Both these fields were seeded last year.

John R. Gentry has a field sown two years ago, the first cutting yielded two and a half tons and the second about as good. The illustrations given us by Jordan ought to satisfy any of our readers who are asking for practical examples of the success of the crop.

It has never been claimed by the most enthusiastic alfalfa "cranks" that alfalfa could be grown successfully on the so-called hard-pan prairie land, but Jordan says they have a field growing on just such land near Green Ridge that proves that it can be grown even on this kind of land. The trouble on this kind of soil is "heaving" or lifting out by freezing, and the remedy there is to work the land down very compactly and after a stand is secured to pasture rather heavy late in the fall and the tramping will to some extent prevent "heaving." We think possibly on this kind of land spring seeding will prove the best as it will give the alfalfa a much deeper root system to withstand the winter.

If our readers want practical experience as proof here it is, and there are hundreds of other examples all over the state. If there has been a failure in your neighborhood do not accept that as proof that it will not grow successfully until you have made some effort at least to find out the cause of failure. It will pay any man who has no alfalfa on his farm to take a day off and go and see some one who has made a success of growing it. It might be that the same information could be obtained from reading The Missouri Farmer closely, but if there is any doubt in the mind of any one let him hunt up some successful grower and get the information first hand.

In another column of this paper Mr. Williams of Polk County tells us of growing three tons a season on gravelly land that would produce not more than ten bushels of corn per acre. This looks like a fake story to those who know nothing about the crop, but it is the statement of a man well known in his county and the facts may be verified by any one who is interested.

When we get to growing alfalfa quite generally we may expect plant diseases and insect pests to be a handicap just as rust, blight, chinch bugs and Hessian flies are handicaps in growing wheat, but a few years growing alfalfa will help to get rid of the wheat pests and after that we can get bigger crops of wheat and corn off the alfalfa land. If your present crops are not entirely satisfactory, then why not join in with the alfalfa brigade and shout "Alfalfa on Every Farm?"

FEEDING ALFALFA HAY

A reader of The Missouri Farmer writes that he has been feeding alfalfa hay to his work horses this summer on account of the scarcity of native hay and his horses are not doing well. It seems to affect their wind somewhat and the kidneys are affected. We doubt if there is any one thing done on the farm that is so poorly understood as the feeding of hay to horses and mules. In the first place a great deal of the hay fed to horses is unfit for feed because it is mouldy, dusty or because it stood so long before cutting that it was overripe, woody and much of it indigestible.

The practice of filling the manger with hay and allowing the horses all they will eat is bad. Even where the horses are fed a liberal grain feed we have always found it best to limit the amount of hay fed each day so that at least once a day the hay would be entirely cleaned up. Too much hay makes so much bulk in the stomach and the dry hay calls for so much water that it puts the horse in a very uncomfortable condition when he goes to work. We have heard farmers say that when feeding damaged hay that they filled the mangers so the horses could pick over the hay and take only the best of it. In our experience we have found that where it was necessary to feed damaged hay to horses the best plan was to feed lightly of the hay and increase the amount of grain enough to make up for the deficiency of hay.

In feeding prairie or good timothy hay where the grain feed is liberal there is not so much danger of horses over eating but even with these hays it is never advisable for horses hard at work to have their stomachs over crowded.

In feeding alfalfa and clover hay it is decidedly better to feed only part of the feed each day of these highly protein feeds and give some prairie or timothy to fill out. But where the other hays can not be obtained we would never feed more than one pound daily of hay for each one hundred pounds of the weight of the animal. That would be ten pounds of hay daily for a thousand pound horse and fifteen pounds for a fifteen hundred pound horse and we would consider this the maximum.

There is always this to bear in mind that there is a great difference in the quality of hay depending upon the stage of ripening when it is harvested and how it is cured etc. Most any variety of hay cut when dead ripe is poor quality. The best time to cut timothy is just as soon as the bloom falls. If cut when in bloom the quality of hay is good except that the bloom makes the hay very dusty. When cut after the seed ripens the hay is woody and less digestible. Clover is best cut when in full bloom and before many of the heads begin to brown. For alfalfa we know of no experiments that have been made but experience of the best farmers has pretty well settled the best time for cutting alfalfa when not more than one-fourth of it is in bloom. But for the good of the plant it is better to cut when the new shoots start well regardless of bloom. Some farmers contend that alfalfa for horses should be cut ripe but if the facts were known definitely we think that this notion might be because when cut ripe the horses will not eat so much of it and there is not so much danger of over feeding.

CANADA FIELD PEAS AND OATS

To The Missouri Farmer:

In reading Mr. W. D. McKee's letter regarding Sheep on Every Farm, in the last issue of your valuable paper, we are so interested in what he says about raising peas and oats, that we would like to ask a few questions. We have 10 acres of timothy meadow that has a thin sod. It is very rolling and has been worn out, down to the clay. We want to know if it will do to break it deep as soon as the hay is cut off, and then sow to rye this fall, and then in the spring turn the rye under and then sow the peas and oats, or will it be to late for them. We know what a benefit it is to the ground to plow rye under as we have followed that for years, but we do not know anything about peas whatever, as there is no one in this vicinity that ever raised any. We are very much interested in this matter and would like to get what information we can, and will be very much obliged to you, or Mr. McKee for what you can tell us.

Deshler Brothers,
Grundy County.

The Canada field pea is very much like the garden pea in its habits of growth and climate and soil requirements. It should be planted pretty deep and preferably in a well-drained, warm soil and as it requires cool weather it should be planted very early. It is grown extensively in Canada and some of our Northern states and ought to do fairly well one season with another if sown early. Mr. McKee's success ought to show what can be done with it if handled properly.

It is perhaps best to seed with a drill because the seed can be planted more evenly and at a uniform depth. It is best to sow with oats, one to two bushels of the peas with about the same amount of oats to the acre. This mixture will furnish good grazing for most any kind of stock and will make a hay equal to our best hays if well cured. In our dry years, particularly, if the early part of the season, May and June, should be very dry and hot, the peas would not do so well.

Your plan of sowing the field to rye is all right for fall and winter pasture but you will get very little growth to plow under in the spring because you will need to plow the ground for peas too early for the rye to have made much growth. I think it would hardly be practicable to try to sow the peas and save the rye because any drill that would put the peas in deep enough would necessiarily destroy most of the rye and then the rye would ripen earlier than the peas.

The rye would make a good winter covering for the land and if sown early, say in August or first part of September, the amount of pasturage in a good season ought to pay well for the seed and labor.

The question of winter cover crops ought to be given more attention than is now given and especially on all our rolling lands. Some farmers find it profitable to sow rye in the corn even where the field is to be planted to corn the following season. By May the rye will have made enough growth to make quite a lot of humus to turn under.

Geo. B. Ellis.

TIMOTHY WITH ALFALFA

Our good friend W. W. Pollock of Adair County writes as follows:

"I have passed the 80-year mark but still go to school. Your talk on 'Fertile Soil' in the June 15 issue pleases me to a T. Now for a little detailed information. On April 10, 1914, I sowed on six acres of clay soil about 90 pounds of alfalfa seed and 50 pounds of clover. The drouth killed most of the clover but the alfalfa is a good stand except in spots. Last fall I manured it well to prevent freezing and the manure seeded it well with timothy, and now timothy is overtopping the alfalfa. Since May 17 excessive rains have prevented cutting (June 28) and it still rains. Now I aim to plow when crop is off and disk and harrow well and then in April 1916 reseed to alfalfa again, without manure. Is my plan right? What fertilizer should I use? I expect to put on a ton or a ton and a half of pulverized limestone. Next time I want clean alfalfa—no clover and timothy."

In the first place let us compliment our friend who says he is still going to school at 80 years of age, and what a fine lesson this should be to those younger men who think they have learned it about all at fifty. Learning at 80! I wish I had time to say more about this fine example of leadership and usefulness. But how will we handle this land? In the first place it might be well to let it stand. just as it is and scatter some more manure over the thin spots and reseed them with alfalfa after a thorough disking. The field could then be treated with the limestone and if it needs more fertilizer two or three hundred pounds of raw bone meal to the acre will be about the best fertilizer to apply. Whatever fertilizer you use get a good brand of high grade goods.

If the alfalfa has a good dark color and shows the little nodules or wart-like growths on the roots, it might pay to let it stand. For pasturage the mixed seeding will be fine and will be good for hay, but, of course, the timothy and alfalfa will not ripen together for the best hay. If, however, the field is pastured lightly you can get two cuttings a year of good hay, the first about the time the timothy is in bloom and the other will be mostly alfalfa. I have seen an alfalfa-timothy mixture handled in this way for several years.

Another plan would be to mow the alfalfa more often which would hold the timothy in check. But if a clean stand of alfalfa is wanted I would plow the land deep right away and work it into a good seed bed and then sow the alfalfa as soon as I got a firm seed bed between now and September 1. This will give the alfalfa a good start of the weeds next spring and at least one more cutting of hay next year than spring sowing. I would put the limestone on after plowing the ground and apply the raw ground bone two or three hundred pounds to the acre and more will do no harm.

If the ground is free from weeds and summer grasses it would be safe to let it go over until next spring for seeding but I can see no possible advantage for doing this unless the ground "heaves" badly. If this is the case, then the alfalfa will get a deeper root before its first winter and will hold better.

In this connection, let me say that Sam Jordan, who has had wide observation with alfalfa, recommends the late fall pasturing and tramping of alfalfa on lands that freeze out badly. He says it will protect it wonderfully from freezing out and it is worthy of trial.

Geo. B. Ellis.

BUCKSHOT BY THE PROFESSOR

It seems to me the whole country has gone "wet."

There's a plumber needed somewhere up in the sky. The clouds have busted their pipes.

The only way a submarine can get me is to come out into my cornfield after me—and then it would get stuck in the mud.

Fighting for your country is alright if there's no other way out of it—but farming is a whole lot healthier occupation and better for the human race.

This is mighty hot weather to be writing stuff like this—and yet most of the fellows who have to read it would swear that it isn't "hot stuff" either.

If you get a chance to stack your wheat, better do it. If you don't then see that the shocks are kept in good condition. Let's try to have No. 2 wheat, if possible.

The average farmer would a whole lot rather discuss the Monroe Doctrine than milk cows—but there's more money in the latter proposition.

We can have too much wet weather just as we can have too much dry weather—but in the long run I'll take a little too much rain every time. It at least means plenty of feed and that means a great deal to the farmer.

And now old "Whiskers" Carranza down in Old Mexico is going to write a "White Book." We've already stood for enough from the greasers and then some—but if they go to writing "War Books" I am in favor of an immediate declaration of war. As the dutchman says, "Enough it too much."

I've got a scheme for "Universal Peace" that's got "Bill" Bryan's skinned a mile. Just make a rule that the kings, emperors, prime ministers and diplomats who start it are to shoulder a gun and do the first fightin'. You wouldn't need any special peace treaties or peace congresses after that. Once you make the fellows who start the trouble get their own "feet wet" first, the peace doves would be thicker than jay-birds.

POTASH *for* WHEAT

Many farmers are anxiously inquiring whether they can secure any Potash in their wheat fertilizer this Fall. From the best information obtainable, it appears that while Potash exports from Germany were entirely stopped last January, there is still some Potash in the country that will be used in the wheat fertilizers. The amount is very much less than usual. Hence those who wish to secure fertilizers containing it, must be alert and place their orders early. Those manufacturers who have it in stock will doubtless make it go as far as possible and the percentage in wheat fertilizers must be lower than in former years. The price per unit will doubtless be higher, but not so high as to make it unprofitable, especially where clover or hay is to follow the wheat.

Inability to secure the usual wheat fertilizers containing from 2 to 6 per cent of Potash should not lead farmers to decide not to use any fertilizer.

The reduction in the sales of cotton fertilizer has left more Potash available for wheat fertilizer than we could have hoped for a few months ago and minor sources of supply have been fully utilized.

There is no substitute for Potash. It is very scarce just now, but POTASH PAYS.

GERMAN KALI WORKS, Inc., New York
Chicago San Francisco Atlanta
Savannah New Orleans

To Get Rid of Fleas

Please let me add a bit of information to your article on fleas that appeared on page 13 of July 1st issue of The Missouri Farmer. We got rid of this pest that nearly worried us to death, by scattering lime in the hog houses and keeping long haired dogs around the house and keeping them peppered with insect powder. The dogs collect the fleas and the powder will do the rest. Keep a few sheep around the place for a short time and the fleas will get entagled in the wool and die without annoyance to the sheep. If you have no sheep just borrow a few of your neighbor. Put grease on dogs and hogs and the fleas will "vamoose."

H. I. Yetley, Elsey, Mo.

Essentials of Agriculture

We have just received from the publishers, Ginn and Company, a new book, "The Essentials of Agriculture," which is all the name implies. The author of the book is President H. J. Waters of the Kansas Agricultural College and formerly dean of the Missouri College of Agriculture and known to most of our readers. The author was assisted by a number of the leading agricultural specialists and teachers and so when you read this book you get the best thought of a half hundred men who supplement the knowledge of the distinguished author.

While the book is written apparently for use in schools every farmer will find it a most valuable book to have on his table and particularly so if there is a boy in the family. This book ought to lay the foundation for good farming for any young farmer who will read it.

Do Your Roofs Leak?

If your house, granary or barn roofs leak, look up the advertisement of the Edwards Mfg. which appears in this issue. They can tell you how to stop the leaks permanently and cheaply. Mention The Missouri Farmer when you write. Your granary should be water-proof if you expect to keep your wheat and oats in good condition.

SAVE $100. ON THIS WEYERHAEUSER SILO

Wood makes the best silo. Fir makes the best wood silo. The WEYERHAEUSER SILO is recognized as the best fir wood silo. No Weyerhaeuser Silo under present construction has ever gone down or collapsed from any reason. Made of Douglas Fir staves it comes direct

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ME AND ANDY AND JOHN

Me and Andy and John
Are givin' a lot away
To colleges here and libraries there—
Were helpin' 'em every day.
There's John—he's smilin' a happy smile
And writin' the checks against his pile;
And Andy—biddin' the world have peace
And wishin' the wars would somehow cease;
And me—I'm doin' my hours o'toil
To pay the bills for the steel and oil.
John and Andy and me—
We're certainly helpin' some
With money for this and money for that
As fast as petishuns come.
There's Andy makin' 'em carve his name
Upon the libraries for his fame;
And John—he's teachin' the young to save
An' givin' advice he always gave.
And me? I'm helpin' 'em meet both ends
By chippin' in all the dividends.
Andy John and me
Hold wealth as preshus trust;
We're helpin' 'em here an' helpin' 'em there
By shovelin' out our dust.
There's Andy—busy as he can be
Considerin' plans for a library;
And John a-whackin' a boundin' ball
And lettin' his words o'wisdom fall;
And me! I'm payin' my small amount
To help 'em both to a bank account.
Me and Andy and John
Are givin' our money free;
The colleges here and libraries there
Are gittin' it from us three.
There's John—he's happiest when he gives,
And he'll be doin' that while he lives;
And Andy—makin' 'em raise their part
To build the house for books and art.
And me? By ginger! How fine I feel—
Apayin' the bills for oil and steel!

—Wilber D. Nesbit
In Saturday Evening Post

Home Makers Conference

This Department is Edited by Miss Alice Kinney, New Franklin, Mo.

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BREAD MAKING—No. IV

Fancy Breads

Breads may be made in a number of ways, that add much to its attractiveness. In this way a pleasing and economical diet may be maintained. None are expensive when compared with meat and with a plentiful supply of vegetables and fruit they make a well balanced diet, which is enjoyed much more on account of its endless variety of breads.

Parker House Rolls

1 cup of milk
1 tablespoon of sugar
1 tablespoon of butter
Flour for dough
1 tablespoon of lard
½ teaspoon of salt
¼ to ½ cake of compressed or dried yeast, or
¼ to ½ cup of liquid yeast

Scald milk, place the yeast in one-fourth cup of luke warm water and add sugar to the water. Measure the butter, lard and salt into a mixing bowl. Add the scalded milk and cool to luke warm; stirring occasionly. Stir yeast water and sugar together and add to milk mixture. Add the flour gradually, beating thoroughly until no more can be worked in with a spoon. Cover tightly and let rise until three times its bulk. Turn on a lightly floured board, knead slightly and roll three fourths inch thick. Cut with a round or oval floured biscuit cutter, crease in the middle with floured knife handle, rub one half with melted butter and fold over. Place one inch apart in an oiled tin and let rise until double in size. Bake in a hot oven 15-20 minutes.

How to glaze Parker House Rolls or Other Fancy Breads—Brush with melted butter or milk and sugar (1 tablespoon of sugar to one fourth cup of milk) before baking. Brush with egg, slightly beaten and diluted with 1 tablespoon of water or milk, when taken from oven and return for a few minutes to glaze the top. The egg yolk or the egg white diluted with water or milk, may be used instead of the whole egg if desired.

When baked and nearly cool, brush over with powdered sugar, moistened with boilng water to spread and flavored.

Cinnamon Rolls

Roll Parker House roll mixture one half inch thick. Spread with melted butter and sprinkle with mixture of 5 parts sugar to one part ground cinnamon. Roll as a jelly roll. Cut in ¾ inch slices. Put closely together in buttered tin, cut side up. Let rise and bake in moderate oven 35 minutes.

Swedish Tea Ring.

Use the receipt for Parker House rolls. When light, put onto an unfloured board and roll as thinly as possible in rectangular shape. Spread with melted butter and sprinkle with chopped blanched almonds, or cinnamon. Roll like a jelly roll, cut a small piece from each end and join the ends to form a ring. Place on a buttered baking sheet, and make cuts one inch apart across the roll with scissors extending almost to the inside. Turn each piece to have the cut side up. Let rise and bake in a moderately hot oven.

Salad or Dinner Rolls

Use the same ingredients as for Parker House rolls. Shape in small biscuits, place in rows on a floured board, cover with cloth and let rise until very light. Flour the handle of a wooden spoon and make deep crease in the middle of each roll, take up and press the edges together. Place closely in a buttered tin. Cover, let rise and bake 12-15 minutes in a hot oven. From this same mixture, crescents, braids, twists, bow knots, clover leaves or shamrocks and other fancy shapes may be made.

Crescents

When the dough is light, roll in a sheet one eighth inch thick and cut in strips about four inches wide; cut these in sharp pointed triangles, then commencing at the base, roll them up, bringing the ends towards each other, keeping the point in the middle of the roll to give the shape of a crescent. Place them in baking tins some distance apart. When light, bake 15-20 minutes.

Braids

When the dough is light, roll in a sheet one fourth inch thick, cut in strips one half inch wide, then braid them in three or four strands having the braids wider in the center than at the ends. Let rise and bake.

Clover Leaves or Shamrocks

Oil a muffin tin. Take small bits of dough, knead until smooth, shape in balls and fit three in each tin. Let rise and bake.

Bread Sticks

Use the same ingredients as for Parker House rolls, with addition of one egg white. When ready to shape form in small balls, then roll on an unfloured board with the hands until strips are formed uniform in size and the shape of a thick lead pencil Place on a baking sheet or pan some distance apart, or in a tin designed for the purpose. Bake, when light in a hot oven, reducing the heat that the sticks may be crisp and dry.

For salad sticks—Additional salt may be added to the dough and the sticks sprinkled with salt before baking.

Zweiback

Use the receipe of Parker House rolls with the addition of one tablespoon of sugar, 1 tablespoon of butter and one egg. Scald the milk and when lukewarm add the yeast. As soon as the yeast is dissolved, add the salt and one-half cup of flour. Cover and let rise until light, then add sugar the butter, the eggs unbeaten, with flour enough to handle. Knead, shape and place in tin. Let rise, and bake in a hot oven about 30 to 40 minutes. When cold, cut in slices about one half inch thick and dry in a slow oven until delicately browned.

PREPARATION OF FRUITS FOR CANNING

When preparing fruit for canning, ripe fruit, on account of the richness of flavor, is usually preferred to green but it should not be over ripe. Over ripe fruit can be used for jams, marmalades and preserves. Some fruit like pears may be picked before they are ripe and allowed to ripen off the tree, but peaches and similar fruits are best picked ripe and canned immediately. In canning small fruits it is well to remember that those picked in the earlier part of the season contain fewer seeds than the later berries. In preparation of fruit for canning it should first be picked over and all stems, leaves, dirt or spoiled fruit thrown away. In picking over the fruit may be separated into lots according to size, ripeness or purpose desired. The next step in the process is to clean the fruit to be used. The smaller fruits may be put into a colander or sieve and a stream of water poured through it. When clean it is ready to cook if it is the kind that does not need to be peeled and cut up. If cut up the pieces should be of a uniform size, as it gives a better appearance in the can.

Fruits, and especially the smaller fruits, as berries, cherries, etc., do not require as much heating in order to be perfectly sterilized because the type of bacteria found does not require as high a temperature in order to be killed as to those found in the less acid fruits and vegetables. Forty minutes heating in the steamer for one day is enough time for this kind of fruit.

In order that there be as little wasted space in the jar as possible, the jar should be closely packed with fruit. If sugar is used in the jar with the fruit instead of syrup, less space is wasted and no water is added. Enough sugar should be added to improve flavor. The fruit may be prepared and placed in the sterile jar, alternating a layer of fruit with a layer of sugar and packing as closely as possible without crushing. The jar is then placed in the steamer and steamed for forty minutes with the lid on loosely. The rubber may be placed on during the last few minutes of steaming and the lid screwed down.

Raspberries, Red or Black.—Raspberries are liable to contain small worms and must therefore be examined carefully. This fruit spoils very quickly and should be canned as quickly as possible after picking. They loose their juice and shape, so great care should be taken in washing them. They should not be allowed to stand in water but should be washed gently and drained.

After preparing, place in sterile can with alternate layers of sugar and fruit. Pack the can as tightly and full as possible without crushing the berries. Steam in boiler 45 minutes for one day only.

Currants.—Currants should be handled carefully and preserved as soon as possible after picking. They may be canned with or without sugar. They contain so much acid, that little heat is required to preserve them. Currants are especially good for jelly making; both alone and in combination with other fruits.

To Preserve Currants.—They are especially good as a meat relish. Put equal amounts of currants and sugar upon a platter and crush each berry. Place in sterilized jars and seal. They will keep perfectly if every single berry has been crushed.

Peaches.—Use firm solid fruit not too ripe. The riper peaches may be made into preserves and butters. Peel, cut in halves, remove pits, unless to be canned whole. Place in sterile jars with rubber in place, cover with thin hot syrup. The covers are screwed on loosely. Place jars in steamer and boil from 15 to 20 minutes depending on ripeness of peaches. Lids are tightened upon removing from boiler.

Plums.—Select firm ripe fruit, wash in clean water. Remove steams and trash. Remove seeds or not, as desired. If not seeded, small holes pricked in the skin of the fruit will prevent it from bursting. Place in jars and cover with a thin hot syrup. Place lid on loosely and place in boiler and sterilize for 45 minutes. Plums may be canned by washing and pricking to prevent bursting. Add the plums to the syrup, (1 cup of sugar to 2 cups of water) cook until tender and place in sterilized jar with sterilized rubber in place. Fill the jar to overflowing with the hot syrup. Put on sterilized top and screw down tightly.

String Beans.—Select young and freshly gathered pods. Remove all strings. They may be canned whole or broken into uniform lengths. Place in a clean sack or wire basket and place in boiling water until tender. Drain and after cooling slightly, pack in sterile jars, fill jar with sterile water and add 1 teaspoon of salt to each quart. Steam one hour in boiler, adding rubber and tightening lid during last fifteen minutes of cooking.

Sweet Corn (off cob).—Dip in boiling water ten to fifteen minutes according to ripeness, size and freshness, plunge quickly in cold water. Cut corn from cob and pack tightly in sterile jar. Add boiling water and 1 teaspoon of salt to each pint. Place lid on loosely and steam in boiler for one hour a day for three successive days. If the weather is warm and fermentation is liable to take place between steaming periods,the time may be shortened; for instance, steam one hour beginning at 6 o'clock in the morning and repeat the process at 6 o'clock at night. Then give the next steaming early on the following morning; placing sterile rubber and tightening lid for last steaming.

Young Beets.—Beets are considered quite difficult to can on account of loosing the attractive red color the fresh beet possesses. The loss of color does not affect its value or its flavor. However, this may be avoided if the glass jars are stored in the dark. Beets should not be canned in tin. Young tender blood red varieties are best. Boil in an open vessel until peeling comes off easily. Peel, slice, quarter or can whole as desired. Fill jars full and add fresh cold water; one to two teaspoons of sugar may be added if desired. Place tops on loosely and steam in boiler for one hour each day for three successive days as given under "peas."

Tomatoes.—Tomatoes should be assorted into three divisions: the perfect ones for canning whole, the less perfect ones to be cut into pieces and canned and the inferior ones (but not rotten) to be stewed and the juice used for filling cans.

To can whole tomatoes scald them, then dip in cold water and remove the skin. This operation is easier if the tomatoes are placed on a square of cheese cloth. Bring the corners together and fasten them. This makes a convenient bag to lift them in and out of the water. Pack the cans as full as possible. One teaspoonful of salt to each quart of tomato juice which has been strained should be used to pour over the tomatoes when they are put into the can. Water should not be added as it decreases the food value and the flavor.

In case jars with screw tops are used, adjust the rubber and screw the top on just tight enough so that you can lift the jar by the cover. Do not screw the top on so tight as to prevent the the escape of air. Place the cans in a wash boiler or other large utensil, using a rack (a wooden or metal frame) then add water until it reaches within three inches of the top of the outside of the can. Cook for fifteen minutes after the water begins to boil. In case of very large tomatoes the time of cooking should be longer as it takes heat longer to penetrate into the center. In refilling the boiler, unless the jars are sufficiently hot from sterilization to prevent cracking them, they should be put in cold water. Remove the cans when they have been heated the length of time stated above and tighten the cover. In canning tomatoes which have been cut in pieces proceed the same as above. The juice that is added in this case need not be strained.

Addie D. Root,
Extension Service Department,
University of Missouri.

THE FARM WATER SUPPLY

There is more poetry than pleasure in "Carrying water from the spring," or any other source of supply, when face to face with the proposition of carrying enough of it for the family washing, the Saturday cleaning and scrubbing, and incidentally, the Saturday night bath supply. With dishes to wash three times a day or more, cream separator to clean, vegetables to wash, cooking, and the hundred and one other demands for water in the daily routine of the home, is it surprising that the housewife seems always to see empty water pails before her. A call on Johnnie or Willie brings the invariable complaint, "Didn't I jest get a pail-ful?"—it may have been a couple of hours ago and Mother may have carried in a dozen pail-fuls herself in the meantime to avoid delay. And if Father carries in an occasional pail or two, it is with a half-conscious air of having done his duty as a considerate head of the house.

This is a day of labor-saving devices, and there is nothing which will save more labor and give greater satisfaction to the country housewife and at the same time add so greatly to the comfort of the entire family as a home waterworks system.

There are thousands of farm homes where such systems have been installed, and there are thousands more where they no doubt would be adopted were it not that the idea has never taken practical form in the farmer's mind. If it ever did suggest itself it was as a sort of "pipe dream," and with the putting away of the pipe was dismissed as impracticable or altogether too expensive a proposition to be considered seriously.

A home waterworks equipment is not impracticable for any ordinary farm or village home, and the average farm owner on looking into the subject a little would no doubt be surprised to find at what comparatively light cost such comfort and saving of labor can be accomplished.

Especially is this the case where there is already a gasoline engine on the farm to do the pumping—and there are few farms of any size or pretension nowadays that do not have one of these engines. Even if an engine must be purchased primarily as a part of the house waterworks equipment, its cost cannot rightly be charged up wholly as a part of the expense for this purpose, as it is used

for so many other purposes—sawing wood, cutting and grinding feed, spraying, turning the grindstone, operating the fanning mill, cream separator, churn, washing machine, and every other machine to which power can be applied. Conceding, therefore, that almost every farm either has or will have its engine for general purposes, the cost of an engine is hardly to be considered as a part of the cost of putting in a waterworks system.

There are three methods by which a farm or village home that is out of reach of a city waterworks system can be equipped with running water:

1. By gravity from a well or spring on higher ground;
2. By gravity from elevated tanks;
3. By means of a pneumatic tank.

The first method requires conditions rarely found. It depends on having an elevated spring or water source near at hand, from which water can be piped down hill with pipes run into the house up to a height corresponding to the source on the hill. Obeying the natural law that makes water seek its own level, the water will rise in the pipes as high as the level from which it has been secured, and can thus be distributed throughout the house. With this system no pumping whatever is required. This is an ideal method, but the necessary conditions are not often found.

Gravity flow by means of an elevated tank is a system quite commonly used. The tank is often placed in the attic of the house, or in the hay mow, or it may be placed on a tower in the open yard. The use of the tower, however, is apt to be unsatisfactory, except where the climate is mild enough so that the water will not freeze. Where the tank is placed in the attic, danger from freezing is largely avoided by running the supply pipe along the inner wall of the house; when a tank is located in the hay mow, the pumps are in the stable and the supply pipes are run under ground to the house. As to the size of tank, a 500-gallon capacity should be large enough for a medium-sized farm, for both family and stock. Such a tank could be filled daily by running the gasoline engine from five to ten minutes at practically no cost for fuel. A 500-gallon tank in either galvanized steel or cypress can be bought for about $10 or $12. If only a house supply, to be located in the attic, is desired, a 150 to 200-gallon size might be large enough and even more desirable, as too great a weight would not be practicable in such a location. One of these smaller tanks could be purchased for about $5. A 1,000 to 2,000 gallon tank would cost from $15 to $25, but with a tank of that size, located so as to avoid trouble in cold weather, a half hour's pumping with a gasoline engine a couple of times a week would furnish water for every possible use on the farm—for both family and stock, and for watering the flowering shrubs, fruit bushes, and the family garden in dry weather—by merely turning a faucet or two. It certainly sounds attractive, doesn't it?

The pneumatic tank system of supplying water for the home, is unquestionably the best and most satisfactory system that has yet been devised, though perhaps costing a little more in the beginning than the elevated tank gravity method. The outfit consists of an air-tight steel tank, a force pump, and piping to connect well to pump, pump to tank, and tank to house pipes. The tank is usually placed in the cellar, or is buried under ground and the pump may be located at the well, in the cellar, or wherever convenient.

The principle on which the pneumatic system is based is air pressure. Water is pumped into the air-tight tank and compresses the air in the tank which exerts a proportionate pressure on the water, forcing it upward in the pipes to the desired height. Some of the advantages are that, owing to the location of the tank in the cellar or under ground, the water is kept cool in summer and does not freeze in winter; also the air in the tank by oxidizing organic matter in the water, purifies the water to a considerable extent.

Any form of power can be used to do the pumping for pneumatic system—hand power, windmill, gasoline engine, hot air engine, electric motor, etc. It is a safe guess, however, that any one who is interested enough in labor saving to install a water system is not going to do the pumping by hand and is not going to require expensive hired labor do it. Windmill power requires a tank large enough to hold at least a three days' supply; otherwise lack of wind may keep the water system out of commission a good share of the time. In some cases the electric motor, hydraulic ram, or other special forms of power may be the most practical but for the average farm, for average conditions, gasoline engine power gives by far the best all-round satisfaction. As a pumping engine and all-round source of power for the farm work, the gasoline engine has many advantages. It does not require the services of a trained engineer. Any man of ordinary intelligence can learn to run it in less than a day. It is light in weight and can be easily moved from one place to another as the work requires. It can be started in a few seconds and will run all day without any attention whatever. It cannot possibly blow up and there is no danger of fire. It is cheaper than hand labor—if a pint of gasoline costing two cents can be made to do the work it takes a man eight hours to do, the gasoline should be made to do it.

With these facts in mind, no farmer needs to be afraid to invest in a good gasoline engine, if necessary, to do his pumping. If he gets a good one, he will get his full money's worth aside from the pumping proposition, and, with power furnished, the rest of the expenses for a water system will not be especially heavy.

The purpose of this article has not been to give detailed information as to how to install a farm water system, but rather to awaken interest in the subject and direct attention to its practical possibilities.

E. G. Norton, I. H. C. Service Bureau.

FEED HENS A BALANCED RATION

One of the factors which determine egg production is the feed ration, not merely the quantity of feed given, but the elements contained therein.

Many questions are asked as to what a balanced ration for egg production is, and how to balance the ration.

In order to determine more fully the effect of certain rations, a number of experiments are in progress at this station. Each pen contains twenty hens.

The test with a wide ration, containing elements which would produce three yolks for each white, laid 379 eggs in the first six months.

The test with a narrow ration, containing elements which would produce two whites to each yolk, produced 269 eggs.

The test with a ration containing equal yolk and white material but without minerals to produce the shell, produced 161 eggs.

The test where the ration contained elements necessary to produce equally all parts of the egg, produced 1603 eggs in the same time. This ration is called a **balanced** ration for egg production.

The yolk is principally carbohydrates; the white, protein, and the shell, minerals. Thus the three parts of the egg are made from three kinds of food.

The following ration is fairly well balanced for egg production. Instead of using the terms carbohydrates and protein, the terms "yolks" and "whites" have been used. All fractions are omitted, therefore the table is only approximately correct.

Grain		Yolks	Whites
Cracked corn	150 lbs.	382	198
Wheat	150 lbs.	365	273
Mash			
Wheat bran	20 lbs.	31	41
Middlings	20 lbs.	41	44
Corn meal	20 lbs.	52	27
Ground oats	20 lbs.	39	31
Gluten meal	20 lbs.	46	86
Beef scraps	30 lbs.	32	332
Alfalfa meal	5 lbs.	7	9
O P Oil meal	5 lbs.	8	25
	440 lbs.	1003	1066

The hens had access to oyster shell and grit, and were given two pounds of fine table salt and four pounds of fine charcoal in the above mash.

The basis for computing the number of yolks and whites produced by each kind of feed was that one pound of carbohydrates would produce 3⅓ yolks; one pound of protein would produce 16 2-3 whites, this being the rate of the average hen here at the Station.

It will be seen that from 150 lbs. of corn, 382 yolks and 198 whites are produced, therefore, it is not a balanced ration. The extra yolks are built into fat. In this way, hens fed on corn alone get extra fat, and we hear the old expression that the "hen is too fat to lay." The expression should be changed to read, "the hen can't lay is the reason she gets too fat."

A simple ration may be made as follows:

	Yolks	Whites
150 lbs. cracked corn	382	198
150 lbs. wheat	365	273
25 lbs. beef scraps	25	275
Totals	772	746

This ration would give best results where the hens have free range, because it contains no mash, thus requiring the hen to do the grinding of the food. The kind of food she gets on the range should be considered, however.

If a hen has the ability to produce 24 eggs in one month when fed a balanced ration, but is fed an unbalanced ration like corn alone, which produced two yolks for each white, instead of making 48 yolks in order to produce 24 eggs, she makes only the 24 yolks, but can complete only twelve eggs. The same thing is true of the whites. It is the same proposition of "no chain being stronger than its weakest link." No hen will lay more eggs than the weakest part of the feed ration.

All hens in the Missouri Contest, good and bad, averaged more than 50 per cent egg yield during June, and have averaged 108 eggs each for eight months. The average for June was approximately 16 eggs per hen, being one egg less on the average than in May.

Three Plymouth Rock hens are still in the lead. The ten highest pens for eight months are as follows:

Pen No.	Eggs
34 Barred Rocks	715
40 Barred Rocks	701
38 White Rocks	685
6 S. C. White Leghorns	671
2 S. C. White Leghorns	666
10 S. C. White Leghorns	653
26 Buff Wyandottes	644
4 S. C. White Leghorns	635
14 S. C. White Leghorns	634
0 S. C. White Leghorns	632

The five highest pens for June laid approximately seven eggs less each in June than in May, which is partly accounted for by May having 31 days and June only 30.

The five highest pens for June are as follows:

Pen No.	Eggs
6 S. C. White Leghorns	115
2 S. C. White Leghorns	110
0 S. C. White Leghorns	110
10 S. C. White Leghorns	106
9 S. C. White Leghorns	106

Of the five highest hens for eight months, two are Leghorns, two are Rocks, and a Wyandotte and Rhode Island Red tie for fifth place.

C. T. Patterson.
Missouri State Poultry Association, Mountain Grove, Mo.

HENS FED BEEF SCRAPS LAY MANY MORE EGGS

That it is a poor policy for farmers not to feed some kind of food to their chickens which is high in protein value—such as beef scraps or sour milk—is the opinion of H. L. Kempster, associate professor of poultry husbandry at the University of Missouri.

Mr. Kempster has recently conducted an experiment which he believes proves conclusively that protein food produces greater results at lower costs.

In three separate pens the same number of chickens were kept. All were fed corn all of the time, wheat part of the time, and in addition ground grain rations of bran, middlings, and corn meal. Besides this regular feed for the chickens in all three pens, those in pen one were fed beef scraps, and those in pen three were given all the sour milk they wanted. The hens were about the same age. The experiment covered the time between November 1 and June 1.

Those hens in pen two—given only the regular feed—produced only 800 eggs; those in pen one—given beef scraps—produced 1518 eggs, and those in pen three—fed sour milk—produced 1425 eggs. The hens in pen one ate 923 pounds of grain, those in pen two 944 pounds and those in pen three 836 pounds.

The amount of beef scraps fed to the chickens in pen one was 60 pounds, costing $1.80. These hens produced 718 more eggs than those chickens fed only the regular ration. In other words, these chickens produced 718 additional eggs on feed which cost but $1.80 more than the regular ration. Those hens fed sour milk produced nearly as many eggs as those fed the beef scrap ration.

LONG AGO

I once knew all the birds that came
And nested in our orchard trees;
For every flower I had a name—
My friends were woodchucks, toads, and bees;
I knew where thrived in yonder glen
What plants would soothe a stone-bruised toe—
Oh, I was very learned then;
But that was very long ago!

I knew the spot upon the hill
Where checkerberries could be found,
I knew the rushes near the mill
Where pickerel lay that weighed a pound!
I knew the wood—the very tree
Where lived the poaching, saucy crow,
And all the woods and crows knew me—
But that was very long ago.

And pining for the joys of youth,
I tread the old familiar spot
Only to learn this solemn truth:
I have forgotten, am forgot.
Yet here's this youngster at my knee
Knows all the things I used to know;
To think I once was wise as he—
But that was very long ago.

I know it's folly to complain
Of whatsoe'er the Fates decree;
Yet were wishes all in vain,
I tell you what my wish should be:
I'd wish to be a boy again,
Back with the friends I used to know;
For I was, oh! so happy then—
But that was very long ago.

EUGENE FIELD

WHY NOT INCREASE THE PRODUCTION OF YOUR COWS?

It is generally agreed that natural conditions in Missouri are most favorable to dairying, and if our farmers will take full advantage of the opportunities offered, we can expect to see Missouri one of the leading dairy states of the Union. Our mild climate enables us to grow forage crops in plenty, and allows our stock to graze more months in the year than our northern dairy states. With our natural resources at hand, and not producing the amount of dairy products equal to some of our neighbor states, not so favorably located, it would indicate that we are either short on dairy cattle, or our farmers are not giving sufficient attention to the industry.

According to figures based on the federal census of 1910, Missouri has 856,000 dairy cows. If our cows produce only the average amount of butter fat credited to the average cow, by the dairy department at Washington (that is about 150 pounds of butter fat per year, per cow) our average is too small, and we should strive to increase our average output through better breeding, better care, more feed, raising the heifers from our best cows, and more careful selection of additional cows to our herds. The Babcock test and the milk scales should be employed and the unprofitable cow should be disposed of and their places should be filled with cattle that are better bred and can show a profit.

When we consider that Denmark is the most successful dairy country we have, and that they started to specialize in dairying less than thirty years ago, and built up their dairy herds from beef breeds of cattle, and are now producing an average of 250 pounds of butter fat per cow per year, and that there are more than thirty cows in this country that have over 1000 pounds of butter in a year to their credit, and there are entire herds averaging over 400 pounds of butter fat per cow per year, it would seem that to materially increase our average cow's output would be well within the range of possibilities, and to know that for each 5 pounds of butter fat added to our Missouri owned cows would mean more than one million dollars annually added to the wealth of those who are milking cows, should make the effort well worthy of our careful consideration. In order to get the most out of any business, one must specialize in the work, and when all our farmers realize that it does pay to apply business principles to dairying, and practice it, their profits will surely increase.

Jasper County is among our best dairy counties in the state. About twenty years ago the creamery promoter induced a number of farmers and business men to build a creamery in Carthage. Like many other creameries built in Missouri in those days, it failed, on account of not having sufficient number of cows to support it. The failure retarded the progress of the industry in the community, and the effect of these failures over the state have been far reaching in creating a suspicion that dairying is not all that is claimed for it. Only a few have taken pains to ascertain the cause of the failures. If they had investigated they would have found poor management and lack of cows the reason for the creamery closing down. The creamery promoter is only interested in selling equipment and erecting buildings at exhorbitant prices and cares nothing as to the future welfare of the enterprise.

The creamery business was profitable twenty years ago and is profitable today. The same can be said of the dairy business. But it is necessary to apply good business principles to both to be successful. Four years ago another creamery was started in Carthage. Many of the older inhabitants predicted another failure, but those who were behind the enterprise had gone over the territory adjacent to Carthage, and got the signatures of sufficient number of farmers to insure the product from six to seven hundred cows. Last year this creamery paid to its farmer patrons in the community, $87,000. While it has been most successful from the start, lack of sufficient cows or poor management would cause a failure the same as it did twenty years ago.

In the most successful dairy sections of this and other counties, the dairymen are organized and co-operate extensively in all that has to do with their work. They have co-operative creameries and cheese factories, owned and operated by the patrons of the plant, thus getting all the profits of the business, which means five or six cents more per pound, for their butter fat, than they would receive if sold to private factories.

About a year ago the Jasper County Dairy Association was started with ten members. The object in organizing this association was to establish cordial relations and co-operation between the members and enable them to practice such methods as would insure the most successful and economical results. It was desired to encourage the breeding of better dairy stock, with due regard for both type and productiveness, and to promulgate ways and means necessary to obtain these results. It is hoped to have its members realize the importance of frequent meetings, where friendly discussions on all subjects pertaining to the dairy industry could and should take place.

The organization was intended to be purely benevolent and educational in its object, without financial benefit or profit to the association or anyone connected with it. Organization for the accomplishment of a specific purpose specially concentrates and directs energy toward that end. It tends to harmonize and center the minds of men on one project, which, if feasible, is sooner or later accomplished.

What Community Dairy Organizations Can Accomplish

1. Co-operative public sales of surplus stock and private sales through co-operative advertising. The buyers and sellers in communities are brought together through the influences of the association.
2. Co-operative buying of many kinds of feed can be indulged in at a great saving to the members.
3. Exchange of bulls—Many bulls are sold to butchers when their owners are through with them, which through the development of their offspring would have proven to be most valuable breeding animals for years to come.
4. Enables members to obtain the highest possible prices for their dairy products.
5. It enables them to know how to better care for and feed their cows and manage their herds, thereby making an increased profit.
6. It enables them to become better judges of and to quickly recognize the essential points of good dairy stock.
7. Through frequent association of its members, a keener interest in the work is aroused and problems that would ordinarily be difficult are easily solved.
8. It shows the importance of not treating all cows alike, but through special study of each cow, as regards her feeding and temperament, the profits are increased.
9. Through testing cows, the profitable ones, both for utility and breeding purposes, are easily determined.
10. Testing cows show that many cows considered only average, are really the best in the herd.
11. Testing shows that many cows considered the highest in test, are really the lowest.
12. Testing saves good cows from being sold to the butcher, at the same time shows the owner the ones the other fellow should have. Good cows are sure to be profitable when actual yield and cost of feed are considered.
13. Testing brings to notice the slightest variation in milk flow and urges one to seek the cause of it.
14. Organizations develop the faculty of observation and induce reading and study, so that association members are becoming far better dairymen.
15. There is emphasis on the importance of liberally feeding succulent, digestible food; of kind treatment, and of protection from cold, stormy weather, and of paying particular attention to cleanliness, light and ventilation in the stable.
16. Much valuable information can be obtained through these organizations as regards breeding. Discussion brings out ideas as to the most fashionable and profitable blood lines in all breeds of dairy cattle.
17. Any subject pertaining to farm affairs or any kind of stock can be taken up and fully discussed at meetings of the association.

The first thing done of advantage to its members was the buying of several carloads of alfalfa hay, saving $1.50 per ton. This was followed with buying several carloads of corn, at considerable saving. Several thousand bushels of seed oats were bought, also, binding twine, cotton seed meal, and silos, were bought in a co-operative way. In every instance these orders were placed with local dealers. The secretary of the association had outside prices as a guide, but one of the principles of the association is to buy everything of home dealers possible.

Several members combining their orders, enables them to get quantity prices which always means a saving. Frequent meetings of the association brought out the importance of producing raw material of good quality, and better prices resulted. Our members realize that it pays to give the cow more and better feed, and good care. In fact, every member feels that the association has had much to do with developing the dairy industry in this community to its present high standard, and every object the association was organized for has been realized. The membership now numbers over one hundred, and new members join at every meeting.

On Monday, March 29th, the first annual sale of the Jasper County Dairy Association was held in Carthage, Mo. This sale was under the direction of the association and the offering of stock was the surplus of its members, consisting of over fifty head of pure-bred registered Jerseys and several high grades were sold. This was the first dairy association sale ever held in Missouri.

The Jasper County Dairy Association was organized under the direction of the State Dairy Department. There are several other active dairy associations. Any county in Missouri can accomplish what Jasper County has in this work, with a little effort, and the Dairy Commissioner will gladly assist in effecting organizations of this kind, if called upon.

E. G. Bennett,
Missouri State Dairy Commissioner.

ABOUT ALFALFA

Editor Missouri Farmer:

There has been so much written and said about alfalfa, and so many opinions, or ideas, advanced and so much of it cross-fire, that in writing a line on the subject we feel like we were treading on "holy ground" when we set forth, not theories, but facts as we have worked them out on our own farm.

The writer has noticed one peculiar feature in the articles that are written on the subject of late is that the writers, mostly, have been men of but a few years experience in alfalfa culture, and with a short trial imagine that they know all there is to learn about it then rush into print to tell "the only way" that it can be grown. One man has manured his land putting on ten or fifteen tons of manure to the acre and made a success out of it, another man put on a thousand pounds of bone meal per acre and he made a success out of his way, and each one had the only way, and if you tried it any other way you were sure to fail. Up jumps another fellow and he says neither of them knows what they are talking about, that you can't grow it unless you put a thousand pounds of lime on each acre and you need not try to grow it on poor gravelly land but it must be on the richest land on the farm for if it was sown on poor land the weeds would take it but on rich land the alfalfa would outgrow the weeds, etc.

The writer has made the assertion, in dozens of institutes, that it will grow on any land that will produce red clover and that the farmer can get more off his poor hill land by sowing it to alfalfa than any other crop that he can put on it, and he can do this without a thousand pounds of lime or a thousand pounds of bone meal or fifteen or twenty tons of barnyard manure spread to the acre. On my farm there is a rocky elevation that is too rocky to plow. Thirteen years ago it was sown in alfalfa and got a good "catch" and has been kept in alfalfa continuously ever since, has never had a pound of fertilizer on it except what the teams put there in their work taking care of the hay, and this piece has been cut four times each year, and it yields an average of three tons to the acre each season—not each cutting but each season. This land would not produce ten bushels of corn to the acre one season with another, and, I might state further that within three to five feet of the top of the ground is a ridge of limestone rock which knocks the theory of the roots going down to water. Speaking of water, let me say that the alfalfa plant will come nearer growing without any water than any forage plant that the American farmer has ever cultivated and the dryer the weather the better it grows for me. It is true that it must have moisture enough to make soil soup out of the plant food, but it has the power to draw that moisture from the air as it draws the nitrogen from the air. The old theory that its roots must go to water has been exploded long ago—we may have something more to say about that water-root problem later on.

Now brother farmer, let us quit talking about having to use so much lime and so much bone meal and so much manure, etc., before you can grow alfalfa and go at it in a common sense, business manner just like we do at our other farming and we will grow hundreds of tons where we are growing none now. There is only one pre-requisite and that is inoculation with the suitable bacteria, a thing that is very easily accomplished. I think that almost every farmer understands that by getting some dirt from an old alfalfa field or by the road-side where sweet clover is growing, and sowing about one hundred pounds to the acre at the time of seeding and harrowing it in letting just as little sunlight on it as possible as the bright sunlight kills the bacteria that he can inoculate his alfalfa land.

Sow from 16 to 20 pounds of seed per acre, on a well prepared seed bed, from the middle of August to the middle of September and you will be astonished at the amount of hay you will get the next year. Try it and see.

Geo. W. Williams,
Humansville, Mo.

Editorial Comment: Mr. Williams was a pioneer alfalfa grower in his part of the state and has been growing alfalfa for twenty years. In his section of the state there is usually plenty of lime in the soil and the drainage is good and hence his success without lime. But there is a great deal of land in Missouri that lacks lime and on such land it is a waste of time and money to try to grow alfalfa without correcting the acidity of the soil by putting on lime. There is plenty of such land in Northeast Missouri and on the prairies of Western Missouri, and scores of trials have been made demonstrating the value of lime. All soils are not alike and do not require the same treatment, and it will not do to draw a general conclusion from the treatment of any one type of soil. The wonder is, however, that the thousands of acres of Ozark flint hill land similar to Mr. Williams' alfalfa land and so well adapted to this crop as Mr. Williams proves, are not utilized for this purpose. Alfalfa would increase the value of these lands two or three times. Mr. Williams ought to be employed by the state as alfalfa demonstrator for the Ozarks.

SAVING THE APPLE TREES

No one thing has caused so much loss to apple growers as the round-headed apple-tree borer, but a little attention to the trees at the right time will reduce this loss so that at least it is not a menace to the industry. The methods recommended by the U. S. Department of Agriculture that have proved effective are worming and painting the trees with a heavy coat of some paint that will not injure the trees.

The round-headed apple-tree borer, the most destructive of a number of similar pests, lays its eggs in or under the bark of apple trees. After hatching the larvae feed upon the inner bark and wood to such an extent that the tree is seriously weakened or killed. The pest is found over the whole of the eastern portion of the United States and as far west as Nebraska, Kansas and New Mexico. In addition to fruit trees, it feeds on service, wild crab and mountain ash trees, which makes it advisable for orchardists to remove these varieties

for a distance of at least a hundred yards from their orchard.

The female lays her eggs, one at a time, in an incision she has made in the bark, usually just above the surface of the ground. About 15 or 20 days later the eggs hatch and the larvae appear. When full grown these are nearly an inch and a half in length. They first attack the inner bark, eating out broad, more or less circular galleries and thrusting out through small holes in the bark castings which form little heaps of reddish wood fragments around the base of the tree. During the winter the borers are quiescent but early in the following spring they attack the solid wood, while some of them work their way up the trunk. These last spend one more winter in the tree and then, having passed through the pupa stage, dig their way out and emerge as adult beetles. Three years are required for the insect to complete its development from egg to adult.

Ordinarily, the beetle lives about 40 or 50 days. It is about three-fourths of an inch in length, light brown in color above, with two broad white bands, joined in front, extending the full length of the back; the underparts and front of the head are white. The females rarely fly any considerable distance, so that if the immediate vicinity of an orchard can be kept free from them, there is little danger of a serious infestation.

The most common method of ridding an orchard of these pests is to cut away the bark sufficiently to trace the burrows made by the borer. A hooked wire is then inserted into the burrow and the insect pulled out. If made with care, the wound in the tree caused by this process will heal readily. The castings at the base of the tree serve as an indication of the presence of the borers. Where the burrows are curved or obstructed in some way so that the wire can not be inserted, cotton batting dipped in carbon bisulphid should be inserted and the hole then plugged with moist earth. The gas from the carbon bisulphid will penetrate all parts of the burrow and kill the borer.

In addition to worming, as this process is called, paint is often used to prevent the beetles laying their eggs. Pure white lead and raw linseed oil, mixed rather thick, will not injure the trees, and when applied to young, smooth bark, will form a protective coat during the egg-laying season. It is probable that this is a more effective method than wrapping the trees with building paper, cotton batting, cloth or other materials sometimes used for this purpose. Before painting, however, the earth should be removed from the base of the tree for a depth of from 3 to 4 inches. The surface of the trunk thus exposed should be first scraped and painted and the earth then replaced. This is necessary, for the beetle occasionally lays her eggs under instead of above the ground. Our readers can get further information by writing the U. S. Department of Agriculture, Washington, D. C., for Farmers Bulletin No. 675, which treats of this subject very completely.

A RAINY DAY WITH LAUGHLIN

It is on the farm only that each year is so different from others in drouth or flood and this makes it impossible to find the easy way or the one-way of doing things. It is hard to get a general rule to fit all conditions as we used to learn in our old school books. And so we call farming an art rather than a science. Many artists see hard times and so it is with the unfertile minded farmer.

Looking ahead with shaded eyes I see lots of timothy seed in sight this fall. Let me suggest to my brother farmers that we use plenty of seed this fall about September 15 and again give the land a Christmas gift this year, only delay the covering of seed 30 or 40 days, that is until February 1 to 15. Hay has been and will be a good price and then the season's work is distributed much better than if all the land is in one crop. Then again we have another way in wet seasons to get out of dilemmas.

The blues or hysteria is a bad disease. They used to say it drove a man to drink. But with me I have become addicted to the use of gasoline. I don't believe it induces snakes but rather sound sleep.

Some years ago The Missouri Farmer printed a paragraph "Old Bill" which was copied in many papers outside of Missouri. No, we have not cholorformed "Old Bill" but his teeth were dressed and we don't expect 8 or 10 miles in an hour from him but only slow work about the farm. In fact he is on the pasture which he enjoys—I fear too much this wet year for our good profit.

The Missouri Farmer has stood for more than bread-alone farming—it has stood for buttered bread which means pleasures along with economy. This then makes us jump into the automobile controversy which I hinted at in the paragraph before and inspired the "Old Bill" story.

Our light car goes most every day. In fact, we use it as a saddle horse over the farm. The telephone was a sort of a joke when we first got it. The R. F. D. also. Now we find them necessities and out of the line of extravagances. The motor has passed the joke on this farm and is a serious economic proposition.

Let us compare them with "Old Bill."

"Old Bill" at 4 years old	$150
Buggy and harness	100
Feed, one year	70
Investment	$320
Interest at 8 per cent	$25.60
Depreciation, 8 per cent	25.60
Up-keep	10.00
Feed	70.00
Annual cost of "Old Bill" and buggy	$131.20

I believe 2000 miles driving a year is the limit of a horse and buggy, which makes 6½c actual cost per mile. I have three cars in mind in our neighborhood, all three light, 1600-lbs. cars, and the account stands about thus:

Investment	$500
Interest at 8 per cent	40
Depreciation, 8 per cent	40
Up-keep	50
Gasoline	20
Annual cost of Gasoline Car	$150

I think 4000 miles is about the run of a year with the above expense or 3¾c per mile. A 2500-lb. car has been proportionately heavier expense counting on the 8 per cent basis.

These three cars in mind are slow driven cars, from 10 to 20 miles an hour, and over limestone ledges as we have them in Bates County. Faster driving with car or horse will cost more as well as runaways or smash-ups.

So to make this story close properly will say we wished a cultivator iron fixed. The team was tied to the fence and the shop visited and at work in one hour. Just now our Mrs. is picking about 5 crates of blackberries per day. The telephone brings the orders and the car strings them out 5 to 7 miles from home. Our neighbors get the berries and we get the money.

E. E. Laughlin, Bates County.

Co-Operation Among Farmers

Minnesota has more co-operative enterprises than any other state in the Union, according to a bulletin on "Statistics of Co-operation Aomng Farmers in Minnesota," by L. D. H. Weld, Chief of the Division of Research in Agricultural Economics of the University of Minnesota. The farmers of the state are much more thoroughly organized than is generally realized. On January 1, 1914, there were 2,013 co-operative oragnizations in the state and in the year 1913 these did a total business of nearly $61,000,000.

The organizations include creameries, elevators, stock shipping associations, stores, fire insurance companies, telephone companies, cheese factories, potato warehouses, fruit shipping associations, cow testing associations, lumber yards, cattle and horse breeding associations, and many others.

Tillage of Great Importance

It is now being held by many that tillage is easily the most important of the three factors involved in increasing crop production. The improvements that have been made in tillage methods and in the development of better machinery has, without doubt, done even more in recent years to promote agricultural progress than better seed and the addition of fertility of the soil. It has been proven, by way of example, on a Kansas farm, that by merely disking the land immediately after harvest, followed by plowing, that part of the field listed has yielded 46 bushels an acre, while the average of the entire farm was but 25 bushels an acre, or an increase of 21 bushels an acre, by such a simple change in tillage as the disking of the land immediately following the binder. The Kansas Experiment Station, as a results of several years trials, has clearly shown that plowing earlier and deeper will more than double the yield of wheat per acre.—Kansas Farmer.

Farmers' Elevators Do a Big Business

Farmers' elevators in Minnesota, in handling the crop of 1912, did a business of $24,000,000. Of this amount $22,000,000 represents the value of grain marketed and the other $2,000,000 the value of supplies, such as coal, feed, and twine, purchased for members.

These figures are taken from a bulletin on "Statistics of Co-operation Among Farmers in Minnesota," by L. D. H. Weld, Chief of the Division of Research in Agricultural Economics, of the University of Minnesota.

The number of farmers' elevators in Minnesota is 270, according to Mr. Weld's statistics, and the aggregate membership in these companies is 34,500, or an average of 128 to each company. In all of these 270 companies farmers own a majority of the stock, and in all but 5.5 per cent of them each stockholder has but one vote irrespective of the number of shares owned. In other words, the elevators are not only owned by the farmers, but they are controlled democratically by them.

Hustler Wanted in Every County

The Missouri Farmer wants a hustling representative in every county to represent it in taking subscriptions and a man who enjoys the confidence of farmers and who is willing to work can make $100 per month. Only high class men need apply. The Missouri Farmer, Columbia, Mo.

American Guernsey Cattle Club Issues Valuable Pamphlet

The American Guernsey Cattle Club has recently published a valuable pamphlet for the benefit of Guernsey breeders and the public in general who are interested in knowing what this breed is accomplishing. This pamphlet is of handy size, neatly bound in a gray cover, is well illustrated with pictures of the leading cows of the breed and contains much valuable information. In the forepart of the book appear statistics regarding the Advanced Register work which have been compiled in such a way that they make very interesting reading. Fifty-five of these cows have three or more yearly records. The names of these animals, together with the production and the ages at which the records were made are given in detail. What is known as the 35 class leaders or the cows holding the five highest records in each of the several classes from two years of age to five are given as they appeared on April 15, together with the average of all cows tested in each class and the average for the breed.

Following this there is an interesting description of the breeding and feeding of the three Guernsey cows, Yeksa Sunbeam, May Rilma and Murne Cowan, which produced World's Champion records over all breeds. The cost of these records and profit from same is also discussed.

Following this a report of a study of 3000 A. R. records appears. In this study the first 1500 records completed by Guernsey cows is compared with the last 1500, in production of milk, butter fat and average per cent. There are now nearly 4000 Guernsey cows which have completed yearly official records. The address is American Guernsey Cattle Club, Peterboro, N. H.

Missouri Equines at State Fair To Be In High Favor This Year.

With every type of the Missouri horse being drawn on to supply mounts and artillery animals for the belligerents of Europe the horse industry is to take on an impetus this year that will be truly remarkable. Never in the history of America has there been such a situation confronting the farmer who produces horses. Never was there such a demand for good animals of all classes. With Belgium out of the horse producing business for years to come, and forced to come to America, whenever the wars cease, to secure breding stock, the draft horse business is looking up. Light harness horses of the type that are still utilized at home as well as being in great demand abroad, are to be in equally great demand. The exhibit of horses at the Missouri State Fair this fall, September 25 to October 2, will take on unusual interest. The cash prizes are the best ever offered by the Missouri State Fair Board. Missouri possesses some of the best Belgium and Shire horse studs and breeding farms in America and must take the place to a considerable extent of Belgium in the horse world. Breeders will be pleased to note that $250 has been added to the draft horse premiums.

Amazing Prices on STEEL Shingles

A lifetime bargain on Edwards Steel Shingles to a limited number—a sensational opportunity to those who write at once. You can buy the patented genuine Edwards Reo Steel Shingles—that won't rot, rust, crack, burn or leak—for the same price as good wood shingles.

Wood Shingles Out of Date

Wood Shingles are no longer popular since Edwards Interlocking Steel Shingles have proven to be the best, in all kinds of tests. Over 135,0 0 successful farmers now use Edwards Steel Shingles.

Easy to Lay—Saves Time

Come in big clusters ready to put on. A few nails, hammer and a little time—10 times faster and 10 times easier than putting on wood shingles, one at a time. Edwards Shingles are rust and leak proof.

$10,000 Guarantee Bond

Get a copy of our $10,000 guarantee bond protecting all Edwards Reo Steel Shingle Roofs against dangerous lightning. We believe in protecting our customers.

How We Figure Prices

We sell our Steel Shingles at actual factory cost plus a small profit—our large business permits this. You get the jobber's profit, dealer's profit and salesman's profit, as we sell direct to you and we pay the freight.

Write Before We Are Oversold

This unusual offer won't last long. So write for prices and Catalog 10384 today—give us dimensions of your roof if possible. We manufacture all kinds of steel roofs for buildings, steel garages, etc.

The Edwards Manufacturing Company
10384 Lock Street, Cincinnati, Ohio

$500 IN PRIZES

Besides Liberal Commisions

Here is a chance to earn a handsome prize during the summer months, besides a liberal commission on every subscription.

The Twice-A-Week Globe-Democrat, one of the oldest and best-known newspapers in the country, wants more subscribers and will pay you well to work for them. It is the largest and best edited semi-weekly in the country—10 pages each issue—contains all the news of the world, sporting news, rod and gun news, serial stories, short stories and humor, women's page, markets and two pages of farm news. New price only 50 cents a year.

EASY TO MAKE MONEY

Everybody will subscribe when you show them the paper and tell them you want to earn a prize. Contest closes September 2d. The time is short. Make your application today.

APPLICATION BLANK

Weekly Globe-Democrat:

St. Louis, Mo.

Gentlemen—Please send me a letter authorizing me to obtain subscriptions for the Weekly Globe-Democrat. I to keep a designated commission on each subscription and to be entered on your books in connection with the subscription awards.

Name .....

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The Chicago and Alton Railroad

FOR CHICAGO, ST. LOUIS AND KANSAS CITY

For Further Particulars Write

JOHN E. FISH

Div. Frt. & Pass. Agt., Mexico, Mo.

FREE LAND:—Another distribution of choice land, part of Demonstration Plantation, the SHOW plantation of the South, FREE to people having it improved within five years. Need never live on the land. Address Commissioner H. L. Holmes, Block 189, Calvert, Alabama, for particulars.

Need a Hay Press?

If you are in the market for a hay press you ought to write to the Missouri Hay Press Co., Moberly, Mo. They have the best new press on the market. Drop them a postal card and mention The Missouri Farmer.

LIVE STOCK NOTES

R. P. Royce, Fieldman

COMING SALES

Spotted Poland Chinas

H. L. Faulkner, Jamesport, Mo., Aug. 11.
H. T. Dickerson, Jameson, Mo., Oct. 6.
Andrews Stock Farm, Lawson, Mo., Oct. 14

Poland Chinas

J. F. Richards & Son, Bevier, Mo., Sept. 8.
Halleck Bland, Centralia, Mo., Sept. 16.
N. R. Riggs, Lawson, Mo., Oct. 7.
Ed. Cook, Pattonsburg, Mo., Oct. 7.
L. L. Freeman, Kearney, Mo., Oct. 15.
J. B. Gurthet, Pattonsburg, Mo., Oct. 29.

Bland's Poland China Sale September 16

Halleck Bland of Centralia, Mo., is planning to hold a public sale of Poland Chinas at his farm near Centralia, Thursday, September 16.

Mr. Bland has maintained his Longbranch herd for a number of years, but heretofore, has disposed of his stock at private treaty. Readers of this paper are more or less familiar with Mr. Bland's herd and many of them have purchased breeding stock from him. Mr. Bland has selected a very desirable lot that he is preparing for the sale and it will be to the interest of those who are looking for size and quality to keep this sale in mind. Watch this paper for further details and in the meantime it would be well to write Mr. Bland and ask him to put you on the mailing list for his catalog.

Megown's Spotted Polands

B. B. Megown, New London, Mo., writes this department that the spring boars and gilts he is now offering are by odds the best he has raised and that he is prepared to offer a very attractive proposition to readers of The Missouri Farmer who are in the market for Spotted Poland Chinas. Mr. Megown believes that the Spotted Poland China is the farmer's ideal hog when bred and developed along lines calculated to combine size and bone, with easy feeding quality and prolificacy. Our readers should write Mr. Megown before making their purchases. We are glad to recommend this herd. Kindly mention this paper when you write.

High Producing Jerseys

Wm. H. Bruns & Son, Concordia, Mo., advise us that they still have several extra good young Jersey bulls and heifers that they are pricing worth the money. Several of these bulls are ready for service and are sired by The Owl's Champion, whose grand dam, Rubano's Fancy, was a 21-pound cow. This is an opportunity to secure the right kind at the right price.

Spring Grove O. I. C's

Beginning with this issue of The Missouri Farmer the well known herd of O. I. C's owned by S. D. and B. H. Frost, Kingston, Mo., is placed before our readers.

The Spring Grove herd was established almost thirty years ago by L. L. Frost, father of the present owners. The senior Frost came to Missouri shortly after the war, and having been raised in Pennsylvania, where, in those days, any but a white hog was a curiosity, he naturally selected the breed he was most familiar with. The early selections were made from the leading breeders of his day and a constant effort has been made by father and sons to improve the herd, and for years it has ranked among the really high class collections of the breed. Messrs. Frost have followed the practice of showing with marked success and a list of their winnings at the leading shows would require considerably more space than we have at our disposal. Perhaps the crowning event of their show yard career was their exhibit at the World's Fair at St. Louis, where Spring Grove breeding came out with the highest honors in competition with the best of the breed. In recent years the herd has added many additional honors to its already long list.

At present the herd is in excellent shape to take care of the wants of any of our readers. Something over one hundred head of early spring pigs are now ready to ship.

The writer visited this herd last week and does not recall having seen a thriftier, or more uniform lot of young boars and gilts on any farm this year. Most of them are sired by Triumph 38713, a grand champion son of the great White Eagle Chief, and by Gage's Leader 47863, by Honest Leader. Gage's Leader was junior champion at St. Joe last year. The dams of these pigs are daughters of prize winners, prize winners themselves, dams and grand dams of winners. Every one is immune, and sold on a liberal guarantee.

Besides the spring stuff referred to, a number of fall boars are for sale at prices that are astonishingly low. Our readers will do well to bear in mind that the Frost herd will stand the closest inspection. and we feel sure that buyers will be surprised at the very reasonable prices asked. Mention The Missouri Farmer when you write.

Peabody Shorthorns

June K. King & Sons, Marshall, Mo., advertise a choice lot of young Shorthorn bulls and heifers for sale. The Peabody herd is one of the pioneer herds of the Middle west and has long held a place among the really top herds of Missouri. Readers of this paper need have no hesitancy in placing their order by mail for anything that Messrs. King are offering.

Do You Like Bacon?

Most everyone does—especially those who have purchased Yorkshires from Frank Gildow, Jamesport, Mo., Mr. Gildow writes that he has only a limited number of spring boars and gilts on hand sired by his State Fair winner. The herd is being closed out on account of other business. Yorkshires are the accepted bacon hog for the Corn Belt and the blood offered by Mr. Gildow represents sevral of the most popular herds in the United States.

Durocs and Shorthorns

J. E. Weller, Faucett, Mo., is offering a highly desirable lot of Duroc spring boars and gilts sired by his well known boar, E. Pluribus Unum 130853. Mr. Weller is also offering good useful Shorthorn cattle at prices that will be difficult to duplicate. Buyers in sixty Missouri counties are evidence that Mr. Weller gives value recived. Get his prices.

Andrews Annual Spotted Poland China Sale

Readers of The Missouri Farmer will be interested to learn that Thursday, October 14, is the date claimed by the Andrews' Stock Farm, Lawson, Mo., for their annual sale of Spotted Poland Chinas.

As usual Mr. Andrews will offer about forty or forty-five head of the top boars and gilts from his spring crop, but in addition, we are informed that this year there will be a number of the very best producing herd sows put in as a very special attraction. It takes nerve to catalog one's best sows for public sale, but no one has ever accused Jim Andrews of lacking nerve. Remember the date, October 14.

Gage's Leader, the junior herd boar in service in the Spring Grove herd

DUROC JERSEYS

Select Col. II--Crimson Col. I Am

I can furnish spring pigs, fall yearlings and tried sows. Bred the way the winner's are. Priced reasonable. Come and see my herd.

A. WHITE, JR. Box 422 PALMYRA, MO.

ADENHILL DUROCS--SPRING PIGS

Spring pigs sired by Col. Wonder II out of sows carrying as good blood as the breed affords. Get my prices before you buy.

R. L. HILL - - - - - - - - Adenhill Farm, Columbia, Missouri

CHOICE DUROC SPRING PIGS

Sired by COL. WONDER 2nd. Prize winner at Missouri State Fair 1913.

Will show again 1915 at State Fair and at the Panama Exposition, San Francisco, 1915. Others sired by Beauty's Col. and I Am Col. Enough. Dams carrying blood lines of Col. Gano, Col. Wonder, Crimson Wonder Again, Col. Chief, Beauty's Model Top, and B. & C's Col. II. The big type bone kind.

The purchaser satisfied or money refunded.

W. H. & GEO. E. THOMSON - - - - - - Columbia, Missouri

DUROC JERSEY SWINE

Large type, heavy bone, lots of quality. Ninety spring pigs ready to ship last of June. Two May yearling boars, good ones at bargain prices. I always guarantee satisfaction.

A, C. BROCKMAN, - - Route 2, - - Centralia, Mo.

DUROCS and SHORTHORNS

Immune bred gilts and tried sows $20 to $50; also some choice serviceable boars and spring pigs. A pair of good bulls 16 months old at reasonable prices and well bred. Will sell any of above stock worth the money. Write and tell me what you want to buy. Stock sold in 61 counties in Missouri. I believe I can please you.

J. E. WELLER,. FAUCETT, MO.

15 DUROC SPRING BOARS & GILTS

We will have 15 boars and a number of open gilts which we will price to sell quick, and are booking orders now for 25 pigs, farrowed November 10th.

J. C. Garrard & Son McBaine, Mo.

Champion Col. Wonder Durocs

A few yearling boars and bred gilts. Booking orders for spring pigs either sex. Col. Wonder sires my champions—he will sire champions for you. Write or come.

CHAS. L. TAYLOR - - OLEAN, MO.

POLAND CHINAS

SPOTTED POLAND CHINAS

The big boned, thrifty kind. We have a number of boars now ready for service. A choice lot for only $25 each f. o. b. Rocheport.

HALL & RAPP - - - - - - - Rocheport, Mo.

MEGOWN'S SPOTTED POLANDS

No matured stock for sale but booking orders for pigs to be shipped later. Have length, bone, size and big spots. Sired by two of the biggest boars in the State for their age.

B. B. MEGOWN - - - - - - - - - - - - - - New London, Missouri

Faulkner's Famous Spotted Polands

We are not the originator, but the preserver of the Old, Original, Big-Boned SPOTTED POLANDS. Spring pigs now ready to ship. Pairs or trios not akin. A few good fall boars ready for service. Write your wants.

AUGUST 11, MIDSUMMER SALE.
Ask for Catalog.
H. L. FAULKNER, Box R, Jamesport, Mo

SUPERIOR HERD BIG-TYPE POLANDS

I have at all times anything you want in strictly big-type Polands. Special prices on spring boars and gilts in pairs or more—not related. Write me your wants.

L. L. FREEMAN (Successor to Freeman & Russ) KEARNEY, MO.

The Ennis Farm PERFECTION Spotted Polands

With forty brood sows and gilts in our breeding herd and six great herd boars, we are in position to supply your wants in the Old Original Big Boned Spotted Polands. Spring pigs and bred gilts. Send for free circular and get our prices before buying elsewhere. Satisfaction guaranteed. THE ENNIS FARM, Horine Station, Mo.. (Just south of St. Louis)

LOCKRIDGE'S GIANT POLAND CHINAS

In my recent sale gilts bred to my great young boar THE GIANT 72083 averaged $57. THE GIANT is conceded to be one of the greatest boars of the breed. You will want some of his blood. Booking orders for spring pigs. Write at once.

WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

POLAND CHINAS AND SHORTHORNS

Bred sows and yearling gilts bred for May farrow. Extra good fall boars and gilts. Several choice young bulls and heifers.
Satisfaction Guaranteed
H. S. WILLIAMSON, R 6 Centralia, Mo.

BAKER'S REAL BIG-TYPE POLANDS

Our winnings at the State Fair prove that we "have the goods." Spring boars and gilts of excellent breeding and individuality at very reasonable prices. Also a number of fall boars, big, stretchy fellows.

W. A. Baker & Sons, Butler, Mo.

Dooley's Spotted Polands

Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pairs and trios no relation. Also registry furnished. Send check with first letter.

EDGAR DOOLEY, ETTERVILLE, MO.

E. W. Cook's Poland China Sale.

On Thursday, October 7th, E. W. Cook of Pattonsburg, Mo., will make his initial sale of strictly high class, big type Poland Chinas, and this sale promises to be one of the real events of the season.

About two years ago Mr. Cook decided to establish a herd of Poland Chinas that would rank with the best in the Corn Belt and how well he has succeeded you will be permitted to judge on the above date. Mr. Cook founded his herd with top selections from the best herds of the breed, selecting only such individuals as met his critical standard, of size, bone, quality and type, backed up by blood lines that had been proven. There is not a herd in the state that can show more uniformity, size, and quality than will be found in the Cook herd, and we doubt if there will be a better lot sold this fall.

Watch this paper for further particulars.

The Blood of Champions

We once heard a well-known breeder make the remark that any man who succeeded in breeding one grand champion in a life time was entitled to fame. We suppose a man who breeds two grand champions—two years in succession is not only entitled to fame but also to fortune. Chas. L. Taylor, Olean, Mo., has turned the trick and furthermore, judging from what the writer recently saw at Springdale Farm, some breeder will have to bring out a stemwinder to prevent another purple ribbon being added to the Taylor collection.

Mr. Taylor has made a remarkable record on Col. Wonder and his get, and this boar is conceeded to be one of the best of the breed. At present Mr. Taylor has more Col. Wonder blood on his farm than ever and is in position to furnish our readers spring boars and gilts possessing to a marked degree the qualities that have made their sire famous. Write Mr. Taylor for prices, you will be surprised to find how extremely reasonable you can buy this blood.

Faulkner's Annual Spotted Poland China Sale

On Wednesday, August 11, H. L. Faulkner, Jamesport, Mo., will hold his annual August sale of Spotted Poland China bred sows and gilts, and spring boars. Each year Mr. Faulkner holds two sales, one in August and one in February, and for years breeders and farmers throughout the Corn Belt have come to look forward to them. Mr. Faulkner is one of the pioneer breeders of the old-fashioned, big-boned, big spotted kind, and each year breeds and handles around five hundred head.

The kind of sows that have made the Faulkner sales popular

There is hardly a herd of any pretensions in the country but what was started with foundation stock from Mr. Faulkner's herd or that does not contain more or less of his breeding.

The approaching sale will consist of around sixty head, including bred sows, bred gilts, and spring and fall boars ready for service.

The offering is quite up to the standard of former years and breeders and farmers will have no difficulty in finding what they want. Among the bred sows offered are several that are particularly attractive and would make valuable addition to any herd.

If you want to add some of the blood that has made Mr. Faulkner's name synonymous with this popular strain of Poland Chinas you cannot afford to miss this sale. Remember the date, Wednesday, August 11. The catalogs are now ready to mail and will be sent to all who ask for one. Mention this paper when writing.

Baker & Sons' Polands

Recently the writer visited W. A. Baker & Son, Butler, Mo., who advertise Poland Chinas elsewhere in this paper, and found these gentlemen all smiles in spite of the rain. Messrs. Baker are feeling particularly pleased with the way their herd is doing this year, and they certainly have reasons to be. We don't think we ever saw a better lot of spring pigs on this farm than the 1915 farrow. The two herd boars, Big Look 63604 and Big Bone's Son, Jr. 71940 are about equally represented, and the class of pigs these two boars are siring will meet with universal approval. Several litters are being raised that are sired by Smooth Columbus, one of the best young boars of the breed. The Bakers believe in the big type Poland China, in fact, W. A. Baker is one of the pioneer breeders of this state, but they are not making the fatal mistake of breeding for size only, they want the big kind, but demand quality. That their kind are right is evidenced by their winnings at the leading Mid-West fairs the past few years. This firm is preparing to take out a herd this fall and we believe that they will open the circuit with a herd that is considerably stronger than the one they had out last year.

Readers of this paper who are in the market for a spring boar or gilt or a young herd, can find what they want at Bakers' at reasonable prices. Several fall boars are for sale also. Mention this paper when you write.

J. B. Smith, Platte City, Mo., is offering Jersey bulls and heifers at extremely low prices. Mr. Smith is one of the best known exhibitors at the leading shows and fairs.

Only One Profit to Pay

Note the new ad of The Ennis Farm, offering their Perfection Spotted Polands. Mr. Ennis is now one of the largest breeders of the Old Original Big Boned Spotted Polands and to supply a continually increasing list of customers he is continually increasing his herd. To give satisfaction is his guarantee; to make pleased customers is his business. He is now offering spring pigs, pairs and trios not related, and bred gilts. Every pedigree sent out from this herd reads "Bred at The Ennis Farm," no "dealer" or "jobbing" or buying and selling business done. You only have one profit to pay when you buy there. Their herd consists of forty brood sows and gilts and six great herd boars. They are especially well equipped for raising fine pigs being in the "blue grass and purewater" section of Missouri, and they also have the Sunset Jersey Cattle herd of over 100 head from which sweet cream is shipped to the St. Louis market leaving a large amount of fresh separator milk for the pigs.

This herd is well known in many sections of the country and one sale in a new territory generally means additional sales to the same point. Dr. G. L. Henderson, Greenbrier, Ark., recently wrote: "Pigs doing fine. Those of us who bought of you have caused a great demand here in this county for your stock of hogs." Another customer advised that he had already sold four pigs from his gilt a month before the gilt was due to farrow. An Iowa customer in sending order for a boar wrote: "My gilt is doing fine. She farrowed seven pigs, four sows and three boars; saved them all." These are the kind of letters coming almost daily to The Ennis Farm. They ask you to get their free circular and prices before buying elswhere. Address, The Ennis Farm, Horine Station, Mo. (Just south of St. Louis)

McPherson's Durocs

Beginning with this issue of The Missouri Farmer J. E. McPherson, Columbia, Mo., directs the attention of our readers to his spring crop of Duroc boars and gilts. Mr. McPherson has been handling Durocs for a number of years, but this is the first year that he has made any particular effort to dispose of the produce of his herd for breeding purposes. Like most men who enter the business of producing high class, pure bred live stock in a serious way, Mr. McPherson waited until he felt sure that his stock had sufficient merit to be worthy of the best buyers.

Most of the offering are sired by the senior herd boar Golden Tat, by Tatarrax Again, the boar that has done such valuable service in the herd maintained by the College of Agriculture, and by Bob's Col. Wonder, by Col. Wonder II, one of the very best boars ever sired by the champion Col. Wonder. Golden Tat is a boar that will appeal to most Duroc men as he has the size, and bone and quality so much in demand and pigs sired by Golden Tat are showing exceptional stretch and quality. Bob's Col. Wonder is a boar that Mr. McPherson selected as the best boar he could find to use on Golden Tat gilts and his judgment is borne out in the present offering. Besides the above boars Mr. McPherson has one litter by the champion Col. Wonder and one by Professor's Col.

Included in the offering are ninteen extra good February boars by Bob's Col. Wonder that are the big stretchy kind and represent very excellent values.

Lack of space prevents more detailed information at this time but we will have more to say concerning this herd from time to time. We are glad to call attention to this herd and urge our readers to write Mr. McPherson at once. Kindly mention The Missouri Farmer.

THOMAS E. DEEM
AUCTIONEER
Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased.
Dependable service at a reasonable charge. Address, Cameron, Mo.

Harry W. Graham
AUCTIONEER
PURE BRED LIVE STOCK
Seventeen years experience with America's best breeders.
Chillicothe, Missouri

W. D. ROSS
Auctioneer
Pure bred live stock. Sales made anywhere on reasonable terms. Write for dates.
Otterville Missouri

CHESTER WHITES

RAUSCHER'S CHESTER WHITES!
One of the Oldest Herds in the West
A few choice spring gilts bred for early farrow. Several richly bred big spring boars. A fine lot of fall pigs. Size, quality, and bone. Prices reasonable and every pig guaranteed.
H. Rauscher & Son, Kahoka, Mo.

Maple Grove O. I. C's
Over 100 spring pigs from 2 to 3 months old at the following prices: Choice of litter, $12; litter average, $10; fall gilts, $15. Bred gilts $20 to $25. Bred sows, $30 to $35. Prize winning blood and the most popular strains. Each individual guaranteed to give satisfaction
F. J. GREINER, BILLINGS, MO.

100 Prize-Winning O.I.C's
Our herd is headed by grand champion and champion boars of 1914 shows. Sows of equal merit. All backed by long line of prize winners. Early pigs, singles, pairs or more not akin, at rock bottom prices. We can please you. Write or come.
S. D. & B. H. FROST,
Box H Kingston, Mo.

Glenvarloch Large Yorkshires
The prolific, growthy and gentle bacon hog. Closing out entire herd at private sale. Bred sow, boars and pigs either sex. The produce of one Yorkshire sow will keep your family in delicious meat all next winter. Everything at bargain prices. All immune.
Frank Gildow, Mgr., Jamesport, Mo.

MOLASSES Best Feed for Pigs and Calves
St. Louis Molasses Co., Dept. MF.,
400 S. Broadway, St. Louis.

JERSEY CATTLE

JERSEY CATTLE
Bulls ready for service. They are sired by the Owls Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.
Wm. H. Bruns & Son, Concordia, Mo.

Jersey Cows
I want to sell 20 head of registered cows and heifers that are either fresh or soon will be. Also four young bulls.
J. B. SMITH Platte City, Mo.

HOLSTEIN CATTLE

IN MISSOURI
Eight bulls, 2 to 8 months, $100 to $175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.
S. W. COOKE & SON, MAYSVILLE, MO

HOLSTEINS
Young bulls and heifers from A. R. O. cows. Sired by Sir Korndyke Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.
M. E. Moore & Co., Cameron, Mo.

ANGUS CATTLE

ChoiceAberdeen-Angus
Established 30 years. 100 head in herd. We are offering good useful Bulls, and Heifers of excellent individual merit and breeding. Prices reasonable. Our customers make them popular.
D. L. Sutherland & Sons Windsor, Mo

Aberdeen-Angus
I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.
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ANGUS CATTLE
HERD FOUNDED 1904
Seven early calves—3 BULLS and 4 HEIFERS, sired by Dean's Eric 139686. Every one the right kind, and priced to sell.
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Angus Bargains
Registered bulls and heifers. The market topping kind. Leading families represented. Priced worth the money and satisfaction guaranteed.
Also Poland China hogs.
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OTHER BREEDS

Shorthorn Bulls and Heifers
PEABODY FARM now offers 12 choice young bulls and 20 heifers. Good individuals; reds and roans. Priced to sell. Also 20 open BERKSHIRE gilts. Get our prices.
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GALLOWAY CATTLE
Young stock for sale at all times. Herd established 25 years.
J. & W. R. CLELLAND,
New Hampton, Mo.

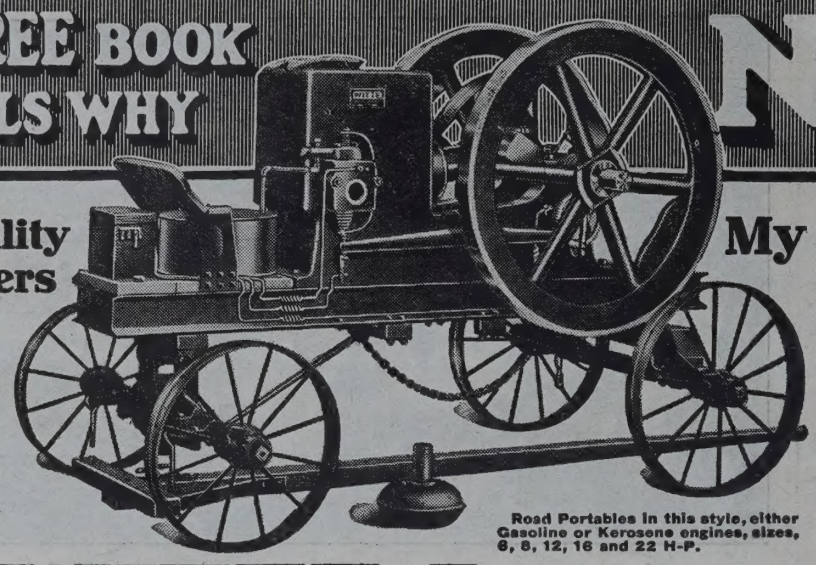
Registered Devon Cattle
Choice bull calves for sale from good milk cows. Bred at Northview Farm.
J. A. CASE Concordia, Mo.

SNYDER'S RED POLLS
Bulls and Heifers
I am offering for sale a number of choice young bulls and heifers. Excellent breeding and individuality. Prices moderate. Write your wants or visit my herd.
A. P. Snyder - Polo, Mo.

150 Duroc Boars and Gilts
February, March and April boars and gilts sired by Golden Tat, Bob's Col. Wonder, Col. Wonder and Professor's Col. Stretch, size, bone and quality. Priced for quick sale. Write or come.
J. E. McPherson, Columbia, Mo.

Reliable Silo-Filling Power Costs Less NOW

MY FREE BOOK TELLS WHY



Road Portables in this style, either Gasoline or Kerosene engines, sizes, 6, 8, 12, 16 and 22 H-P.

Proof of Engine Quality Given by WITTE Users

Our 16 H-P. WITTE portable engine is giving satisfactory service. We are using it for threshing and filling silos.—**Chas. H. Clarke, 517 Third St., Des Moines, Iowa.**

Men who thought they knew told me my 6 H-P. WITTE engine wouldn't run it, but I got an Ohio cutter and blower, and cut four tons per hour. The engine is all I can ask.—**Charles O'Neal, Marshall, Ark.**

My 12 H-P. WITTE engine is operating a No. 12 cutter, 34-ft. carrier, and cuts five to six tons of silage per hour in good shape.—**J. A. Gould, East Hampton, New York.**

My 12 H-P. WITTE engine has filled eight silos. Can fill a 12x30 ft. silo in seven hours. Am using a 16-inch cutter.—**A. P. Peterson, Almena, Wisc.**

My 8 H-P. WITTE kerosene engine did fine work filling two silos. If I buy another it will be a WITTE.—**G. F. Kremer, Elsie, Mich.**

The 12 H-P. WITTE engine on my farm has been used for many purposes, and at all times has given the best of satisfaction. Find by comparison with others its cost of operation is considerably less.—**John M. Egan, Pres. Metropolitan Street Railway Co., Kansas City, Mo.**

I had not had any experience when I bought the 22 H-P. WITTE engine, and am highly pleased. If I buy another, it will be a WITTE.—**James A. Lowe, Erie, Kans.**

I am a good friend of the WITTE engine, having used a 22 H-P. for nearly seven years.—**Jas. R. Plumb, R. F. D. No. 1, Emporia, Kans.**

The 22 H-P. WITTE engine which I bought about two years ago is working satisfactorily, and has not given me any trouble.—**H. M. Basford, Hillsboro, Ore.**

During the 12 years, my 12 H-P. WITTE engine has cost me practically nothing for repairs. I run a 16-inch ensilage cutter and cut a wagon-load of green corn in ¾-inch lengths and lift it into the silo in 12 minutes. I still believe that no engine is better.—**John A. Reynolds, Winchester, Kans.**

I filled three silos in 72 working hours with my 6 H-P. WITTE engine. Used a No. 19 Hocking Valley cutter, blower type, with 12-inch knife.—**C. V. Chase, Thompson, Conn.**

My 6 H-P. WITTE engine certainly does its work in great shape. It takes just one-half as much gasoline as the —— make engine which my partner is using.—**M. Steinback, Heartwell, Nebr.**

Our 12 H-P. WITTE engine is running in this high altitude, and I am entirely satisfied with it.—**W. J. Elliott, Webb, Ariz.**

Four years ago I bought my 16 H-P. WITTE engine. I had never had any experience and lived 30 miles from town, but in four years have not had any repairs or trouble.—**Andrew Garcia, Cry, Mont.**

And thousands of other reports of similar character.

My Latest Prices:

Sizes:	Stationary Engines	Portable Engines
2 H-P,	$ 34.95	$ 39.95
3 H-P,	52.50	60.50
4 H-P,	69.75	82.75
6 H-P,	97.75	127.75
8 H-P,	139.65	174.65
12 H-P,	197.00	237.00
16 H-P,	308.80	358.80
22 H-P,	389.65	442.15

Portable Engine Saw-Rigs, Complete

4 H-P,	$124.25
6 H-P,	152.25
8 H-P,	202.15
12 H-P,	267.00

NOTE: All Prices are F. O. B. Factory at Kansas City, Mo.

WITTE ENGINES

Gasoline, Kerosene, Distillate and Gas

SILO filling requires steady power—fast and heavy work through the whole day. Ripening crops do not wait—they must be efficiently handled in their proper time. And the lower the power-cost of handling, the cheaper is the cost of the silage.

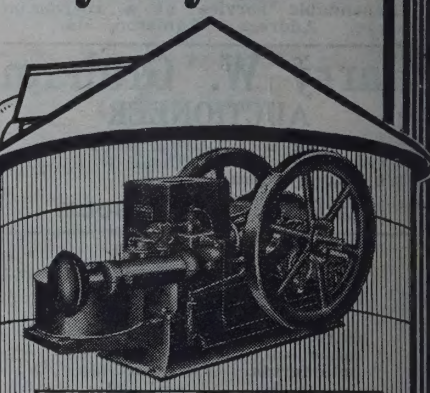
For many years WITTE engines have proved their reliability for steady and continuous running, and easy handling of load up to rated capacities. All sizes are easy to start, without cranking. With my low prices and the fuel-saving, and wear-resisting qualities of WITTE engines, you get your power-cost at the bottom-most notch possible with a general-purpose, liquid-fuel engine. Let me send you what hundreds and hundreds of my customers say in proof of this statement. I want you to know that this is no empty claim. It is a fact of first importance to you as well as to me.

Stationary Engines for less than $17.50 Per H-P. Why Pay More

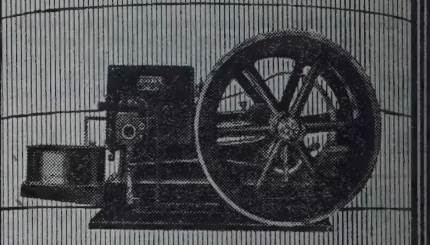
Sold only Direct from Factory, or from Pittsburgh, Pa., Warehouse. Prompt Shipments. Cash or Easy Terms. 5-Year Guaranty.

For 28 years—longer than any other present manufacturer of liquid-fuel engines—I have been making engines—doing nothing else. You will find my engines at all kinds of work, in all parts of this country and in many foreign countries. Everywhere they are used you will find WITTE boosters. I give my old customers the credit for building up my factory from nothing, until now it is one of the largest in the country—when I am the only man in the business who started, or was running, when I started. I couldn't have had my many thousands of boosters without shipping them engines worth their boosting.

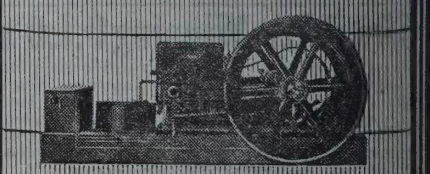
Before you buy your new engine, I ask the privilege of showing you all about the WITTE. The space in this advertisement does not permit the many pictures necessary to show the construction of all parts and their operation, each in relation to the others, as my 28 years' experience has taught me how to build them for better quality. I don't want you to judge my engines alone from my low prices, or from the limited information I can give you here. My new book shows everything—my big factory with free power from my own natural gas well—the mass of newest type machinery needed for low-cost manufacturing—and details of my engine construction.



Stationary Kerosene engine on iron sub-base Sizes, 2, 3, 4, 6, 8, 12, 16 and 22 H-P. Also furnished on skids as shown below. Besides Kerosene and Distillate, this engine burns Gasoline and Naptha without any changes in equipment.



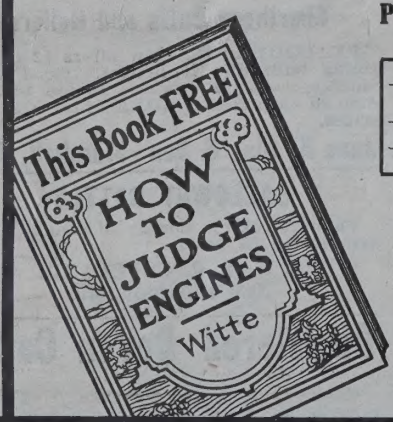
Stationary Gasoline engine on iron sub-base. Sizes, 2, 3, 4, 6, 8, 12, 16 and 22 H-P. Also furnished on skids as shown below. All stationary engines, like the portables, are completely equipped ready to run, for prices quoted.



Stationary Gasoline engine on heavy wood skids. Sizes, 2, 3, 4, 6, 8, 12, 16 and 22 H-P. This is the regular mounting for prices above quoted. Iron sub-base is small cost extra, shipped only on special order.

Pulling Power and Horse-Power Ratings of My Latest Improved Engines, as Shown by Our Brake Tests.

Our Guaranteed H-P. Ratings	2H-P.	3H-P.	4H-P.	6-HP.	8H-P	12H-P	16H-P	22H-P.
Actual Power Developed on our Continuous Working Test.	2.9	4.5	5.8	9.1	10.5	14.5	18.9	26.5
Surplus H-P Each Size.	.9	1.5	1.8	3.1	2.5	2.0	2.9	4.5
Per Cent. of Surplus H-P.	45%	50%	45%	51.6%	31.2%	20.8%	18.1%	18%



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All who have seen my new book, just out, say it explains engines—how to judge quality—and gives them a clearer understanding of engines than they ever thought they could have with so little effort at finding out. Simply send me your name and address, and I'll send the book FREE, by return mail. Write me now, while the matter is in mind, even though you may not be in the market until later in the season. I know, if I can't convince you of the better value of WITTE engines *for you*, that you will not buy from me at any time, but I want the chance to show you, fully, the WITTE engine of today. Use the coupon—or not—as you like—but write me now.

ED. H. WITTE, Witte Engine Works,
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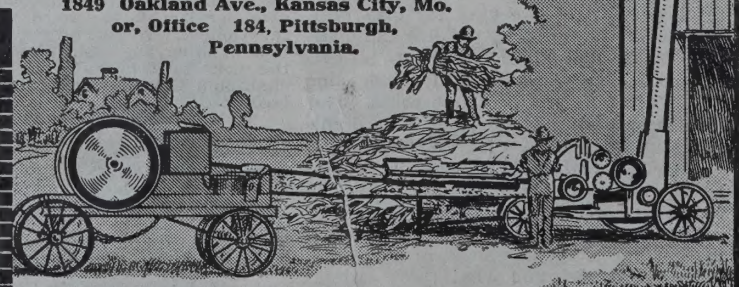

FREE BOOK COUPON

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Without any obligation to me, send me your free book, "How to Judge Engines," together with your liberal selling plan.

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Send the Coupon to my Office that is nearest to you.

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE MISSOURI FARMER

COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE AND THE MISSOURI EXPERIMENTAL STATION

Plundering the Farmer

Some days ago the Supreme Court of Missouri assessed a fine of $5000 against one of the big Chicago Packing concerns because of its violation of the anti-trust laws of the state in the purchase of cream. Left to its own unlawful methods, it would soon have strangled the life out of every independent creamery in Missouri. The means employed are as old as monopoly itself and consist simply in paying a higher price for cream at competitive points than at non-competitive points—and once the local creamery gives up the fight, the Trust has the farmer completely at its mercy and from that time on can offer what it pleases for his cream products and he is helpless. The Missouri Farmer has watched this case with unusually keen interest because it had a great deal to do with bringing this situation to the attention of the Attorney General. However, the payment of $5000 on the part of this gigantic concern is a mere bagatelle and unless the state exercises a continual surveillance and scourges this law defying corporation from the state at the first sign of a repetition of its old practices, the verdict of the Court will accomplish little permanent good.

Missouri is naturally the greatest Dairy state in the Union and this great industry is just beginning to get a foothold which, if left unhampered, means an increased annual income of many millions to the farmers of this state—but everything depends on throwing off the strangle hold of these sinister influences which care naught for square dealing where the almighty dollar is involved. The day is here when greater farm profits and the maintenance of soil fertility demand that we should turn more and more to live stock—and yet squarely in this path stand the purchasers of live stock products, and unless they are brought within the strict pale of the law from this time forward they threaten to become a mill stone about the neck of American Agriculture.

However, the violation of the law in connection with the purchase of cream products is merely one of the minor crimes of which these concerns are guilty. We are satisfied that during the last few years the same influences have robbed the farmers of Missouri out of many millions of dollars in the purchase of farm produce such as Poultry, Butter and Eggs —and on behalf of the farmers of this state The Missouri Farmer announces that from this time forward these practices must cease if the laws which have been written into our statute books mean anything. If these laws are ineffective, then the sooner we find it out the better.

For years there has been no free and independent competition in the buying of farm produce in Missouri. So powerful and so bold have these concerns grown that the average country merchant stands helpless in their clutches—and as a result, the situation is almost totally in the hands of these cormorants who instruct their agents in practically every hamlet in the state what they shall pay for what the farmer has to sell—and from this mandate, as matters stand today, there is no appeal. When it is considered that the average yearly Poultry products of Missouri alone are valued at $50,000,000, the reader can easily realize what the farmers of this state have at stake in this situation.

In the solution of these outrageous conditions it is not merely necessary to invoke the power of the law but the country merchants of Missouri must join in the fight to the end that they may once more become virile and independent factors in the communities in which they live—for in return for the patronage which he gives him, the farmer has a right to demand of the country merchant that he help to rescue him from a condition of affairs to which he is paying a tribute of millions of dollars annually. We do not as yet know just where the paths in this great fight may lead, but The Missouri Farmer serves notice that from this time on its "hat is in the ring" and that it proposes to find out whether this plundering of the farmers of this state in the sale of country produce is necessarily a "necessary evil."

William Hirth.

Attention! We suggest that all our readers read the opening chapters of the great serial story which begins in this issue.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VII AUGUST 1, 1915 NO. 15

WILLIAM HIRTH
PUBLISHER

THE RURAL SCHOOLS

The rural schools of the United States are absolutely no better than they were half a century ago—or a century. In fact, I think they are absolutely poorer; for a century ago the schoolmaster was much more of a figure in the life of the community than he now is. In fact, the country schoolmaster has almost entirely given place to the schoolmistress. The men have more important business than teaching! The irony of this statement, when of all business that of teaching is most important, and when it is good teaching, of all work it is most productive in terms of dollars and cents! Fifty years ago teaching was one of the very few lucrative occupations open to women, while now it stands somewhere near the median line in public appreciation between the confidential secretary or the head of a department in a great store, and the sweat-shop girl and the five dollar a week saleswoman in a long and increasing list of employments. So that fifty years ago the schools received and held for a time the best of the women who were earning their living, while now they must struggle to attract women of only average ability. Methods of teaching may or may not have improved. Systems of education are undoubtedly more efficient in the miseducation to which they are mainly devoted. But when the enormous importance of the teacher's personality is considered, I seriously question whether or not our rural schools are not absolutely poorer than they were fifty or a hundred years ago.

Relatively to the schools with which they must compete, I have no doubt that they are very much poorer. City schools have made much progress. They are housed in beautiful buildings, and they are pleasant places in which to be miseducated. They are clean and healthful. Their teachers are on the whole better prepared for the work they are called upon to do. The very numbers in attendance tend to awaken that school spirit which makes for happiness. They end in the air, as do our rural schools, but there is a concreteness in the form of graduation exercises and diplomas, with colleges hard by, which gives the pupil the impression, fallacious as it may be, that the road leads somewhere. For young people seeking jobs, the city schools have real superiority in addition to their apparent superiority; for the high-school pupil finishes his course in a place in which jobs are to be had, and parents, pupils, and teachers are in touch with those who have jobs to give out. And not all the city schooling is fruitless or valueless. The amount of teaching which prepares the child for actual work in the world is increasing, and vocational education has supplemented manual and domestic training in many towns and cities. All these things considered, the city schools are very much better than they used to be, and therefore vastly superior to the rural schools.

Better Schools Take People From the Farm

And this is an important matter—this relative excellence of city and country schools. For every child feels as soon as he can think the rival demands and claims of city and country on his life. Every parent feels it as soon as his child is born. I do not need to speak now of the ominous figures showing the drift of rural population to the cities and towns. We all know of it. I do not attribute all of this portentous phenomenon to the inferiority of the rural schools; but I do believe that it has to do with more actual removals than any one other cause. People drift to the place where they will on the whole be happiest; and nothing makes the American parent more unhappy than the feeling that he is not giving his children the best possible chance. Thousands and thousands of people in the country are conscious of the fact that they are just making a living. They could make that in the city; and if in making it they could give their children better schooling, why not make the change? The difficulty of giving any answer to this question in favor of life on the farm is just the pennyweight in the balance which turns it in favor of city life—just the additional consideration which is building up a poverty-stricken city proletariat in place of an independent, healthful rural life.

But this is not the real indictment against our system of rural education. The high crimes and misdemeanors of this system lie in the fact that we are not preparing that more than one-third of our people who live on the farms for efficient citizenship. The greatest of all questions is that of national efficiency; and more than a third of that question for us lies in the efficiency of our rural population. In city and country our people are inefficient as compared with what they should be, and what they may be in twenty years; but in these remarks I am dealing with the work for national efficiency which might be done by the rural schools, and which in the main is not done.

Rural Schools Are Not Rural.

Our rural schools are not really rural. They are bad copies of city schools. Moreover, they are not copies of the better city school of today, but of the inferior ones of half a century ago; and therefore, they are bad copies of poor city schools. The city schools are making a bluff at preparing for college millions of young people who will in all probability never see even the high school; but the rural schools are making a bluff at imitating the bluff of the city schools and in doing so are blighting the possibilities in the lives of other millions of boys and girls who will certainly never get within sight of the collegiate heights toward which they are supposedly and theoretically faced.

Our rural teachers are mostly girls from the towns and cities who not only know nothing about rural life, but despise it. They endure it only as a necessary evil while they are seeking husbands or preparing themselves for city teaching or other city employment. They are surrounded by an aura of urban atmosphere. They model the schools as far as possible on urban lines, because those lines are the only ones of which they know anything. Even when teachers are acquainted with rural life and understand it, the very course of study is devised as if with intent to direct the minds and ambitions of the pupils cityward. The text-books are city text-books compiled by city authors, and published by city publishers. The problems in arithmetic relate to city transactions. The very history of the United States ignores the development of the rural life of the nation. The geography books pass over the geography intimately related to the life of the farm, and the world is looked at through city eyes. The language lessons, the physiology exercises, the reading and spelling lessons are all the outgrowth of city minds working very mistakenly for the miseducation of city children; and in this process of mingled wisdom and foolishness, every morsel of application to the real problems of life is lost, and things which are useful to city children become valueless and worse than valueless to the children from the farms.

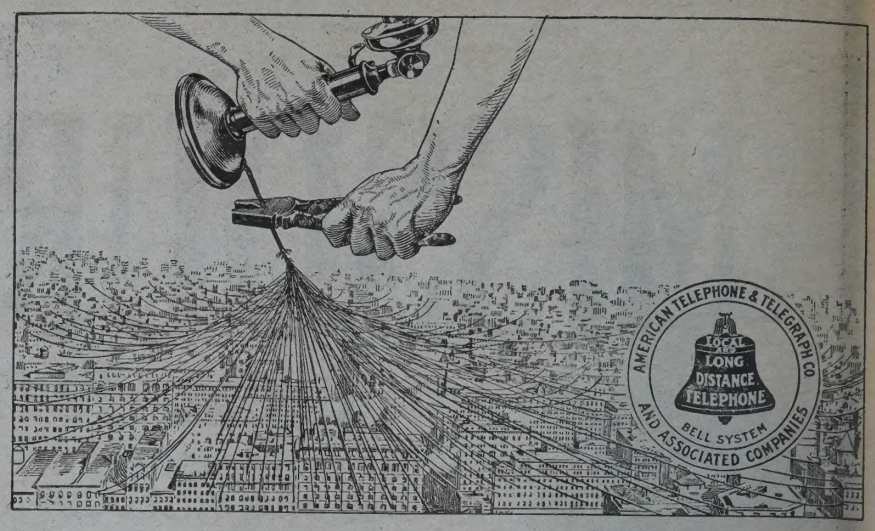
And yet, about every rural school lies an educational plant which, for purely cultural purposes, the city schools would be willing to pay millions. City educators who see how intimately the processes of nature and the knowledge thereof are connected with the best and most prosperous unfolding of the child's character, are making every possible endeavor to bring to the city school those educational advantages which every rural school possessess, and which ninety-nine out of every hundred rural school refuse to use.

There is more geography in the affairs of any farming district than in our text-books on geography—and it is related to the day's work. There is more physiology and hygiene in the feeding and care and management of livestock and poultry than in the text-books, and it is physiology and hygiene in which all the family, and the family's income, are concerned. There is more good training in language in the recording of the local history and the daily observations of the life of the average rural district, than is to be found in all the language books in all the schools. There is more business arithmetic in the problems of farming than in the manuals which our text-book factories place in our hands. There is more chemistry in farming than in keeping a drug store; more bacteriology than in practicing medicine; more botany than in a high school course; more physics than the average factory laboratory; more mechanics than in any other life except that of the machine-shop employe, and more kinds of mechanics than in his.

Good Schools Are Coming

All over the United States there are springing up rural schools which take farm life as their educational plant and get an education for every child out of that life. Beginning in seed-analysis, seed-testing, milk-testing and the like, they are gradually transforming the old, dead rural school into a new kind of school in which every educational process is related to the life of the community. These schools are becoming the laboratories, the counting rooms, the workshops, the economic, and the social centers of their communities.

In such schools a training is given which is more truly cultural than can possibly be given in city schools. They are workshops in which the youth of the land are dealing with life itself. It is their own life. They see day by day the use and meaning of what they are doing. They will write better than their parents wrote, because they will be trained in writing their own thoughts and not those of others. They will use numbers more correctly, because they will be trained in an arithmetic of their own and their families' livelihood. They will be better farmers than their parents, because they will have spent their childhood years in studying the business of farming. They will be happier than their parents were, because they will know more of the mystery, the grandeur, and the charm of that nature whose processes they are interrogating day by day. They will be better educated than either their parents or their city brethren, because they will have been trained in the habit of thinking in terms of truth. Such will be the results of the universal adoption in our rural schools, not of agricultural education, but of educational agriculture. —Herbert Quick, Editor Farm and Fireside, before the Banker Farmer Conference, July 7, 1915.



If a Giant Cut the Wires

Suppose all telephones were silent, and that for forty-eight hours you could not even call a telephone exchange anywhere in the Bell System to ask what the trouble was!

Imagine the confusion which would prevail—with personal visits and messengers substituted for direct, instant communication; with sidewalks, street cars and elevators jammed; with every old-fashioned means of communication pressed into service and all of them combined unable to carry the load.

The instant contact of merchant with customer, of physician with patient, of friend with friend, would be severed; the business man and the housewife would lose the minutes and hours the telephone saves them. The economic loss would be incalculable.

There would not be time enough to do the things we are accustomed to do, and social as well as business life would be paralyzed.

Such a condition is almost inconceivable. The Bell System has developed telephone service to the highest degree of usefulness and made it so reliable that its availability is never questioned. It has connected cities, towns and the remotest places from coast to coast, and has taught the people the advantages of nation-wide telephone facilities.

Plans are made, buildings built and businesses run with Bell Service taken for granted, and yet we have to imagine what it would mean to be entirely without telephones before the great value of this ever-present service can really be appreciated.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy *One System* *Universal Service*

The Silo a Farm Necessity

The best evidence we can offer that the silo is a necessity on every farm where live stock are kept is the results obtained by the farmers who have been using silos. The Missouri Farmer has received hundreds of reports from farmers who have fed silage from one to twenty years and we have not had a single one to condemn the silo. Two or three letters have been received from men who have not used the silo who raised theoretical objections but such evidence has no weight against cold hard facts.

There are so many makes of silos that any farmer should be able to find one to suit his means and tastes. One silo will keep silage about as good as another if it is absolutely air tight. Any one in need of a silo should first write the department of agriculture or the College of Agriculture and get all available bulletins and this may save some costly mistakes, but about the biggest mistake any cattle raiser can make is not to build one of any kind.

The Missouri farmer offers bright country girls a choice between a beautiful Piano or a free round trip Railroad and Pullman ticket to the great Panama Exposition. One of these prizes will be offered in every community in the state. Write us at once if you are interested.

The Missouri Farmer

VOLUME VII AUGUST 1, 1915 NUMBER 15

Bettering the Life of Farm Women

A Plea of a Farm Woman for Better Farm Homes

Have the needs of farm women made progress with that of the men? Have we allowed the betterments of the farm home and the conveniences for the work of the women to fall behind the improvements made about the barn and in the field? In writing to the department of agriculture recently a Missouri woman answered these questions affirmatively. She says: "When we compare our up-to-date cooking range, oil cook stove, and fireless cooker with the open fireplace and cooking utensils that mother used 60 years ago, and the sewing machines, ready-made clothing, and cheap denims, etc., with the old spinning wheels, hand looms, and hand sewing and hand knitting of that day, we must confess that the household affairs have kept pace with the mowing machines, harvesters, threshers, plows, etc., of the farm."

This Missouri woman makes out a pretty strong case in defense of the farm woman's progress and we are inclined to agree with her and accept the truth that farm women are just as progressive as their farmer husbands and that they have just as readily adopted labor-saving conveniences and have been as quick to use factory-made food and clothing when it would lessen their labor as the men have found ways to lighten their work. But while this is true it is evident to every thinking man and woman that if the wife, the mother, is to perform her duty and responsibilities of training the children and directing the home life of the family in the best possible way, it is our duty as men to give for our women the best social and domestic needs within our power.

A Farm Woman's Story

A few days ago the bankers of this country held a great meeting in Chicago and we have reported in The Missouri Farmer a number of addresses of distinguished authorities on agricultural matters laying before the bankers the needs of farmers. At that meeting there was also present by invitation a farm woman who was asked to tell how bankers can help the women of the farm. I am led to believe this subject touched the vital spot. It is going to take money to give us modern homes on the farms and modern conveniences in and around those homes and it is just as important that we get the banker interested in these home needs as it is to have him interested in our operations of feeding mules and hogs and cattle.

This farm woman, Mrs. Nellie Kedzie Jones, who is known to hundreds of Missouri farm women who have heard her talk so earnestly in behalf of her sex, had this to say about the betterment of the life of farm women:

"I live on a farm ten miles from a station, fifteen miles from a meat market, and I know what some of the problems are that face the farm women. I wish you bankers would remember first, last and always, that there should be a partnership of two on every farm to take hold and help. I wish you would remember that when you go to talk to the farmer about supplying him with money to do this, that or the other thing, that you would see to it that the farmer's wife comes in and hears all the talk. She won't come unless you ask her. Her husband, many, many times, will go and talk it over with her afterwards, but he won't think to insist that she come in and hear all the talk. I believe it is in the hands of the banker, the man who is going to help furnish the money, who is going to help improve the farm, to insist that the wife know all the conditions. She has got to sign the mortgage. She is going to do a large part of the work to help pay the interest money. She has got to know what is coming on the farm and what is going off of it, and why shouldn't she know the business end of it? I believe many and many a time things would have gone better on the farm as well as elswhere if the woman had known all the conditions from the beginning. A woman doesn't like to push herself, she doesn't like to say, 'Now, I want to hear that talk.' The farmer, perhaps, doesn't think about it. However, I have known many times when the farmer talked over business matters with his banker, and said: 'I want to think that over for a day or two.' He didn't want to say that he was going home and talk it over with his wife, but that is exactly what he wanted to do. If the banker himself sees to it that the farmer's wife knows all the conditions, I believe things will go better many times.

Field Work Not So Hard As Washtub

"I am not at all sure that these women who work out in the fields have the hardest end of it, by any manner of means. It is a great deal easier to stand on a load of hay and drive horses from one hay cock to the other and then drive that team into the barn than it is to stand over a washboard every day, and when a woman steps out in the open air and helps that kind of work, I am not half so sorry for her as I am when she has to sit up every night to bake her bread because her oven won't work.

"Not very far from the middle of our state there lives a little woman who washes and wrings her clothes by hand, who churns her butter in a little old-fashioned churn, who does all her housework in a hard way, and who all summer long bakes her bread in a little Dutch oven outdoors, because they can't afford a good cook stove. They are trying to build up a farm. She is doing the very best she knows how. She is doing the best she can with the materials at hand, and if she went into the bank, which is nearest to her, and where her husband has borrowed money, and asked the banker to lend her a hundred dollars to buy utensils for her home, I think that banker would fall down dead, he would be so astonished, but he would lend that husband $500, and say nothing about it. It seems to me that the bankers have a great opportunity in just that thing. If a man on the farm borrows $500, why shoulidn't a hundred of it go into utensils for his wife's use?

Wife of the Small Farmer

"Now, I am talking, as you see, for the little farmer, the farmer where the woman in the home has the hardest time. I would like to stand here and talk an hour about the farmer who can afford to put in a thousand dollar equipment, put in a good bathroom, and who on earth needs a good bathroom more than the farmer? I would like to see them put in a good water system which would bring hot and cold water into the house, into the sink. I would like to see them have a sink to begin with. A whole lot of them haven't a sink. I would like to stand here and talk for that, but there is not nearly so much need for that, for there are a great many of you talking for that. There are a great many of you saying, it will only cost a thousand dollars. That will mean only $60 a year interest to put in all these good things. I want you to begin with the little farmer and put into the farm home where the woman has the hardest part of it things that will make her life easier. Now then, they will pay,all these things pay. The woman who has the equipmen to do her work easily and well and do it in a shorter time, will raise more chickens, she will raise more calves, she will be ready with the interest money. Women hate debt. They despise to owe things, and if they can raise chickens and raise calves and have more and more, they will have their ducks and their turkeys and their geese, they are going to have their interest money ready on the date it falls due.

Time That Is Lost

"A great many of our farm women can be helped a little by providing them with incubators and brooders. I know women who spend hours every day chasing that wretched old hen that got out of the coop and dragged her twelve chicks out through the dew. Hours and hours they put in with the hens and turkeys and geese and ducks which would have been better used for their children and home. If the same women had had incubators and brooders so that they could raise their chickens easily and spend a quarter of the time on them that they do tending hens, they would have more time to do these other things. In all these ways the women will come right up with the interest money and just so sure as the man who borrows money is made to give his wife a part of it,—I don't want to say made,—just so sure as it is suggested to him that it will make it easier for his wife, just so sure the women will come forward with the interest money and the banker will profit thereby. There will be less farms taken over because the women will have a better chance to help out with the interest money.

The Children Need Mother's Time

"If a woman can do her work easily —sometimes she is compelled to do it in a hard way, but if she can do her work easily, she is going to use that time to better advantage for her family. How many little people on the farm know their mothers thoroughly and well? How many mothers sit down in the gloaming and rock their babies, on the farm? They have to be out here seeing that the calves are fed, they have to be over here, tending to the chickens, out seeing that the little pigs are taken care of, perhaps out helping stack the last of the hay, and the children having the comfort and the joy and the duty of the farm still miss the mother touch, because the mother works so hard that when it comes night she simply drops down into her bed and sleeps. She hasn't time for her baby.

"When we are trying to help the homes, we must begin on the farms, because so many of the children growing up in the country need it. I believe that the banker who goes out and gets in touch with the farm boy, who knows something of the aspiration of the mother, who perhaps will help that farm boy to go to college, who perhaps will see to it that the farm girl has some chance for education, is the man who is not only spending his money wisely, but is doing a great good for the world.

Give the Daughters a Chance

"All over the land there are farm women whose daughters have no chance. There are farm women on the little farms away up here in Michigan, away up in Wisconsin, on far-off farms of Iowa, those that are far away have got to work under handicaps, and in Missouri, in Illinois and through the Dakotas—these people have no chance, and they are the people whom you bankers can reach because everybody has to have some money some time. When you go out and touch these little farm homes you can touch them with the touch of human sympathy and thought for those girls and boys, so that the mother shall have the chance to do for her children.

I" wish I could put into every man's heart here the picture of the little home, the home where the children must have a chance, and when we remember that out through this great Middle West of ours there are 50,000

farm girls lost every year because they are trying to get out and do something; 50,000 girls who drop out of sight annually might have made splendid strong women in the land, if you and I had been able to do our best for them; when we remember that it means that you and I are going to take hold and do the very best we can to give the farm women a chance to do their work easily and well. When the farm woman has been aroused,the woman who on the little farm is striving to get the mortgage paid off so that she can do a little for her children as they grow up, then that woman is going to go on, and on, in her thoughts, until her children shall make better farmers than their father, better men and women than their fathers and mothers, because they have had a better chance.

"If I have brought to you the picture of the little home, the home where the woman needs help, I have done all that I wanted, and more, perhaps, than I could have expected, but I believe that every one of you men who goes back into his bank, will remember that the woman in the home is the one who perhaps holds the greatest power over the children growing up. We remember sometimes what our fathers have done for us, but every one of us has a tender inner spot in our heart for the place of the mother, and if you and I can help these mothers to live longer and be in their homes better and stronger women, we have done one of the best things in the world. I sometimes say that coffins are the most expensive things for a community in all the world. I hope that the woman who has to do the heavy, hard work on the farm, with few utensils, with little help, will not have to have her hands folded on her dress before her time. I hope she will have a chance to live to see her children grow up and go out into better homes than she had, and as these pioneers go out into the new countries to develop the cut-over lands, to break up the prairie sod, to make for this country of ours more acres on which to grow better crops, there is no crop that ought to be so well nourished and so well cared for, as the crop of young people. You may be proud of your farms, proud of your corn, proud of your cattle, but the importance of boys and girls means most to us all, and the help that we can give to the mother is the help that will make most growth for our boys and girls."

THE CALL OF THE SILO

The silo has been named "The Lighthouse of Prosperity"; practical farmers have said the silo is a better investment than additional acres; it is one of the most important factors in lowering the cost of raising live stock; and it is well known that almost 40% of the corn crop is wasted unless put in the silo. But one of the principal benefits of the silo is that it calls for better methods of farming. It calls upon the farmer to grow more corn on fewer acres and to grow clover, and other legumes.

The farmer is usually induced to buy a silo by reason of a short corn crop. He knows that if he does not sacrifice his live stock he must either buy feed or build a silo. He may put 40 to 50 acres of poor corn in his silo while his neighbor fills his from half the acreage; naturally he becomes interested in producing cheaper silage by raising more tons per acre.

The actual cost of raising an acre of corn varies but little while the yield varies greatly. The Missouri Agricultural College has obtained data from a large number of farmers showing that the average cost of raising an acre of corn is $13.50. This includes man and horse labor, seed, equipment, taxes, interest or rent.

The silo brings home very forcibly the fact that the profit lies in larger yields per acre not in a larger number of acres. The silo naturally calls for a system of live stock farming, and in live stock farming lies our principal hope of building up the land and at the same time making a living from it.

As every feeder knows, best results are obtained by the proper use of both classes of feeds, fat formers and muscle makers. Silage furnishes the cheapest supply of the former and home grown legumes the cheapest supply of the latter. Of course it is necessary to use some concentrated feed, but the amount is greatly reduced by using silage and alfalfa, clover, cowpeas or soy beans.

Legumes enable the farmer to draw upon the inexhaustable supply of nitrogen in the air and obtain free this most expensive element of plant food, and also furnish the cheapest source of the humus that is so badly needed on most of our land.

When the silo has induced the farmer to adopt a system of farming which includes the keeping of live stock to market crops "On the Hoof" and return, as manure, 50 to 70 per cent of the fertility removed by the crops, and the growing of a large acreage of legumes it has performed an important mission.

W. W. Lewelling, Montgomery County.

FERTILIZERS FOR WHEAT ON THE NORTH MISSOURI PRAIRIE

The use of fertilizers on wheat is steadily increasing in North Missouri. The prejudice against them is gradually disappearing. The reasons for this are found mainly in the fact that on the average level prairie or the worn rolling prairie fertilizers pay well, particularly on wheat to be followed with grass. The cause of the prejudice against the use of fertilizers has had some foundation, however, in the fact that farmers depending on fertilizers alone for maintaining soil productivness have finally failed to secure satisfactory returns. The continued use of fertilizers without proper crop ratation, manuring, or the use of green manures for maintaining the supply of organic matter in the soil will finally prove unsatisfactory. Used with proper systems of soil management for maintaining organic matter, however, they not only prove very profitable but continue to give good returns without ill effects.

The results of a number of years of experience with fertilizers, lime, etc., on a series of soil experiment fields in North Missouri have indicated quite definitely the best system of soil management for these soils. These results have been published as Bulletins Nos. 126, 127, and 128 of the Missouri Experiment Station at Columbia. They should be in the hands of all North Missouri farmers who are interested in soil improvement.

Briefly, the recommendations regarding wheat fertilization in this region may be summarized as follows: For the farmer handling the level prairie or the worn areas of the rolling prairie the use of 100 to 200 pounds of steamed bonemeal or 125 to 225 pounds of acid phosphate before wheat will usually bring good net returns. A highly phosphatic mixed fertilizer such as one containing 2 per cent nitrogen, 10 to 12 per cent available phosphoric acid and 2 or 3 per cent potash applied at the same rates as the bonemeal, or the same fertilizer with the nitrogen omitted, will also give good results. The scarcity of potash caused by the war will, however, prevent the profitable use of fertilizers containing over one or two per cent of this element this season.

In general phosphates pay best on wheat on this land and the fertilizer applied should contain a high per cent of rather soluble phosphates. The nitrogen and the potash do not seem to bring such good net returns on this land and they should be in small quantities in the mixture if at all. The more worn the land the more important is the nitrogen and potash in the fertilizer. On the better phases of the prairie phosphates alone, particularly soluble phosphates, will usually prove most remunerative.

M. F. Miller,
Agricultural Experiment Station,
Columbia, Mo.

SOME SUGGESTIONS FOR WHEAT GROWERS

It is surprising how little interest the average man takes in the use of better seed as a means of increasing the yield of wheat. But there is just as great possibilities along this line for improvement of the wheat crop as there is in selecting seed corn, seed potatoes, or any other kind of seed. Hundreds of men go into the field in the fall and carefully select their seed corn ear by ear, then put it away in a safe place and again go over it in the spring discarding all undesirable ears before planting. A dozen ears will plant an acre and hence the job is not a very big one even though a man has a hundred acres to plant.

For the average man it may not be practicable to go into the wheat field and select a head at a time and then cull out the poor grains, although that is not such a big job, at least to get enough of the best heads for seeding an acre or so, but no wheat grower should think of sowing wheat that has not been selected by a good wind mill. It is better to grade the seed by wind than by screen because it has been proved beyond controversy that the heavy, plump grains germinate better, produce stronger plants and consequently larger yields. There is an advantage, however, in the sieve selection. The California station says, "the main influence of large grains selected by simple sieve grading will be in giving the plants a more vigorous start in life, which of itself is of extreme importance. It has been shown that, in general, the more vigorous plants (that is, those having the largest spikelets) contain the larger grains, so that even in selecting the grains by simple sieve separation the bulk of the larger grains would come from the more vigorous plants, and thus there would be, in a measure at least, a selection from vigorous plants."

Another important advantage in using the fanning mill for cleaning the seed wheat is in getting rid of weed seeds, cheat, and other adulterations. Every neighborhood, at least, should have a good seed cleaning mill and on farms where very much small grain is raised it will pay the individual farmer to own one.

At the Kansas station a test was made by separating the grains of wheat in the same heads in two classes—those heavier than the average and those lighter than the average. In every hundred grains of the heavier kernels approximately 99 per cent germinated while in the lighter grains the percentage was about 2 per cent lower. If there was no difference in the vitality of the plants produced from the two classes the difference in germination alone would pay for the cost of running the seed through a good fan-mill.

On account of the good wheat crops for the last two or three years many farmers have fallen into the mistaken practice of following wheat with wheat. This is a bad practice for several reasons but particularly because of the better chance it gives wheat insects to multiply and increase their damage. We know of no better practice than to seed the wheat ground to clover or a mixture of clover and timothy and should the seeding fail to stand the timothy can be resown in the fall with about equal chance of success.

Many farmers made the mistake last year and possibly every year of breaking the ground late, perhaps turning under a heavy crop of weeds and sowing the wheat on the land without thoroughly pulverizing and firming the seed bed. Under such conditions the wheat will freeze out much worse, the plants will make much poorer growth and in at least nine cases out of ten the yield will be much less than on land plowed early and well prepared.

The man who sows only twenty-five acres of wheat—about the average acreage—and who increases the yield five to ten bushels per acre by using these suggestions will have a better profit for the extra labor than for most profit for the extra labor than most

Wheat on the soil experiment field at Hurdland, Missouri. The plot on the left received a complete treatment of fertilizer and lime with special legume crops grown in the rotation. The yield was 21.2 bushels per acre. The untreated plot on the right yielded 13.1 bushels per acre.

Every reader of The Missouri Farmer should not fail to read the opening chapters of "The Plunderer"—the great serial story which begins in this issue of the paper.

RENEWING THE PASTURE

The pasture is the backbone as well as the foundation rock on which our live stock industry is founded. In the early pioneer days the farmer never had to conserve pasture for his horses, sheep and cows. They roamed the forest, hills and valleyes in search of fresh and succulent herbage. When pasture became scarce in our own far west, the stock man moved his herds and flocks from place to place —as did Abraham and Lot of old—in search of new feeding grounds. Grass was abundant then and land was to be had for the taking, but these conditions have gradually changed. Farms took the place of vast forests and wide prairies. The nester with his plow invaded the ranches. Vast pasture lands became corn and wheat fields, gardens and orchards.

As the land increased in value, the pasture fields became smaller and smaller. The best land was put under the plow and the poorer land was given to producing pasture for the live stock. Even today, we, as farmers, have not gotten rid of the idea that our pastures do not need attention and we are slow to act on the idea that a little time and money spent on cleaning up the pasture field, reseeding and feeding the grass will give us good returns. The facts are that good returns may be secured if a little care and attention is given the pasture. On our own farm we make it a point to run the mowing machine over the pasture fields after harvest. The hay mows are swept out at least once a year, the feeding alleys and mangers three or four times a year and the seed and chaff hauled out and scattered over the thin spots in pasture fields. As often as possible a light coating of manure is put on the poorer portions of the fields. We feed the corn fodder and an occasional stack of hay or straw on the parts of the field where the soil is thin or is in need of organic matter. If the sod gets thin it will also pay to sow a mixture of clover, bluegrass and timothy. This may be done by hand and harrowed in or put on with a disk drill. The disk drill is a good tool for doing this work as fertilizer may be put on at the same time.

Many farmers in this country have been using fertilizer on their grass the last few years with good results. Far more has been done along this line in Europe. The Rothamsted Station in England has proven conclusively that available plant food in fertilizer will give good results on grass. It also discovered that a fertilizer high in nitrogen increased the amount and per centage of non-leguminous or the pure grasses while a phosphoric acid and potash mixture increased the percentage and amount of legumes. A number of experiments in various parts of England and Scotland as well as on the Continent gave essentially the same results.

Joe Wing in his book "Meadows and Pastures" says that the pasture fields can be reseeded for an average of about one dollar per acre. The work that we have done on our own farm convinces us that it is profitable to give some care and attention to our pasture fields. While a thorough reseeding and feeding of the pasture with available plant food will undoubtedly cost more than one dollar per acre it will pay to give many of our fields this treatment.

The reseeding had best be done in early spring and acid-phosphate, or a complete fertilizer applied at the rate of 200 to 300 pounds per acre. If we expect to depend much on pastures in the future we must make them produce better than they do at present. It will be necessary to reseed them, cut all weeds and brush, give more attention to the time and method of pasturing them, and apply available plant food through manure and fertilizers.

J. W. Henceroth.

LIME AND INOCULATION

"Say, Mr. Crawford wishes to see you; he is down at the crossing now," was the call that came to me as I was waiting for the electric car to stop one evening.

I started down the track afoot as the roads crossed only a quarter "Yes, I want to see you about my alfalfa, and would like to have you come over and help me out if you can."

So arrangements were made for me to go over the first day that work in the fields was halted. As I swung on the car steps he remarked, "that there might be some other things at his place that I might be interested in."

We had not long to wait until there came another rain that ended field work for a few days, so mounting a horse I started across country to his place. His place is not unlike the surrounding farms to the passing eye —gentle rolling prairie that is typical of northeast Missouri. It showed no signs of special handling. Wheat near the road was no better than some other pieces that I had seen that day.

"Yes, Mr. Crawford is at home, you will find him at the house." I was told by one of the men on the farm.

Dinner was soon over and across the pasture we started to the alfalfa field. There we found 12 acres, that showed signs of hard cropping previously. The soil was of a rather compact nature with fairly good surface drainage and in places the clay that underlies had worn through.

This is the history of that field. Last August it was plowed 12 inches deep with a disk plow, 1100 pounds of ground limestone and 500 pounds of high grade raw bone was applied per acre, and the soil worked down to the fineness of a garden.

Pure culture bacteria obtained from U. S. Department of Agriculture was applied to seed which was sown at the rate of 20 pounds per acre. Care was taken to follow the seeder closely with the harrow, so that this delicate, yet all important bacteria would not be exposed to the rays of the sun long.

The alfalfa was then about knee high (the last of May) of a dark green color except in a few places which was still pale but thick—there was entirely too much of it. It would probably average a plant to every two square inches. There was no possibility of them spreading out and forming a large healthy crown as is essential to alfalfa. Upon careful examination small nodules were found upon the roots showing that inoculation had taken effect.

But the most interesting thing found was when we got the roots washed out thoroughly there would be dense masses of minute roots. Cutting through the center would reveal a small piece of limestone. Surely this must be great alfalfa medicine as those roots had searched for it like cattle for salt.

I am inclined to believe that if Mr. Crawford had applied one or two tons of limestone instead of a half ton that he would have been well repaid for his labor and cost of stone. At the rate of a ton per acre we are only adding one pound to 22 square feet of surface. Surely this can not be too much.

We believe that the best step at present is to cut it with a disk harrow so that it would only tear up about half of the surface, and then crossing it likewise. Thus cutting out about four-fifths of the plants so the remaining ones would have room to develop with vigor.

From the alfalfa we drifted to the cattle barn and silos where he had fed 50 head of cattle the past winter and produced 380 loads of manure which was returned to 60 acres of corn land. His plans are to develop his farm into a beef factory using corn —silage and alfalfa hay for feed.

"But wheat is essential in my scheme of farming," he says. "I must have bedding for my cattle."

Rarely does one hear this reason advanced in Missouri.

From the barns our path lead across a field where corn was growing upon a heavy coat of rye that was turned under for green manure. Mr. Crawford expressed its worth in a very concise form as follows: "I consider its worth three fold: 1st, it is worth all it cost to protect the soil from winter washing; 2nd, it is worth all it cost as a winter pasture crop; 3rd, it is again worth all it cost and more for green manuring."

Isn't such a crop worth considering when it can be produced at the off season of the year? I am sure that when we work out a permanent system of cropping this crop will claim its share of attention with perhaps a little winter vetch mixed with the rye.

Other things were discussed and the day quickly slipped by. Again I was in the saddle headed for home. On the way I passed a place where a gentleman has recently moved from Ohio, near Mr. Joseph E. Wing's home, that great alfalfa enthusiast. He is also attempting to grow alfalfa, but I fear he has not followed Mr. Wing's teaching in regard to lime and inoculation. He had sown in oats with fertilizer a year ago. His alfalfa was from a foot to knee high but very pale except in a few places where the soil was very rich. Whether it is strong enough to survive until it will be able to gather its own inoculation is a question that only time will tell.

Only a few days before I had the privilege of inspecting a field of sweet clover that was sown a year ago. It was not over a foot high, except in some places where there would be a patch two or three feet across that would be of a dark green color; such is the characteristic of this plant as we find it growing wild. Upon examination we found the same old story—no signs of inoculation in the yellow patches. I am convinced that the sooner we learn the importance of inoculation and learn to apply a little lime and phophorus the sooner will legumes grow in that dark green mass, storing additional supply of nitrogen in our soils for future crops, providing a protection against drouths, and last but not least, being a spot on the farm where the owner will point with pride for the large net return it has brought forth.

G. H. Morthland.

Be sure to read "The Plunderer" which begins in this issue. There isn't a dull moment in it from beginning to end. It is wholesome and not overdrawn. It records a struggle in which big and fearless men are contending with each other for mastery.

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TRIBUTE TO THE COW

Little do we realize the debt we owe the cow. During the dark ages of savagery and barbarism, we find her early ancestors natives of the wild forests of the old world. As the bright rays of civilization penetrated the darkness of that early period, and man called upon the cow, she came forth from her seclusion to share in the efforts that gave us a greater nation and more enlightened people!

For two thousand years she has shown her allegiance to man, sharing alike in his prosperity and adversity, responding nobly to all that was done for her, until through her development she became an idol of the people of her native country.

In 1493 when Columbus made his second voyage to America, the cow came with him—and from that time to the present day she has been a most potent factor in making this, our own country, the greatest nation, with the highest type of womanhood and manhood history has ever known!

Her sons helped till the soil of our ancestors and slowly moved the products of the farm to market. They went with man into the dense forests of the new world, helped clear them for homes, and made cultivation possible for the coming generation—and when the tide of emigration turned westward, they hauled the belongings of the pioneer across the sun-scorched plains and over the great mountain ranges to new homes beyond.

Truly the cow is man's greatest benefactor. Hail, wind, droughts and floods may come, destroy our crops and banish our hopes, but, from what is left, the cow manufactures into the most nourishing and life sustaining foods—and is she not life itself to the thousands of little ones stranded upon the hollow hearts and barren bosoms of modern motherhood? We love her for her docility, her beauty and her usefulness. Her loyalty has never weakened—and should misfortune overtake us, as we become bowed down with the weight of years, we know that in the cow we have a friend that was never known to falter. She pays the debt. She saves the home. God bless the cow—little do we realize the debt we owe her!—E. G. Bennett, State Dairy Commissioner in the 1915 Missouri Farmers' Year Book.

HOW THE COUNTRY CHURCH CAN HELP AGRICULTURE AND COUNTRY LIFE

The farmer, unless he is a very religious man, thinks the preacher is the laziest, the most thoroughly overfed and underworked brute in the community. I was reared on a farm. I am a graduate of the Michigan Agricultural College. I have taught school in the country. I preach in a rural community. I elect to do so because I think it is the best place on the footstool of God to invest a human life.

The first thing we did was to organize a Rural Life Progress Club No. 1. The purpose was five-fold. All members were to do something every year to improve the fertility of the soil; to improve the buildings upon the farm; to increase the quality of the livestock; to raise the standard of life and living conditions for the family, and to do something together to improve some community condition. One of the officers was a co-operative agent. When they came to that word co-operative agent, they asked: "What do we want with a co-operative agent?" I said, "We will elect him and put the harness on him and if he balks we will turn him out to grass. If we can hitch a load to him and get him to pull it then we will find out what he is there for." The organization has been running about two years. It has provided excellent social advantages, clean, wholesome and satisfying for the rural people. I have often gone down town Saturday night in our little village and counted as high as 120 automobiles. The young people had come to town. They were simply walking up and down the streets, going into billiard halls and places like that. They were getting nothing socially and intellectually.

The Farm Is Worth While

We did not contemplate any such social development as has arisen. We were to hold our meetings every two weeks during winter but no meetings during summer. Those farmers became so interested that they hold a social gathering once every month. I want to tell about the last meeting. Bryan had just resigned. Some of our college students had just returned. The hay had not been put in the barn. A cafeteria lunch was served by the ladies. About 182 people had eaten supper. The students sang college songs. The other younger people were joining in. Outside they were playing, old men, and middle aged men and women. I counted about 56 playing one game. Men were discussing the resignation of Bryan. A little boy stood there with his mouth opened. He is in part a cripple. I said: "Warren, what were you thinking about?" He said: "I was wondering if I could ever do anything that would lead the people to discuss whether I was worth while or not." There out six miles from town men were discussing intelligently the very questions that were being discussed by the most cultured all over this land. I said to the ladies: " It is very generous to serve these people the way you do." Said a lady, who has five children: "We are glad to do it. We feel the farm is worth while and the best place to rear our boys and girls." She has a son who will be a sophomore at the University of Illinois this fall in agriculture. What I am saying is this: That is satisfied people socially.

We had a high school, not accredited. So I began politically in the town to agitate for an accredited high school. Some of those old fellows in the town thought it would increase the taxes. I said: "I will keep my mouth shut. I will pull the strings." By and by we had three directors elected who stood for an accredited high school. We got the school on the list. Now we have one of the best accredited high schools found in a rural section anywhere in the state.

The Young Man Goes to College

The lady that I mentioned had a son attending our high school. He used to talk about school and tell me that he was going to be a farmer. One day he said: "I guess I will go to college." I said: "If you expect to be a farmer, go to the university and take the long course." He went down and took the four-year course, but he didn't conclude to do that until I assigned to him when he was to speak at one of our Rural Life meetings this theme: "The Use and Value of Limestone in Productive Agriculture." He stood up and talked without any notes, and they complimented him. He said to me: "Mr. Diehl, I believe I can talk in public. I am going now to the university and take the training and come back on the farm, and spend my life on the farm." He was at this social gathering. When we started home he said: "The University has made me feel what you tried to make me feel, that a man with some ability and some ambition finds scope for the use of that ambition and that ability on the farm. Now I am confirmed as never before, to come back and live on the farm." Now, there is a tremendous hook right here. It has been a sad thing for our entire civilization that our bright young men and young women have thought the farm the place only for mossbacks and fossils, and they have gone to the city. If we are ever to have a better type of agriculture we must have a better type of farmer. If you ever get a better class of farmers you must get the boys to go to agricultural colleges, and then not drift away to the city, but come back to the farm. They will know the things that ought to be done and be an inspiration and teach other boys who follow in their wake.

No Use for Book Farmer

We have in our county a splendid county adviser. There were people that didn't have any use for the book farmer. "No, sir, I know more about my farm than any county expert. I have worked for thirty-two years." "Well," I said, "you don't. Mr. Eckhardt can tell you more in one minute than you know or have come to know in respect to your farm in thirty-two years." When we got this society organized and Mr. Eckhardt came and told us how to use lime and rock phosphate, and the like, the fellows still said they didn't believe in him, but we got him down to one of our meetings and now there is not a man in that community that does not shout for him and his work.

A few years ago we didn't raise very much alfalfa in our section, and men needed alfalfa to feed their stock. They felt the value of it but a man wouldn't pay $10 or $15 a ton. He couldn't buy a carload. This co-operation agent found men who wanted alfalfa and sent for a carload. They liked that. One man wanted to put a little piece of ground in alfalfa, and Mr. Eckhardt said to use lime. The farmer said: "I can grow it without lime, but I only need five, or six, or ten ton, anyhow. I can't afford to go and buy a carload. They don't handle it here commercially." But men of that type went to the co-operative agent, and said: "We need so many tons." Then he ordered a carload. We have succeeded in getting something like twenty-five or thirty men to apply limestone in preparation for alfalfa who otherwise would not have done it. These men now instead of knocking alfalfa are boosting for it.

Friendly Co-operation

The farmers said that concrete was a good thing to use, but they hadn't any mixer. We have one there now that goes up and down the country and charges $5 a day. The farmers said: "Let us buy a mixer of our own." As a result concrete is being used three times more largely than before. Men come there and say: "Let me buy stock in the Club." We ask them why they want to join. "Oh, I want to get stock in that concrete mixer." Now, then, every time you put the right foundation, a concrete foundation under a building, or build a feeding place for your hogs or your cattle, of concrete, you have done something good for the neighborhood. Do you suppose they would kill that co-operative agent off now? Not a bit of it.

I kind of pity the poor farmer's wife. Frequently the farmer has all the good things, fine machinery and fine horses, and the poor wife gets along with poor conveniences in the house. One lady said: "Mr. Diehl, I want to thank you for starting this organization." I said: "Why?" She said: "I have wanted my pantry fixed up for years, and John wouldn't do it, but when they asked him if he wouldn't entertain the Club he said, "We'll have to fix up the pantry before we can entertain them.' He has gone to work and fixed the pantry from top to bottom." She told me that her work is easier and she enjoys it more. We are trying to make conditions better for the women. That is one thing that is being realized.

We Need Strong Churches

One lady said: "Now, that Methodist preacher is getting all the people down to his church. That will never do. He is proselyting." I heard of that and I said to the president: "You just tell them to keep that organization going for the good of the community. Never mind our people, and never mind me, and I will never come near, but you keep that thing going over there. It is a good thing for the community." He went back and told a great big broad shouldered farmer what the preacher said, and the old farmer said: "We will keep this club going. We will keep the preacher here, but we will take those narrow people and we will twist their necks." That was not a good thing to do. They finally settled down. They have got all those malcontents into the club again and at work. Who was responsible for that malcontent? This was a good work, but some preacher somewhere thought the Methodist preacher was getting too much out of it.

I want to tell you the church is here. The leader of the people is the preacher. The fact of the case is, the finest product in the soil is a human soil, and the church is here to share in its production, and the church will stay. They lament the fact that 1700 churches in the state

that used to be occupied are now empty. Why, it would be a great blessing if 1700 more of them were empty. ,We must build churches so strong that they can pay a salary sufficient to command an able preacher, and then he can make that an intellectul center that will lead people of capacity and power to stay on the farm, and in rural sections, and build the spirit of co-operation. When we have a little preacher struggling over here, and another one over there, one in a little church here, and another one there, they divide the community and instead of building the spirit of co-operation they make it impossible. Eliminate the small struggling churches and consequently the divisions that arise out of little religious differences that don't amount to the snap of the finger, and build strong, clean, social, intellectual and spiritual centers in a church, commanded by an able man who loves the people, who loves the country, and who can talk in terms of agriculture, and isn't ashamed to do so.—Rev. W. W. Diehl, in an address before the American Bankers' Meeting, Chicago.

HOW TO GET RID OF HOG CHOLERA

J. W. Connaway, D. V. S., M. D., Veterinary Department, College of Agriculture and Experiment Station, University of Missouri.

[This article is a continuation of the articles in previous issues and will be continued until the whole subject of hog cholera control is thoroughly discussed. We suggest that every swine raiser who reads The Missouri Farmer should file away all these papers containing this article and they will then have the most valuable treatise on hog cholera that has been published.—Editor]

Simple, practical measures of prevention can be applied that will obviate, to a large extent, the dangers mentioned, if the shipper, railroad man and consignee will co-operate: (1) to prevent the shipment of hogs, for feeding purposes, from infected yards and farms; (2) and see that they are not collected in infected shipping pens; (3) nor shipped in cars that have not been properly disinfected; (4) and not unloaded enroute in infected feeding pens; (5) nor in an infected pen at the terminal station. And all this can be done without much expense. The money saved through the prevention of cholera will meet the expense many times over. The disinfection of a stock-car is not an expensive nor difficult task. Caustic lime (freshly slacked) and Compound Cresol Solution are cheap and efficient disinfectants and are easily applied.

If lime is used it should be sprinkled freely over the floor of the car before the removal of any manure or bedding. Water should then be sprinkled over the lime and litter, and the whole scraped up and removed from the car. This manure and litter should be dumped in some protected place where hogs cannot come in contact with it; and where it can lie a few days to heat, after a further application of lime. After the car has been made tolerably clean with shovel and broom, more lime should be scattered over the floor, and moistened by means of a spray pump or sprinkling can. And the walls of the car should be sprayed or mopped with a hot lime-wash made by adding unslacked lump lime to a bucket or tub of water. A handful of salt dissolved in each bucket of water before adding the quick lime increases the efficiency of the solution. A car thus cleaned and disinfected will carry hogs from one part of the state to another without danger of infecting them with cholera. The car should be properly bedded with clean straw. Ordinarily a bushel to a bushel and a half of quick lime will be sufficient to disinfect a 36 foot stock car with floor space of 300 sq. ft. And the cost of the lime will not exceed 50 or 60 cents. And even if it should require a full barrel, its use would be a wise precaution, as insurance against the loss from cholera of a good part of the shipment; and against spreading the disease to other herds.

If the Cresol Compound (Liquor Cresolis Compositus) (U. S. P. formula) is used it should be diluted with water to make a three or four per cent solution. One gallon of the undiluted solution will make up 33 gallons of a 3 per cent solution; or 25 gallons of a 4 per cent solution. Sprinkle or spray the litter and dung thoroughly with the disinfectant before scraping it up and removing from the car. Then spray and scrub the floor, and wash down the walls of the car with the same solution.

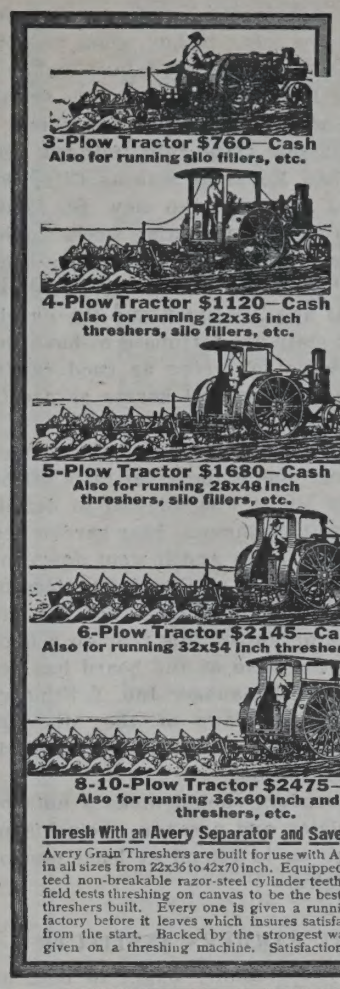
For the disinfection of stock cars used for **interstate shipments** of swine the regulations of the U. S. Bureau of Animal Industry specify the use of "4 ounces of Cresol Compound U. S. P. to each gallon of water." That is a 3 per cent solution. They also advise the addition of 1½ pounds of lime to each gallon of the diluted solution, to show where the solution has been applied. (See Amended order 210, effective Feb. 10, 1915). The Government regulations referred to do not require that the litter and manure shall be disinfected before removal from the car. This may not be so important at the large market centers, and especially where there are "reducing plants" for incinerating the litter and dung, from the cars and stock yards. But at shipping stations in the rural districts ,the litter and manure should always be well mixed with a good disinfectant before removal from the car. Such a precaution will aid in keeping cholera away from the farms in the neighborhood.

As already mentioned, carbolic acid and most of the coal-tar stock dips are less efficient for the purpose of destroying hog cholera infection than the Cresol Compound Solution. The market price of the undiluted liquid is about $1.25 per gallon.

The local stock-yards: It is a matter of much importance in the control and eradication of hog cholera to maintain sanitary shipping yards in the farming districts. And this is not an impossible task, nor expensive, if the work is properly apportioned. An attempt is being made to solve this problem in the counties that have organized anti-hog-cholera clubs. Proper care of the healthy and sick herds on the farms, by methods already recommended, will lessen the opportunities to carry infection to the shipping station. The shipments of sick and dead hogs is illegal, in some states, and should be made so in all states. It would work a great hardship, however, if swine raisers and feeders were not permitted to ship healthy "exposed" hogs that have not developed symptoms of the disease. But such hogs should be hauled to the station in tight-bottom wagon boxes, and should occupy a special pen at the stock yards while awaiting shipment. And a separate chute for loading should be provided. A slight readjustment of existing stock pens can be made at small cost that will meet the requirements. The spraying of hogs with bad smelling chemical disinfectants when these hogs are destined for immediate slaughter is objectionable. It is therefore all the more desirable that exposed hogs, though healthy, should be provided with a separate pen; since the hair, skin, and feet of these hogs may carry infection, from the cholera infected farm, to the local stock yards. It also happens that in separating the apparently healthy hogs from an infected herd, for shipment to market, a few hogs that are not visibly sick may develop symptoms of illness before they are loaded on the car. The excitement and fatigue of the infected animal, caused by the handling and hauling from the farm to the shipping station, often hastens the development of the cholera symptoms, and a hog that was thought to be healthy when it was hauled from the farm, may prove to be affected with cholera. These acute cases of cholera are liable to badly infect the local yards, if the affected hogs have access to the general pens and alleys; while if put in the special pen for "cholera exposed" hogs, the danger of spreading the disease to other farms would be greatly lessened. Farmers from other neighborhoods would not run so great a risk of carrying the cholera infection back to their frams, by contamination of their shoes with mud and dung from cholera infected pens. The cholera virus would be confined to a smaller space, where it could be destroyed at less expense and labor. A cement floor in this pen is desirable, to facilitate the cleaning and disinfection. And it will pay any farming community to put it in. Two or three good sized fat hogs will pay the cost. In fact it will pay any farmers' club, or "anti-hog-cholera club" of 25 or 50 members, who use the same shipping pens, to put concrete floors in all the pens at their own expense, even if the railroads would not bear a portion of the cost. The loss from cholera to individual farmers have in many instances exceeded the cost. And infected shipping yards have often been the source of the trouble.

The railroad industrial agents of a number of roads have shown an active interest in the hog cholera eradication work as outlined herein. And in Knox County, where through the University Agricultural Extension Department,

(Continued on page 9)



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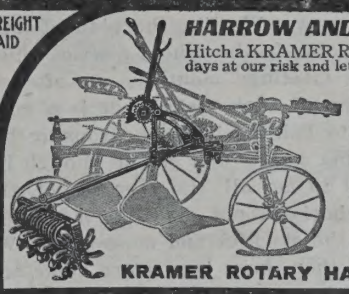

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SEED CORN FOR 1916

It may seem a bit early to be talking about seed corn for 1916 but there is an unusual condition existing throughout the northern part of the Corn Belt which includes some parts of Missouri which calls for a little extra precaution in providing next year's seed. The season has been so cool that corn has not made the usual rapid growth and that will cause the corn to ripen somewhat later than the average. Then there are a great many thousands of acres of second and third plantings of corn that is very late. Now if our season is shortened by an early frost, which is not at all improbable, a lot of people will be hunting seed corn next spring.

Last year the corn matured unusually well and where farmers have a pen of good sound old corn it will be a good idea to select from it a sufficient amount of seed for next spring's planting. Old corn, when kept thoroughly dry, is very satisfactory for seed, and if it is not needed there is not much loss of time anyway. Without good seed there can not be a full crop and this should be the first consideration of every crop planted.

FAIRS ARE EDUCATIONAL

We do not know where a man can go for one day or a week and learn more that will be helpful to him on the farm than to go to a good agricultural and live stock exhibition. Besides a large number of county fairs we will have in Missouri this year three fairs affording the people of every part of the state ample opportunity to see the best that is produced of crops, live stock and machinery.

The first of these fairs to be held will be the Missouri State Fair beginning at Sedalia, September 25 and ending October 2. In the first place every farmer and his family need a little outing every year and there is no better time of year to get it than about that time of year. The visit and interchange of ideas with the farmers of different parts of the state ought to give any one something of great value on new crops, new methods, improved breeds of live stock and the latest patterns of farm and household machinery. Farm machinery has been a wonderful factor in lessening the hard labor of farm life both in the house and in the field and such rapid progress has been made and is being made that it is necessary for a farmer to occasionally visit some place where all the latest and best machines are to be seen together in order that he may know what to buy when he gets ready for something. It just makes a man a little broader and less selfish to see what other people are doing.

After the state fair follows the American Royal at Kansas City, October 5 to 9 and the new St. Louis fair to be held the same week. The American Royal in the past has been equal to the best in America in its exhibit of fine live stock and the people of this state are fortunate to have the opportunity of seeing as good cattle, hogs and sheep and horses as are to found anywhere in the world.

The old St. Louis fair in its former days was one of the great fairs of the country but it was allowed to degenerate into an immoral beer garden and horse race affair and it went down for lack of support of the better class of people. It is announced that the fair is being organized this year on a high moral basis and as the board has selected for its manager Jno. T. Stinson, formerly Secretary of the Missouri State Fair this ought to assure a high class exhibition.

Our readers should make a note of these dates and arrange their farm work so as to attend at least one of these fairs.

THE FARMERS' INSTITUTE

Every community ought to hold at least one meeting a year for the discussion of community problems and there is no better time of year to be thinking about such a meeting than right now. We like the plan of having a club in the school district which holds meetings monthly, or oftener, and in all such districts it is a good idea to hold at least one rousing big meeting a year and get up enough interest to get all the people of the neighborhood out to the meeting—even the skeptics and moss-backs. We think there have been more home and farm improvement clubs organized within the last two years than in any like period in the history of the state and they are doing good. One of the most apparent improvements resulting from these clubs is in the remodeling and refurnishing of the old school houses. Such improvements are followed almost invariably by better schools because when the community is aroused to the point of providing better equipment and buildings there is going to follow a demand for better teachers and better work in the school.

There is plenty of material in any neighborhood in this state to hold a profitable farmers' meeting but occasionally, once a year at least, it is best to call on the state board of agriculture for some outside help. No one can listen attentively to Sam Jordan or Kelly Wright for an hour without having just a little higher opinion of the business of farming than he had before. If it is practical information about some live stock subject you can get the best of a life-time experience from W. D. McKee in a day's time. And in like manner B. P. Smoot will enlighten you on questions of soil fertility and Miss Babb Bell will help the women in a lot of those little perplexing questions about household affairs.

Every live community should hold a farmers' institute this fall and if not already organized for club work that will be a good time to start such an organization.

FALL AND WINTER PASTURES

The first step toward better profits in farming is to reduce the cost of production to the lowest limit. When the cost of production goes up and the price to the consumer is made higher the buyer reduces his purchases and that, of course reaches back to the producer. We know of no other one thing that will reduce the cost of live stock production so much as an increased use of forage crops and this is particularly true of crops that will produce late fall and winter pasturage.

This year there are a great many thousand acres of land that have failed to produce a crop. These acres are now covered with a rank growth of weeds and summer grasses and the turning under of these green crops while they are full of water will cause them to decay quickly and will add a lot of available fertility to the soil. When wheat is one of the crops in the farm rotation this makes a good chance for a wheat crop that is if the weeds are turned under while tender so they will quickly decay. But the point we want to make in this article is that all this land as well as all corn land that is reasonably clean of weeds should be sown in some crop like wheat or rye for fall pasture.

A field of wheat or rye sown the last of August or first of September will in ordinary years give pasturage enough for hogs, calves or other young stock to pay a good profit on the cost of seed and seeding. Then there is another advantage in the saving of the soil from washing during the winter and this is one of our greatest farm wastes. Then in the spring if the crop is not allowed to stand and mature it can be plowed under in time for a corn crop and that again will greatly benefit the soil.

"The Plunderer"

For some time we have contemplated running a good serial story in The Missouri Farmer. The old saying that "all work and no play makes Jack a dull boy" applies to all of us—and while this publication is primarily devoted to the dissemination of sound farming information, yet a little diversion now and then serves to take our minds off the dull grind of things for a few moments and makes us all the keener when we return to the sterner tasks. "The Plunderer" was written by Roy Norton, one of the popular present-day authors, and the book would cost you $1.50 at any news stand in the Country. It has recently been introduced into the moving picture world by David Farnham—an actor who appears only in things of high class and splendid dramatic interest. The story has to do with a western gold mine and from the opening chapter to the end it grips the attention of the reader in an intense and powerful way. While it has its share of the rough and uncouth, in the main its sentiment is splendidly wholesome, and no man, woman, boy or girl can read it without having a greater respect for clean manhood and womanhood when the end has been reached. We are supplying this powerful story at considerable expense and we hope it will be read and enjoyed by all our subscribers. A good way is to let someone read the story aloud to the whole family. In this way old and young will look forth anxiously to each succeeding chapter.

THE MISSOURI FARMER.

FARMERS MUST HELP THEMSELVES

In the last few political campaigns the different parties have done a lot of resoluting against trusts and all combinations in restraint of trade, and we want to ask our readers seriously "What has it all amounted to?" True, various suits have been filed, a few fines have been imposed and so far as we can see things are going along in about the same old way with the "big interests" tightening the rope little by little about the people's throats. We can not hope for much relief until the laws and the courts are backed up by a better public sentiment and a closer co-operation of both producer and consumer. The most infamous of all combinations so far as farmers are concerned is the combination of packers which has absolutely at its mercy the control of the markets for every hoof of cattle, hogs and sheep produced in this country. And not satisfied with the control of the markets for meat animals and the sale of meats they have been reaching out for the last few years to get control of the poultry, egg and butter trade and they now control a very large part of that business.

It was recently announced in the public press that the agents of the U. S. Government had discovered that the oleo manufacturers had defrauded the government out of several millions of dollars of revenue—revenue the law requires to be paid for the manufacture of colored oleomargarine. It is always the little fellow who gets caught, but it is well known to the officers who have charge of the enforcement of our oleo laws that these little fellows are only the tools of the big packers who are back of the oleo business.

These greedy gouhls of society who have piled up their hundreds of millions from illegal profits on the farmers' cattle, hogs and sheep are now using their power which their immense wealth gives them to take more tribute from the farmers' wives of this country by getting control of the trade in butter, eggs and poultry.

There is hardly a shipping station of any consequence in this state, and the same condition exists in other states, but what you will find a cream station controlled by the trust, and an egg and poultry buyer controlled in the same way. The local buyer may be doing business in his own name which as a matter of course they all do, but the price he pays Mr. and Mrs. Farmer is fixed behind the curtain and the dealers dare not deviate one penny from it.

What are we farmers going to do about it? The progress we are making through legislation and the courts is slow, but we should not relax our diligence in that direction. We should keep a closer watch on our public men and not allow them to play both sides of the game, but that is a story too long for this article. One other thing we can do and our strongest weapon if we will use it intelligently is to market our stuff through co-operative societies managed and controlled by the producers and consumers. If the farmers of Minnesota and Wisconsin can build silos, big barns and fine houses out of the profits of co-operative creameries why can not Missouri farmers do the same thing?

What we need to do just now is to get behind the efforts of our state dairy commissioner, E. G. Bennett, in his efforts to organize co-operative creameries all over Missouri. The packers can beat us on any ground if we work single handed, but if we can get the farmers to stand together we can face them with an army 275,000 strong in this state that will drive our enemies to the wall. It is time for farmers to help themselves.

TO GET RID OF HOG CHOLERA

(Continued from page 7)

and the County Farm Bureau of this county, a series of meetings was recently held, and sixteen anti-hog-cholera clubs organized, the Superintendent of traffic of the Santa Fe R. R. issued instructions to the local agents to co-operate with the University and the Farm Bureau, and **to keep on hand a sufficient quantity of quick lime for the purpose of maintaining sanitary stock pens.** The farmers and shippers belonging to the anti-hog-cholera clubs, co-operating with the County Farm Adviser, will attend to the disinfection at sufficiently frequent intervals. In Johnson, Dade, Bates and Cass counties where a large number of farmers have also organized "anti-hog-cholera clubs," the local agents of the railroads have shown a ready willingness to co-operate with the clubs and to do all they can to help keep the local stock yards free from hog cholera infection.

(Continued in the next issue)

BUCKSHOT BY THE PROFESSOR

The "I'll try" of some men means a lot more than the "I will" of others.

What we need is not a "back to the farm" movement but a "stay on the farm" movement.

I guess this grand opera business may be all right but as for me, give me an old-fashioned circus with lots of "ellephunts" and clowns ridin' backards on buckin' mules.

I welcome the advice and help of any business man who sincerely wishes to aid the farmer—but I want to know that he is on the square and that he isn't trying to grind a selfish axe.

Old man Huerta's in jail down in Texas along with a lot of other horse thieves. But then the horse thieves can't help it. The law doesn't allow them to be particular about the kind of company they keep.

I am in favor of being prepared for war but I am not in favor of turning this Country into a military camp—of paying more attention to the science of killing people than we do to the science of farming and commerce.

If the angel Gabriel should go through the pockets of every old geezer who tries to break into heaven wouldn't he find a pile of plugs of "Horse Shoe," "Star," "Granger Twist" and half filled bottles of "Pizen?"

The average Missouri mule who is knock kneed and spavined these times is a mighty lucky dog. It means that he can keep on fighting Missouri flies and eating good old Missouri bluegrass instead of having to help haul connons around over in Europe.

Here's a hint to a lot of you old skin flints: figure out your wife's next birthday or better still, your next wedding anniversary and when it comes, put your arm around her and slip a $20 bill into her hand and tell her to buy anything she would like—and when you see the tears of happiness spring into her eyes you will feel that you never did a better thing with that much money in your life.

Are you bothered with fleas? Well, here's a remedy that's guaranteed to kill them. Catch the flea, double its head under its wing and then wave it around in the air a few times. This will cause the flea to get so dizzy that it will remain perfectly still for a moment or two. Then hit it between the eyes with an axe or a sledge hammre. We have never known this method to fail to kill the flea.

If I owned a lot of good wheat I'd hold it awhile. There is strong evidence that the Allies in Europe are trying to buy wheat through certain prominent American grain manipulators and thus get it at their own figure. I wouldn't think of parting with good wheat at less than one dollar a bushel and the man who holds it a while is certain to get that and more. The war is becoming more bitter every day and I wouldn't be surprised to see wheat go to $1.50 per bushel before the next crop is raised.

Old "Josh" Simpson got into a peck of trouble the other night. He had been talking "fishin'" with the bunch down at the livery stable until almost midnight. He knew the old lady would "raise Cain" when he got home, so he tried to slip in the back way—and not being very steady on his feet and everything being pitch dark, he stumbled headlong over an old bee hive. Well, to say that those bees were "peeved" at being waked up in that rough fashion, at that time of night, is putting it mildly. They just piled onto old "Josh" and what they did to him was a plenty. To make matters worse, the old family dog grabbed him by the leg—and his wife, thinking the chicken thieves had broken loose, frantically called up the night watchman. Everything except the "swellin" has calmed down—but "Josh" has confidentially told his friends that if they should miss a few little innocent looking bees any time during the next month or so, not to be surprised. He says he likes sorghum molasses better than honey anyhow.

THE YOUNG FARMER'S CHANCE FOR SUCCESS

What chance has the young farmer of today who has little inheritance coming to him to ever own a farm?

Are we as a state, as a nation, to grow more and more into landlordism and tenantry or shall we become a people of home owners? These are serious questions, but life is full of serious questions and there are thousands of young farmers in Missouri as well as the surrounding states who are face to face with these hard propositions right now and the future of our country depends more upon how they solve them than it does on the maintenance of a big navy or a standing army to fight our battles against a foreign foe.

We showed in a previous article in The Missouri Farmer that it requires upon present valuations approximately seven thousand five hundred dollars to own and equip an average farm home in Missouri. This sum may look small to the banker or even to the well-to-do farmer who has seen his acres, given him by the Government, grow into a snug little fortune, but to the young man who is working for $20 a month it may look pretty big. We know a great many farm owners of today who were hired men forty years ago and we know some tenants and hired men today who were land owners forty years ago. So let us say to the young man who is now working for wages: "In spite of the higher price of land, the greater cost of equipment and the closer competition for farmers, the man who calls to his aid the better methods and improved machinery of the present day has about as good a chance to win as the young man had of a generation ago. But let no young farmer be deceived by thinking that systems of farming adapted to the virgin soils and easy-going life of a century ago will fit in with our twentieth century problems.

No young man should feel discouraged because he lacks capital. If he has a sound mind in a strong body he has all the equipment that thousands of the most successful farmers of today had to start with in the beginning of their career. All the wealth of the world has been created by labor and the young man who accepts the cold fact that no one is entitled to anything he does not pay for in some kind of service has laid the first stone in the foundation of a promising life.

The man who has capital can utilize it for buying land, and equipment and employing labor and if he has the business capacity he may succeed without doing manual labor himself. But for the fellow who has nothing but his labor to start with it is entirely a different proposition. About the first thing a young farmer should do is to fix his aim in life. In marking out a land it is necessary to set a stake at the other side of the field to keep your eye on and in planning a career on the farm it is essential to map out your course and then make every effort to keep to it.

The trouble with too many farmers as we see it is that they have no definite plan to work by. There is entirely too much haphazard, hit-and-miss work on the farm. The young man can do no better perhaps than to look about among the farmers he knows and study the methods of those who have succeeded and compare them with those who have failed. Take as an example the breeding of live stock. We know a number of men who have made enough to pay for a good farm out of a herd of pure bred hogs or cattle. But they are men who set their stakes ahead and then drove to them.

In orcharding, in dairying, in breeding good cattle, sheep, hogs and horses there are just as good openings today as there has ever been and the young man who will fix his whole thought on any of these lines and call to his aid the farm paper, the experiment station and the experiences of the best farmers will have as good a chance to succeed as his father had before him.

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Thirty-Six Highest Awards
To International Harvester Machines

THE International Jury of Awards, at San Francisco Exposition, gave to the International Harvester exhibit thirty-six highest awards covering not only the Champion, Deering, McCormick, Milwaukee, Osborne, and Plano harvesting, haying and corn machines and binder twine, but also the newer lines—the oil engines and tractors, manure spreaders, tillage implements, farm wagons, corn planters, corn cultivators, feed grinders, and seeding machines.

This is a world's record. Never before were so many highest awards given to any one exhibition of farm machines at any World's Fair.

In 1851 the first reaper was exhibited at the World's Fair in London, and there received the Council Medal. Since 1851 it has been the Company's policy to exhibit and demonstrate its machines wherever the opportunity was offered.

Our exhibit at San Francisco in 1915 occupies 26,721 square feet of space, by far the most complete exhibit of its kind ever made. The thirty-six highest awards given to this exhibit constitute a splendid mark of approval for the good judgment of the hundreds of thousands of farmers who believe International Harvester machines to be the best the world affords.

International Harvester Company of America
(Incorporated)
CHICAGO USA
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Ranch Manager Wanted

Wanted, a manager for a splendid 800-acre ranch in Monroe County, Mo. Admirably adapted to live stock and crop raising. I want somebody to take charge of same and to a responsible party who can buy half interest in live stock and implements, I will give half the yearly profits. Mrs. Anna Mitchell, Monroe City, Mo.

Interested in a Gasoline Engine?

Those of our readers who are thinking of buying a gasoline engine this fall will do well to drop a line to the Witte Engine Works at Kansas City, Mo., and ask them for complete information on their big line of farm engines. Perhaps there are few farm investments that pay better than a gas engine which saves a lot of hard work every day in the year on every farm where there is water to pump, feed to grind, silos to fill, wood to saw—and a lot of other similar things which require power. The only reason why there are not thousands more gasoline engines in use is because few farmers as yet have been aroused to their labor-saving possibilities. We are standing on the threshold of a greater use of engine and tractor power on the farm than has been dreamed of heretofore and it will be well worth a postal card for any farmer to write to the Witte Engine Co. and get a lot of information which is free for the asking on this subject.

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with this common sense farm ditcher and road grader. No wheels or levers. Nothing to get out of fix. Simple—Practical.

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is a positive protection for the stocking.
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Farm Management

D. H. Doane, University of Missouri

The law of a worthy life is fundamentally the law of strife.—Roosevelt.

Whatever you may be sure of, be sure of this, that you are dreadfully like other people.—James Russell Lowell.

It is not too late to prepare your soil for some fall crops. Rape, rye and turnips can be counted upon. One principle of farm management is "keep busy." Now that the rush is nearing a close, what plans have you for utilizing man and horse labor?

Feeding Lambs

In another month you will begin to think seriously of the approach of your feeding lambs. Doubtless you planted cowpeas or soybeans with the corn and probably these crops have grown quite successfully. My observation this year has shown that the soybeans have done better than the cowpeas. This is probably due to the excessive cool, wet weather that we have had. The past has shown us that cowpeas have made the most successful catch crop in corn but I am ready to be convinced at any time and it begins to appear now that soybeans are going to take the place of the cowpeas, particularly in such portions of the country where the farmers think it necessary to plant their corn before the ground thoroughly dries up.

The satisfactory value of the sheep feeding proposition is found in the rape crop. An early frost is bound to force the marketing before your lambs are fat on the cowpea ground. They can be fed and finished if you have the rape. If you do not, they have to go to market frequently at a loss. Rape, under favorable weather conditions, will still make a fairly good growth if put on a well prepared seed bed as late as the 1st of August. Preferably it should be put in earlier and cultivated. It might be put on wheat or oat stubble. At any rate put it on a good piece of ground and if possible have plenty of it. The seed is cheap and you should have a little spare time to prepare for it now. Of course it is by far the best to have sown the rape early but the late seeding as stated before, under favorable conditions, will still make good.

The prospects are that fed lambs will be higher. In some sections of the country we have a most wonderful growth of catch crops and all of our farm management men know by experience that this is almost sure to mean a good profit. I would urge all intending feeders to get their oats in the bin early and be prepared to receive the sheep whenever the kinds wanted are available.

If we can be of any special assistance, let us hear from you.

Idle Work Stock

The rush of spring is over, corn is laid by, grain is harvested but I dare say that by far the majority of farmers still have enough work stock upon their farms to meet the demands during the rush season. How are you going to handle this really serious problem? Are you going to keep as many horses and mules as you need from now until next spring, equipped to have them on hand at seeding time nearly a year from now? Let me ask you frankly what does it cost you to keep a horse a year? Mr. O. R. Johnson of the farm management department here at the Missouri College of Agriculture, says that the average yearly cost on fourteen farms is $88.38, over 75 per cent of which is a feed cost. Let me urge this one point. Each man sit down and figure **now** how much it will cost him to keep his surplus work stock from now until he will need them again in the spring. After this figure is known, then find out what you could get for this stock and about what it will cost you to replace it in the spring. I believe that many of you will find that the best thing for you to do is to sell some of your surplus work stock. Figure it out and see how much of this year's crops will go to non-productive stock, such as work stock.

Crop Prospects

Some of the best corn and some of the poorest corn can now be seen in most any farm community. Sometimes fields have been entirely abandoned and I have been in some that gave promise to make 100 bushels to the acre. Such sights as these can be seen in an hour or two's drive through most any of our better farming communities. It appears that wheat yields are going to be somewhat disappointing. The loss is becoming so large on account of a large per cent of shriveled grain. This may be due to a great many causes. Fly, rust, and many think that the chief cause is the extreme rains at blooming time. Regardless of just what the cause may be, three to sixteen bushels per acre is the yield that I have been finding in most of the counties. Doubtless we have as good an oat crop as we have had in years. Another point of satisfaction, and this is, particularly gratifying in the light of results of the past three years, is to know that most all of the clover has caught this year. Some of the most beautiful stands that I have ever seen can now be found in oat and wheat stubble. All in all, we have every cause for rejoicing. Of course the loss is very severe in some localities and also on some particular farms but the sum total of our prospects at this date is far better than it has been for the last two years.

Vetch and Rye

I have just returned from Cooper County where I have had an opportunity to view some of the work that Mr. Wilson, our farm adviser, has been carrying on in that county. One thing that is particularly gratifying to him and that appears to have a brighter prospect before it, is a crop practically new to the community, namely, vetch. In some fields there will be three cuttings of this crop this year. The yields have been beyond expectation in practically every instance and in many cases it appears that a fair seed yields is yet to be obtained. If our central and southern Missouri farmers can count upon rye and vetch as certain winter cover crops and have crops for the next year, we have certainly great causes for rejoicing. These crops are particularly effective as cover crops and the combination, vetch and rye, makes a most excellent feed. Vetch is particularly high in protein and its growth, when it does well, is so abundant that yields frequently run over two tons to the acre. Vetch has also done exceedingly well in southeast Missouri in Scott County where Mr. Derr has been working with it. Mr. Cockefair in Greene County has also had excellent results. All in all it appears that this crop holds out no small amount of encouragement at this time.

Some Indirect Results Accomplished By the Farm Adviser

It is impossible to measure in dollars all the accomplishments of the farm advisers. Perhaps the greatest service of all is the indirect service, and this cannot be expressed in dollars or numbers. For example, it is difficult to place a value on the work with the young folks in their tomato, corn ,pig and poultry clubs; the class work in stock and grain judging, and the assistance given in the teaching of agriculture; the holding of "parents' and agricultural days" in the schools, which have tended to bring parents into closer touch with, and stimulate a keener interest in, the work of the school and the teacher. It is impossible to figure the direct returns from the holding of the movable schools of home economics in which many of the women were given their first lessons in the proper care and preparation of food, care of sick, rearing of children and the many suggestions for lightening of household and home duties. No figure will represent the inspiration received, often for the first time, at the more than 1000 meetings held and the 118,000 people reached. These instances and many more that are similar, must find their justification in the minds of the leaders and sponsors for the movement, they do not directly swell bank accounts or increase yield of corn, but they do build for a bigger, broader, and more satisfactory rural Missouri.

It will soon be time to sow wheat again and it is already time the ground was plowed. The experience of the best wheat raisers as well as the experiment stations prove that early plowing and thorough preparation of the seed bed will add from 25 to 50 per cent to the wheat yield.

THE CO-OPERATIVE CREAMERY

The scarcity of home-made butter in the markets is an indication that the people are finding a more desirable way of disposing of this commodity. And we have but to notice the increased number of cream cans handled at railroad stations and the increased number of cream separators in use, to be convinced that selling butter fat is fast becoming more popular than making and selling butter. Whether it is more profitable on an average to make and sell butter, when all the work connected with the making of good butter is considered, is an open question, even under the prevailing system of buying cream. When one sells butter fat they must know that whatever creamery manufactures it into a finished product make a profit, and some wonder how a creamery can afford to pay as much for butter fat as the grocer usually pays for finished butter. In the first place when the creamery buys your cream he pays for butter fat but the creamery's profit is in what is called the over-run or churn gain. That is, from 100 pounds of butter fat the creamery butter-maker usually gets 120 pounds of finished butter. This churn gain consists of moisture, curd, and salt. Oftentime people who have been making and selling their butter complain when selling their butter fat to creameries or cream buying stations, saying they do not get paid for as many pounds of butter fat as they have been getting pounds of butter from the same amount of cream. Where tests show an equal fat content, this, of course, is true, because the cream that is churned shows the churn gain, while that which is sold to the creamery or cream station is tested for the butter fat it contains and paid for on that basis. In many sections of the country where there are communities with sufficient cows farmers and dairymen operate their own creameries. The product of 600 cows will start a creamery on a good footing.

Usually an organization is effected and stock in the creamery is sold to those who furnish the raw material. The money received from the sale of stock goes to build and equip the creamery. Shares of stock usually sell at 50 to 100 dollars, depending on the size of the creamery wanted and the number of available patrons. When the creamery is completed the patrons, who are the owners, are paid or credited with the amount of butter fat in their cream. The butter is made, sent to market and the proceeds are prorated among those furnishing the cream less the expense of operating the creamery. These are co-operative creameries and when true loyalty exists, with good management and sufficient cows, they bring the producer the highest price for his raw material, if he is so situated that he cannot sell whole milk. It enables him to get the churn gain or over-run on the butter fat he sells and he cannot afford to make butter at home if he can patronize a co-operative creamery.

Creamery promoters have been active in Missouri to the detriment of the dairy industry. They usually drop into a place, organize a company, build and equip a creamery, selling it to the company at about double the cost of same, paying little or no attention to whether there are sufficient cows to justify a plant. In many instances creameries so promoted operate a short time and are closed down for want of patronage.

Communities that contemplate establishing a creamery should write the State Dairy Commissioner at Columbia, who will gladly visit such localities and if conditions warrant will assist in the enterprise without any cost. Beware of the creamery promoter.

E. G. Bennett,
State Dairy Commissioner.

BOOSTING FOR THE MISSOURI STATE POULTRY ASSOCIATION

The poultry industry in Missouri is growing faster than any other branch of the farm work at present, for people are beginning to realize that the revenue from poultry and eggs during the two years of dry weather has been a great help in paying the grocery and clothing bills, and in a majority of cases has also helped to increase the bank deposit.

The Missouri State Poultry Association has been able during its 23 years of active life to encourage the raising of better poultry and more of it by its annual State Poultry Show and by its influence in getting state appropriations for the experimental and educational work which is being done by the Missouri State Poultry Experiment Station.

The membership has increased during the past few years from hundreds to thousands and now hovers around the five thousand mark. By a little solicitation on the part of its members the membership can easily be doubled before our next show, which will be held at Joplin, December 7th to 11th.

The annual membership dues are only fifty cents and the year continues from time of payment, in place of having a financial year terminating on any certain date. The life membership fee is $5.

The members receive all of the bulletins issued by the Missouri State Poultry Experiment Station during the life of their membership, without having to write to Mountain Grove for each bulletin when it is ready for distribution. Non-members often miss receiving bulletins of great value through not knowing that such are available, and the information contained in any one of them is worth the price of a year's membership.

The Association also issues a year book containing the name, address and variety of poultry raised by every member, which as an advertising medium is worth several dollars.

By joining the Missouri State Poultry Association, each member helps to boost Missouri poultry interests, and in that way is helping to make conditions better. The increased profits resulting from a better understanding of feeding and housing conditions as explained by the experts at Mountain Grove has been the means of securing more conveniences in the home.

Missouri pure bred poultry is being shipped to all parts of this country and to numerous foreign countries, in competition with the best that is bred any where.

Missouri market poultry and eggs have been improved in quality and price by co-operation of members of this Association and the influence they have exerted in their communities.

If every poultry raiser could be listed among the association members, its influence would be far greater than at present and more good could be accomplished in getting better prices for both pure bred and market poultry, without increasing the cost of production.

The harvest season is a good time to renew membership or to join the association, so that everyone will be enrolled before the opening of the fall show season.

Mr. Fred Crosby, Mountain Grove, Mo., is Secretary- Treasurer, and will give prompt attention to memberships sent to him and to correspondence about any matter of personal interest regarding poultry problems.

Get a friend to join with you and send your application with money to Mr. Crosby today.

Do it now!

Fraternally yours,
(Signed) A. A. Coult,
Pres. Missouri State Poultry Assn.

Sunlight As a Germ Destroyer

Sunlight is nature's great germ destroyer. It is the cheapest disinfectant at man's disposal and should be taken advantage of at every opportunity.

"In the construction of barns or shelters for any kind of animals," says H. Preston Hoskins of the Minnesota College of Agriculture, in Extension Bulletin No. 44, "ample provision should be made for the admission of the maximum amount of sunlight. A southern exposure is desirable; that is, an arrangement by which most of the windows face south. The warmth thus provided in cold weather is desirable and much of the heat of summer can be avoided by the use of curtains or screens.

"Most disease germs are entirely killed by direct sunlight. This has been repeatedly shown by experiments."

The farmer should bear this in mind in building his barn, stable, hog house, or poultry house.

We would like to have the women write us their experiences in the use of labor-saving helps in the home.

MOSQUITO CARRIES MALARIAL FEVER

"In addition to being pests, many insects are carriers of disease," said Doctor M. P. Ravenel, professor of bacteriology and preventive medicine at the University of Missouri.

"Some insects, such as the ordinary house fly, act mechanicallly as filth carriers," continued Doctor Ravenel. "Other insects act like a syringe, mechanically drawing blood from sick persons and injecting it into other persons sick or well. This is also true for animals among which heavy losses are often due to bites of insects. Texas fever, which causes a loss to the farmers of the South and the cattle trade of at least $60,000,000 per year is carried by a tick.

"In man the most important disease conveyed by insects in Missouri is malarial fever. The germ, which belongs to the animal kingdom, is in the blood. The mosquito in biting draws the young parasites into its stomach where they undergo a stage of development which requires about twelve days. During this time they multiply enormously and finally reach the salivary gland of the mosquito. Then the bite injects the germ into the person bitten, and infection takes place.

"The breeding of the mosquito should be prevented. This insect always lays its eggs in stagnant water. These hatch and produce the well-known wigglers. Where the water cannot be drained, the surface of such pools should be covered with crude oil, which fills the breathing apparatus of the larvae and kills it by suffocation.

"In rooms where sick persons are kept all windows should be screened, or mosquito netting placed over the bed of the patient. The mosquito does not naturally harbor the disease, but must get the germs from a sick person.

"Those persons who are obliged to go into mosquito infected districts can protect themselves by the use of oils, such as the oil citronella and oil of penny-royal, which are repulsive to the mosquitos. It is also well to take quinine, if the district is known to be infected with malaria. The average dose should be five grains each day, but a physician should be consulted as to the amount to be taken."

Doctor Ravenel said malaria was very common a few years ago in Southeastern Missouri, but that it had practically disappeared where the lands have been claimed for cultivation.

"It is curious that people will do so much more for commercial purposes than they will for public health," said Doctor Ravenel.

THE WAY AS I HAVE TRAVELED IT

Not long ago a young lady said to me, "O, if I could have a nice house in the country, with running water, a furnace, electric lights, a bathtub and everything nice and convenient, I think I would like to live in the country, but to live as some do I think would not suit me."

That speech called for another, and I made reply that for twenty-one years I lived in a modest little home away out from town, on a farm. There was no running water in the house, and if we concluded we needed a bath we would go to the creek or washtub. We had no furnace, nor electric lights, but a big fireplace, and for many years the light was from the fireplace and the tallow dip, and later from the tallow candle. In addition to all these things, there were the loving, devoted parents and a big bunch of boys and a sister.

Ah, those days, could they only come again! If I could just for one night, if no more, cast aside the years and recall those fond parents and a brother from their eternal sleep, and gather together again the widely-scattered flock, just once more to surround the old fireside, in the modest but most happy home, or just once more in my little chamber have mother come again to see that I was safely tucked away for the night and as she departed to impress one more kiss from her loving lips upon my cheek!

Those were surely happy and carefree years, even though no bathtub, nor furnace, nor running water, nor electric lights helped to make the old home better.

For a few years I drifted then, often making home in some hotel or boarding house, where were sometimes bathtubs, furnaces or other conveniences, but this life in a few years grew so tiresome that I began to long for a home of my own.

I told a friend of mine how I was feeling about getting a home of my own, and she thought it a fine notion and quite the thing to do. So ere long with that same friend, the very best I have, we were located in our new home, a very modest little one with but three rooms, but no bathtub, nor running water, nor furnace, but full of the sunlight of genuine happiness. In due time the children came to add their sweet loving lives to help brighten ours and our happiness was surely complete. That little boy and that little girl were the sweet sunshine of our home for twenty-three short years, and I wish I could tell you how we loved them and could make those who do not know understand.

But now the children are gone and the old ones are alone, and you may not know how lonely we sometimes feel. It is true we live in a pretty good house now, with bath, furnace, running water and all other things modern, but the home is not what it used to be when the children were there.

Were you ever homesick—or lovesick? If not, I do not like you as much as I thought I did. I have had both troubles and the same fine girl has been the cure for both.

When I was traveling and would have to be away for a few weeks at a time I often became genuinely homesick. Now, when persons are homesick or lovesick they always want to write poetry—and some actually try it. You know how that is yourself, or I hope you do.

On an occasion when I was homesick and was to start for home the next day, I was riding that night on the train for the next town. The monotonous rumble of the train made sweet music, for it seemed that the whirling wheels were in a hurry to get me home. In a sort of "daydream" these words, "Just to kiss the sweet lips of my baby," came into my mind and I could not dismiss them.

I arrived at my hotel and retired, but could not sleep. "Just to kiss the sweet lips of my baby" made me see another picture, and I arose and wrote the following lines, which I named "The Homesick Drummer." It may not be worth while, but I shall repeat it to you as it was written.

THE HOMESICK DRUMMER

Like the wings of the wind we are hurried
Through city and hamlet and town;
With our grips and our baggage we hustle,
Meet the world with its smile or its frown.
The thousands we meet are all strangers,
Exacting their toll for each turn,
Till the heart grows weary with longing,
And for home and for loved ones we yearn.

Just to kiss the sweet lips of my baby,
Just to hear her dear prattle once more,
To hear her happy, sweet laughter,
When again I shall open the door.
To find my loved ones at the fireside,
My wife with our babes on her knee;
How sweet to end the long waiting
And watching and yearning for me!

How the heart overflows with its rapture
As loving arms round me entwine!
Our boy, my wife and our baby
Are all in the world that are mine.
You may have your gems of Golconda,
Or around the world you may roam;
You may have your granite-built mansions,
But for me, my loved ones and home.

—Sam Jordan before the Country Life Conference, reported by the State Board of Agriculture.

Softening Hard Water

There are various methods of softening hard water. If the mineral contained is only carbonate of lime, the water may be softened by boiling and letting it stand till the lime settles to the bottom. Boiling has no effect on other minerals usually found in the water and water containing them is said to be permanently hard. Probably the best alkali to use for softening water is washing soda, sodium carbonate, or sal soda, as it is sometimes called. It is best to make a solution of the washing soda by dissolving one pound of it in one quart of boiling water. This may be bottled and kept on hand to use as needed. Allow 2 tablespoons of this solution to every gallon of water to be softened. If lye is used, dissolve ¼ tablespoon in 1 cup of water and use this amount for every gallon of water. Use 1 tablespoon of borax dissolved in 1 cup of water for every gallon of water. A number of washing powders and preparations for softening water are on the market, but they are usually more expensive than the substances already mentioned, and are likely to be so strong as to injure the fibres of the garments washed with them. If washing powders are used they should never be put on the clothes dry or sprinkled carelessly into the tub. Dissolve the powder in a little water before the clothes are put in.—Babb Bell, State Board of Agriculture.

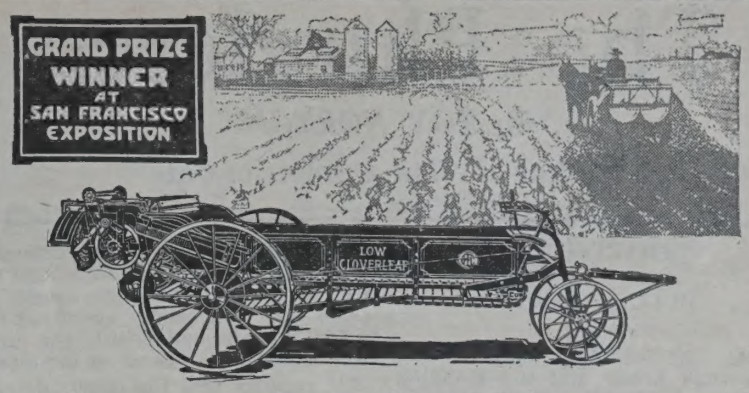
Little Talks to House Keepers

To launder embroidery, make a strong suds of a pure neutral soap and tepid water and wash the articles by rubbing and squeezing them in the hands. If the embroidery is in colors do not rub the soap directly upon it. Rinse quickly in clear tepid water, roll the article in a dry towel, and squeeze until all the water is out, then shake well and roll up in a dry towel until ready for ironing, which should be almost immediately.

One should have the ironing board ready before beginning to wash the article, so as to cause no delay. Make a thick soft pad by folding up an old blanket, and cover it with fine, smooth muslin. With a hot iron rub over this muslin cover until it is so hot that the hand can not be laid upon it; place the article to be ironed upon it, face down, and cover it with a smooth dry cloth; press with a mediumly hot iron until the article is nearly dry, then remove the cloth and the article, and once more iron over the muslin pad until it is very hot, replace the article and press until dry with a medium hot iron. Turn the article over and hold the iron close to the raised parts of the embroidery to dry it out. Keeping the muslin hot on which the embroidery rests brings out the lustre.—Annabell Turner, instructor in home economics, University of Wisconsin Extension Division.

Setting Colors in Cloth

Colors in washable clothing may be set before washing by the use of the following directions: For yellow, tan and brown fabrics, use a cup of vinegar to a pail of water. For blue, lavender and green fabrics, use an ounce of alum to a gallon of water. For blue, red pink and black fabrics, use a cup of salt to a pail of water.—Department of Home Economics, University of Nebraska.



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The Plunderer

By ROY NORTON

Author of "The Garden of Fate"

CHAPTER I

BULLY PRESBY

Plainly the rambling log structure was a road house and the stopping place for a mountain stage. It had the watering trough in front, the bundle of iron pails cluttered around the rusted iron pump, and the trampled muddy hollow created by many tired hoofs striving vigorously to drive away the flies. It was in a tiny flat beside the road, and mountains were everywhere; hard-cut relentless giants, whose stern faces portrayed a perpetual constancy. At the trough two burros, with their packs deftly lashed, thrust soft gray muzzles deep into the water, and held rigid their long gray ears, casting now and then a wise look at the young man in worn mining clothes who stood patiently beside them.

Another man, almost a giant in size, but with a litheness of movement that told of marvelous physical strength, emerged from the door of the road house, and the babel of sound that had been stilled when he entered, but a few minutes before, rose again. He crossed to the well, and smiled from half-humorous eyes at the younger man standing beside the animals, and said: "Bumped into a hornet's nest. Butted into an indignation meetin.' A Blackfoot war powpow when the trader had furnished free booze would have been a peace party put up against it."

The younger man, who had turned to pump more water, following the polite mountain custom of replenishing for what you have used, stopped with a hand on the handle, and looked at him inquiringly.

"It seems it's a bunch of fellers that's been workin' some placer ground off back here somewheres"—and he waved a tanned hand indefinitely in a wide arc—"and some man got the double hitch on 'em with the law, provin' that the ground was his'n, and the sheriff run 'em off! Now they're sore. But it seems they can't help 'emselves, so they're movin' over to some other place across the divide."

"But what has that to do with us!"

"Nothin,' except that it took me five minutes to get the barkeep' to tell me about the road. He says we've come all right this far, and this is the place where we hit the trail over the hills. Says we save a day and a half, with pack burros, by takin' the cut-off. Says it's seven or eight hours good ridin' by the road if we were on horses and in a hurry."

He paused and scanned the hills with an observant eye, while his companion resumed the pumping process. The trough again filled, the latter walked around the pails and joined him.

"Well, where does this trail start in?" he asked.

"He's goin' to show us as soon as he can get a minute's rest from that bunch in there. Said we'd have to be shown. Said unless he could get away long enough we'd have to wait till somebody he named came in, and he'd head us into it."

They led the burros across the road and into the shadow of a cliff where the morning sun, searching and fervid, did not reach, and threw themselves to the ground, resting their backs against the foot wall, and trying patiently to await the appearance of their guides. The steady, hurried clink of glass and bottle on bar, the ribald shouts and threats of the crowd that filled the road house, the occasional burst of a maudlin song, all told the condition of the ejected placer men who had stopped here on their journey.

"I don't know nothin' about the case, of course," drawled the big man lazily, "and it's none of my funeral; but it does seem as if this feller they call 'Bully' is quite some for havin' his own way."

He laughed softly as if remembering scraps of conversation he had segregated from the murmur inside, and rolled his long body over until he rested on his belly with the upper part of his torso raised on his elbows.

"It appears that the courts down at the county seat gave a decision in his favor, and that he lost about as much time gettin' action as a hornet does when he's come to a conclusion. He just shows up with the sheriff, and about twenty deputies, good and true, and says: 'Hike! The courts say it's mine. These is the sheriffs. Off you go, and don't waste no time doin' it, either!' And so they hikes and have got this far, where they lay over for the night to comfort their insides with somethin' that smelled like a cross between nitric acid, a corn farm, and sump water. And it don't seem to cheer 'em up much, either, because their talk's right ugly."

"But I thought you said they were heading for some other ground?"

"So they are, but they're takin' their time on the road. I used to be that way till the day Arizona Bill plugged me because I was slow, all through havin' stopped at a place too long. Then, says I, when I woke up a month later in the Widder Haskins' back room: 'Bill, this comes from corn and rye. Never have nothin' to do with corn juice or anything that comes from a corn field, after this; or some day,when you hand ain't quick enough, and things look kind of hazy, some quarrelsome man's going' to shoot first and you'll cash in.' And from that day to this, when I want to go on a bust, I drink a gallon of soda pop to have a rip-roarin' time."

A man lurched out of the door of the road house as if striving to find clean air, and stood leaning against one of the pole posts supporting a pole porch. Another one joined him, coarsely accusing him of being a "quitter" because he had left his drink on the bar. They were stubbornly passing words when, from down the road, these came the gritting of wheels over the pulverized stone, and the clacking of horses' hoofs, slow moving, as if being rested by a cautious driver along the ascent.

The man by the post suddenly frowned in the direction of the sound, and they whirled back to the open door.

"It's Bully!" he bellowed so loudly that his words were plainly audible to the partners lying in the shadow. "Bully's a-comin' up the road right now! Let's get him!"

There was a wild, bawling chorus of shouts that outdid anything preceding, and the door seemed to vomit men in all stages of intoxication who came heavily out with their boots stamping across the boards of the porch. They cursed, imprecated, shook their fists, and threatened, as they surged into the road and looked down it toward the approaching driver. The men in the shade got quickly to their feet, interested spectators, and the burros awoke from their drowsy somnolence, and turned inquiring, soft eyes on their owners.

Calmly driving up toward the mob in the road came a mountain buckboard drawn by two sweating horses. In the seat was a man who drove as if the reins were completely in control. He appeared to be stockily built, and his shoulders—broad, heavy, and high—had, even in that posture, the unmistakable stamp of one who is accustomed to stooping his way through drifts and tunnels. He wore a black slouch hat, which had been shaped by habitual handling to shade his eyes. His hair was white; his neck short and thick, with a suggestion of bull-like power and force. His face, as he approached to closer range, showed firm and masterful. His nose was dominant—the nose of a conqueror who overrides all obstacles. He came steadily forward, without in the least changing his attitude, or betraying anxiety, or haste. The men in the road waited, squarely across his path, and their hoarse fulminations had died away to a far more terrifying silence; yet he did not seem to heed them as his horses advanced.

"Gad! Doesn't he know who they are?" the bigger man by the rock mumbled to his partner.

"If he doesn't he has a supreme nerve," the younger man replied. "They look to me as if they mean trouble. They're in a pretty nasty temper—what with all the poison they've poured in, and all the injustice they believe they have met. Wonder who's right?"

A shout from the crowd in the roadway interrupted any further speculation. The man who had first appeared on the road-house porch threw up his hand, and roared, "Here he is! We've got him! It's the Bully!"

The shout was taken up by others until a minature forest of raised fists shook themselve threateningly at the man in the buckboard who was now within a few feet of them.

"Get a rope, somebody! Hang him!" yelled an excited voice.

"Yes, that's the goods," screamed another, heard above the turmoil. "Up with the Bully!"

Two men sprang forward, and caught the horses by their bits, and brought them to an excited, nervous stop, and the others began to surround the wagon. The man in the seat made no movement, but sat there with a hard smile on his firm lips. The partners stepped to the top of a convenient rock, where they could overlook the meeting, and watched, perturbed.

"I don't know about this," the elder said doubtfully. "Looks to me like there's too many against one ,and I ain't sure whether he deserves hangin.' What do you think?"

"Let's wait and see. Then, if they get too ugly, we'll give them a talk and try to find out," the younger man answered.

Even as he spoke, a man came runing from the door of the road house with a coil in his hand, and began to assert drunkenly: "Here it is! I've got it! A rope!"

The partners were preparing to jump forward and protest, when a most astonishing change took place. The man in the wagon suddenly stood up, stretched his hand commandingly to the men holding the horses' heads, and ordered: "Let go of my horses there, you drunken idiots! Let go of them, I say, or I'll come down there and make you! Understand?"

The men at the horses' heads wavered under that harsh, firm command, but did not release their hold. Without any further pause, the man jumped from his buckboard squarely into the road, struck the man holding the rope a sweeping side blow that toppled him over like a sprawling dummy, jerked the coil from his hands, and tore toward his horses' heads. As if each feared to bar his advance, the men of the mob made way for him, taken by surprise. He brought the coil of rope with a stinging, whistling impact into the face of the nearest man, who blinded, threw his hands upward across his eyes and reeled back. The man at the other horse's head suddenly turned and dove out of reach, but the whistling coil again fell, lashing him across his head and shoulders.

Without any appearance of haste, and as if scornful of the mob that had so recently been threatening to hang him, the man walked back to his buckboard, climbed in, and stood there on his feet with the reins in one hand, and the rope in the other. "You get away from in front of me there," he said, in his harsh, incisive voice; "I'm tired of child's play. If you don't let me alone, I'll kill a few of you. Now, clear out!"

The men around him were already backing further away, and at this threat they opened the road in such haste that one or two of them nearly ran over others.

"Say," admiringly commented the big observer on the rock, "we'd play hob helpin' him out. He don't need help, that feller don't. If I ever saw a man that could take care of himself——"

"He certainly is the one!" his companion finished the sentence.

"Who does this rope belong to?" demanded the hard-faced victor in the buckboard, looking around him.

No one appeared eager to claim proprietorship. He gave a loud, contemptuous snort, and threw the rope far over toward the road house.

"Keep it!" he called, in his cold, unemotional voice. "Some of you might want to cheat the sheriff by hanging yourselves. After this, any or all of you had better keep away from me. I might lose my temper."

He sat down in the seat with a deliberate effort to show his scorn, picked the reins up more firmly, glanced around at the rear of his buckboard to see that his parcels were safe, ignored the cowed men, and without ever looking at them started his horses forward. As they began a steady trot and passed the partners, he swept over them one keen, searching look, as if wondering whether they had been of the mob, turned back to observe their loaded burros, apparently decided they had taken no part in the affair, and bestowed on them a faint, dry smile as he settled himself into his seat. At the bend of the road he had not deigned another look on the men who had been ravening to lynch him. He drove away as carelessly as if he alone were the only human being within miles, and the partners gave a gasp of enjoyment.

"Good Lord! What a man!" exclaimed the elder, and his companion answered in an equally admiring tone: "Isn't he, though! Just look at these desperadoes, will you!"

With shuffling feet some of them were turning back toward the inviting door in which the bar-tender stood with his dirty apron knotted into a string before him. Some of the more voluble were accusing the others of not having supported them, and loudly expounding the method of attack that would have been successful. The man with red welts across his face was swearing that if he ever got a chance he would "put a rifle ball through Bully." The young man by the rock grinned and said: "That's just about as close as he would ever dare come to that fellow. Shoot him through the back at a half-mile range!"

The bartender suddenly appeared to remember the travelers, and ran across the road.

"I'm sorry, gents," he said, "that I can't do more to show you the way, but you see how it is. Go up there to that big rock that looks like a bear's head, then agle off south-east, and you'll find a trail. When you come to any crossins, don't take 'em, but keep straight on, and bimeby, about tomorrer, if you don't camp too long tonight, you'll see a peak—high it is—with a yellow mark on it, like a cross. Can't miss it. Right under it's the Croix Mine. You leave the trail to cross a draw, look down and there you are. So long!"

He turned and ran back across the road in response to brawling shouts from the men whose thirst seemed to have been renewed by their encounter with the masterful man they called "Bully," and the partners, glad to escape from such a place, headed their animals upward into the hills.

CHAPTER II

THE CROIX D'OR

It was the day after the halt at the road house. Half-obliterated by the debris of snowslide and melting torrent, the trail was hard to follow. In some places the pack burros scrambled for a footing or skated awkwardly with tiny hoofs desperately set to check their descent, to be steadied and encouraged by the booming voice, deep as a bell, of the man nearest them. Sometimes in dangerous spots where shale slides threatened to prove unstable, his lean, grim face and blue-gray eyes appeared apprehensive, and he braced his great shoulders against one of the bulging packs to assist a sweating, straining animal. After one of these perilous tracts he stopped beside the burros, pushed the stained white Stetson to the back of his head, exposing a white forehead which had been protected from the sun, and ran the sleeve of his blue-flannel shirt across his face from brow to chin to wipe away the moisture.

"Hell's got no worse roads than this!" he exclaimed. "Next time anybody talks me into takin' a cut-off over a spring trail to save a day and a half's time, him and me'll have an argument!"

Ahead, and at the moment inspecting a knot in a diamond hitch, the

other man grinned, then straightened up, and, shading his eyes from the sun with his hat, looked off into the distance. He was younger than his partner, whose hair was grizzled to a badger gray, but no less determined and self-reliant in appearance. He did not look his thirty years, while the other man looked more than his forty-eight.

"Well, Bill," he said slowly, "it seems to me if we can get through at all we've saved a day and a half. By the way, come up here."

The grizzled prospector walked up until he stood abreast, and from the little rise stared ahead.

"Isn't that it?" asked the younger man. "Over there—through the gap; just down below that spike with a snow cap." He stretched out a long, muscular arm, and his companion edged up to it and sighted along its length and over the index finger as if it were the barrel of a rifle, and stared, scowling, at the distant maze of mountain and sky that seemed upended from the green of the forests below.

"Say, I believe you're right, Dick!" he exclaimed. "I believe you are. Let's hustle along to the top of this divide, and then we'll know for sure."

They resumed their progress, to halt at the top, where there was abruptly opened below them a far-flung panorama of white and gray and purple, stretched out in prodigality from sky line to sky line.

"Well, there she is, Dick," asserted the elder man. "That yellow, cross-shaped mark up there on the side of the peak. I kept tellin' you to keep patient and we'd get there after a while."

His partner did not reply to the inconsistency of this argument, but stood looking at the landmark as if dreaming of all it represented.

"That is it, undoubtedly," he said, as if to himself. "The Croix d'Or. I suppose that's why the old Frenhcman who located the mine in the first place gave it that name—the Cross of Gold!"

"Humph! It looks to me, from what I've heard of it," growled the older prospector, "that the Double Cross would have been a heap more fittin' name for it. It's busted everybody that ever had it."

The younger man laughed softly and remonstrated: "Now, what's the use in saying that? It wasn't the Croix d'Or that broke my father——"

"But his half in it was all he had left when he died!"

"That is true, and it is true that he sunk more than a hundred thousand in it; but it was the stock-market that got him. Besides, how about Sloan, my father's old-time partner? He's not broke, by a long shot!"

"No," came the grumbling response, "he's not busted, just because he had sense enough to lay his hand down when he'd gone the limit."

"Lay his hand down? Say, Bill, you're a little twisted, aren't you? Better go back over the last month or two and think it over. We, being partners, are working up in the Coeur d'Alenes. Our prospect pinches out. We've got just seven hundred left between us on the day we bring the drills and hammers back, throw them in the corner of the cabin, and say 'We're on a dead one. What next?' Then we get the letter saying that my father, whom I haven't seen in ten years, nor heard much of, owing to certain things, is dead, and that all he left was his half of the Croix d'Or. The letter comes from whom? Sloan! And it says that although he and my father, owing to father's abominable temper, had not been intimate for a year or two, he still respected his memory, and wanted to befriend his son. Didn't he? Then he said that he had enough belief left in the Croix d'Or to back it for a hundred thousand more, if I, being a practical miner, thought well of it. Do you call that laying down a hand? Humph!"

The elder man finished rolling a cigarette, and then looked at him with twinkling, whimsical eyes, as if continuing the argument merely for the sake of debate.

"Well, if he thinks it's such a good thing, why didn't he offer to buy you out? Why didn't they work her sooner? She's been idle, and water-soaked, for three years, ain't she? As sure as your name's Dick Townsend, and mine's Bill Matthews, that old feller back East don't think you're goin' to say it's all right. He knows all about you! He knows you don't stand for no lies or crooked work, and are a fool for principle, like a bee that goes and sticks his stinger into somethin' even though he knows he's goin' to kill himself by doin' it."

"Bosh!"

"And how do you know he ain't figurin' it this way: 'Now I'll send Dick Townsend down there to look at it. He'll say it's no good. Then I'll buy him out and unload this Cross of Gold hole and plant it on some tenderfoot and get mine back!' You cain't make me believe in any of those Wall Street fellers! They all deal from the bottom of the deck and keep shoemaker's wax on their cuff buttons to steal the lone ace!"

As if giving the lie to his growling complaints and pessimism, he laughed with a bellowing cachinnation that prompted the burros, now rested, to look at him with long gray ears thrust forward curiously, and wonder at his noise.

Townsend appeared to comprehend that his partner was but half in earnest, and smiled good-humoredly.

"Well, Bill," he said, "if the mine's not full of water or bad air, so that we can't form any idea at all, we'll not be long in saying what we think of it. We ought to be there in a hour from now. Let's hike."

They began the slow, plodding gait of the packer again, finding it easier now that they were on the crest of a divide where the trail was less obstructed and firmer, and the yellow lines on the peak, their goal, came more plainly into view. The cross resolved itself into a peculiar slide of oxidized earth traversing two gullies, and the arm of the cross no longer appeared true to the perpendicular. The tall tamaracks began to segregate as the travelers dropped to a lower altitude; and pine and fir, fragrant with spring odor, seemed watching them. The trail at last took an abrupt turn away from the cross-marked mountain, and they came to another halt.

"This must be where they told us to turn off through the woods and down the slope, I think," said Townsend. "Doesn't it seem so to you, Bill?"

The old prospector frowned off toward the top of the peak now high above them, and then, with the peculiar far-sightedness of an outdoor man of the West, looked around at the horizon as if calculating the position of the mine.

"Sure," he agreed. "It can't be any use to keep on the trail now. We'd better go to the right. They said we'd come to a little draw, then from the top of a low divide we'd see the mine buildings. Come on, Jack," he ended, addressing the foremost burro, which patiently turned after him as he led the way through the trees.

They came to the draw, which proved shallow, climbed the opposite bank, and gave an exclamation of surprize.

"Holy Moses! They had some buildings and plant there, eh, Dick?"

The other, as if remembering all that was represented in the scene below, did not answer. He was thinking of the days when his father and he had been friendly, and of how that restless, grasping, conquering dreamer had built many hopes, even as he squandered many dollars, on the Croix d'Or. It was to produce millions. It was to be one of the greatest gold mines in the world. All that it required was more development. Now, it was to have a huge mill to handle vast quantities of low-grade ore; then all it needed was cheaper power, so it must have electric equipment. Again the milling results were not good, and what it demanded was the cyanide process.

And so it had been, for years that he could still remember, and always it led his father on and on, deferring or promising hope, to come, at last, to this! A great, idle plant with some of its buildings falling into decay, its roadways obliterated by the brush growth that was creeping back through the clearings as Nature reconquered her own, and its huge waste dumps losing their ugliness under the green moss.

It seemed useless to think of anything more than an occasional pay chute. Yet, as he thought of it, hope revived; for there had been pay chutes of marvelous wealth. Why, men still talked of the Bonanza Chute that yielded eighty thousand dollars in four days' blasting before it worked out! Maybe there were others, but that was what his father and Sloan had always expected, and never found!

His meditations were cut short by a shout from below. A man appeared, small in the distance, on the flat, or "yard" of what seemed to be the blacksmith shop.

"Wonder who that can be?" speculated Bill, drawing his hat rim farther over his eyes.

"I don't know," answered Townsend, puzzled. "I never heard of their having any watchmen here. But we'll soon find out."

They started down the hillside at a faster pace, the tired animals surmising, with their curiously acute instinct, that this must be the end of the journey and hastening to have it over with. As they broke through a screen of brush and came out to the edge of what had been a clearing back of a huge log bunk-house, the man who had shouted came rapidly forward to meet them. There was a certain shiftless, sullen, yet authoritative air about him as he spoke.

"What do you fellers want here?" he asked. "I s'pose you know that no one's allowed on the Cross ground, don't you?"

"We didn't know that," replied Townsend, inclined to be pacific, "but I fancy, we are different from almost any one else that would come. We represent the owners."

"Can't help that," came the blustering answer. "You'll have to hit the trail. I don't take orders from no one but Presby."

A shade of annoyance was depicted on Townsend's face as he continued to ignore the watchman's arrogance, and asked: "And please tell us, who is Presby?"

"Presby? Who's Presby? What are you handin' me? You don't know Presby?"

"I don't, or I shouldn't have asked you," Townsend answered with less patience.

"Say," drawled his companion, with a calm deliberation that would have been dreaded by those who knew him, "does it hurt you much to be civil? You were asked who this man Presby is. Do you get that?"

The watchman glared at him for a moment, but there was something in the cold eyes and firm lines of the prospector's face that caused him to hesitate before venturing any further display of officiousness.

"He's the owner of the Rattler," he answered sullenly, "and I've got orders from him that nobody, not any one, is to step a foot on this ground. If you'd 'a' come by the road, you'd 'a' seen the sign."

The partners looked at each other for an instant, and the younger man, ignoring the elder's apparent wrath, said: 'Well, I suppose the best thing we can do is to leave the burros here and go and see Presby, and get this man of his called off."

"You'll leave no burros here!" asserted the watchman, recovering his combativeness.

"Why, you fool," exploded Mathews, starting toward him with his fists clenched and anger blazing from his eyes at the watchman's obstinate stupidity, "you're talking to one of the owners of this mine! This is Mr. Townsend."

For an instant the man appeared abashed, and then grumbled acridly: "Well, I can't help it. I've got orders and ——"

"Oh, come on, Bill," interrupted the owner, stepping to the nearest burro's head. "We'll go on over to Presby, and get rid of this man of his. It won't hurt the burros to go a little farther."

He turned to the watchman, who was scowling and obdurate.

"Where can Presby and the Rattler be found?" he asked crisply.

"Around the turn down at the mouth of the canon," the watchman mumbled. "It's not more than half or three-quarters of a mile from here, but you'd better go back up the hill."

As if this last suggestion was the breaking straw, the big prospector jumped forward, and caught the man's wrist with dexterous, sinewy fingers. He gave the arm a jerk that almost took the man from his feet. His eyes were hard and sharp now, and his jaw seemed to have shut tightly.

"We'll go back up no hill, you bet on that!" he asserted belligerently. "We go by the road. We're done foolin' with you, my bucko! You go ahead and show the way and be quick about it! If you don't, you'll have trouble with me. Now git!"

He released the wrist with a shove that sent the watchman ten feet away, and cowed him to subjection. He recovered his balance, and hesitated for a minute, muttering something about "being even for that," and then, as the big, infuriated miner took a step toward him, said: "All right! Come on," and started toward a roadway that, half ruined, led off and was lost at a turn. Cursing softly and telling the burros that it was a shame they had to go farther on account of a fool, the prospector followed, and the little procession resumed its straggling march.

They passed the huge bunk-house, a mess-house, an assay office , what seemed to be the superintendent's quarters, and a dozen smaller structures, all of logs, and began an abrupt descent. The top of the canon was so high that they looked down on the roof of the big, silent stamp mill with its quarter of a mile of covered tramway stretching like a huge, weather-beaten snake to the dumps of the grizzly and breakers behind it.

The road was blasted from the side of the canon on which they were, and far below, between them and the hoisting house and the mill, ran a clear little mountain stream, undefiled for years by the silt of industry. The peak of the cross, lifting a needle point high above them, as if keeping watch over the Blue Mountains, the far-distant Idaho hills, the near-by forests of Oregon, and the puny, man-made structures at its feet, appeared to have a lofty disdain of them and the burrowings into its mammoth sides, as if all ravagers were mere parasites, mad to uncover its secrets of gold, and futile, if successful, to wreak the slightest damage on its aged heart.

(Continued in the next issue)

Interested in Tractors?

There can be little question but what the farm tractor will come into a big use on hundreds of farms from this time on. A good tractor which costs no more than five or six good work horses or mules and does the work of that many animals is a mighty good proposition because while horses and mules must be fed every day in the year, all the tractor requires is some gasoline while it is at work—and when it stops working the expense stops with it. It doesn't mind either heat or cold and pays no attention to flies. It plows your soil any depth while the engine power can be utilized in filling the silo, sawing wood, pumping water, fixing roads or hauling heavy cargoes to town.

Elsewhere in this issue will be found the advertisement of the Avery Co. of Peoria, Ill., and we would suggest to all of our readers who are interested to drop a line to this well known concern at once and ask them for complete information. They will send you a lot of literature that will give you some very interesting facts on the use of tractors on the farm—a machine which promises to revolutionize farming methods during the next ten years. When you write be sure to mention The Missouri Farmer.

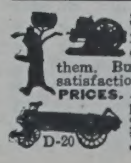
Do You Drive an Auto?

If you own an automobile you are of course interested in saving every dollar possible on tires and it will pay you to drop a line to the Firestone Tire and Rubber Co. of Akron, Ohio—wohse advertisement appears elsewhere in this issue—and have them send you a lot of information which is free for the asking and which will save you a lot of money in future tire bills. Be sure to mention The Missouri Farmer when you write.

START OUT AT $900 PER YEAR

Parcel Post makes demand greater than ever. 70 per cent insures you employment for life, rapid promotion. We offer other Civil Service Courses. Attend on credit and pay us as government pays you. Four big buildings. College band. Athletic park. Beautiful campus. Railroad fare paid. Write for catalog.

Chillicothe School of Civil Service, No. 3, McNally Street, Chillicothe, Mo.



SEPARATORS, ENGINES, SPREADERS

200,000 customers testify that my designers and factories build quality into them. Built for long, hard, continuous users' satisfaction. **HIGHEST QUALITY—LOWEST PRICES.** About 1-3 to 1-2 less than you usually pay. Don't buy till you get my catalog of these and other farm and household goods free. A postal gets it. Low freight rates.

D-20 WM GALLOWAY CO., BOX A WATERLOO, IA.

Live Stock Notes

R. P. ROYCE, Fieldman

COMING SALES

SPOTTED POLAND CHINAS

H. L. Faulkner, Jamesport, Mo., Aug. 11.
H. T. Dickerson, Jameson, Mo., Oct. 6.
Andrews Stock Farm, Lawson, Mo., Oct.14.

POLAND CHINAS

J. F. Richards & Son, Bevier, Mo., Sept. 8.
Halleck Bland, Centralia, Mo., Sept. 16.
N. R. Riggs, Lawson, Mo., Oct. 7.
Ed. Cook, Pattonsburg, Mo., Oct. 7.
L. L. Freeman, Kearney, Mo., Oct. 15.
J. B. Gurthet, Pattonsburg, Mo., Oct. 29.

Faucett, Mo., July 20, 1915.

The Missouri Farmer:

Enclosed find check to pay for advertising. Business is rather quiet just now, but The Missouri Farmer has done me more good this season than any other paper. I am with you indefinitely. My Durocs are doing splendid, and lots of summer pigs arriving.

J. E. WELLER.

Linhardt's Good Polands

Elsewhere in this paper will be noticed the new advertisement of H. O. Linhardt, Lohman, Mo., in which Poland China spring boars and gilts are offered for sale.

Here is a herd that readers of this paper should investigate before they make any contemplated purchases this fall, because it is one of the really good herds of central Missouri. Mr. Linhardt began breding big type Poland Chinas a number of years ago, in a rather modest way and gradually built up a herd that is first class in every way.

From the very beginning, extreme care and judgment has been used in selecting the boars and sows intended for service in the herd. Size and bone were kept in mind, but not to the exclusion of other desirable attributes, and no animal found a place in the herd that did not possess that degree of quality demanded by the best buyers.

At the head of the herd stands the two good boars, Governor Hadley 61884, and Giant Mammoth 68395. Governor Hadley was sired by Big Hadley 2nd, by the noted Big Hadley, and has for a dam the good sow, Black Saltana, sired by Big Bill Taft, the boar that did so much toward putting Dr. Gildow & Son's Plainview herd in the front. Giant Mammoth is one of the good young boars owned in this state. He is a boar with plenty of scale and bone, excellent lines and exceptional quality. He was sired by Expansion Chief by Panorama, and is out of Latest Style by Band Master. These two boars are the sires of the hundred or more good spring boars and gilts that are now offered for sale. The writer recently visited this herd and does not hesitate to recommend it to our readers. Prospective buyers will find Mr. Linhardt a very pleasant man to do business with and will find that his prices are extremely reasonable. Everything he offers is sold on a guarantee of satisfaction.

Besides the spring stuff mentioned there are a number of good stretchy, heavy boned, fall boars that are just right for heavy service.

In writing please bear in mind that Mr. Linhardt would appreciate being told where you saw his ad.

Snyder's Red Polls

Our readers are referred to the new advertisement of M. L. Snyder, Polo, Mo., in which a number of strong young Red Poll bulls are offered for sale. This is one of the newer herds owned in this state, but the herd was established in Iowa some sixteen years ago, and was brought to Missouri only about one year ago. The herd was established in 1899 by the purchase of the good cow Riverview Beauty 15748 and the fact that this cow is still in the herd and producing is evidence that she was a remarkably good cow.

The herd has always been handled with the idea of developing the dual purpose qualities of milk and beef. Mr. Snyder has been very careful in selecting his herd bulls and such bulls as Model 2nd 7378, Prince Lee 5788, Bumps 9036 and the noted show bull Logan 13500 by Abbotsford 4721 have played a prominent part in the development of the herd. The writer has visited this herd and has seen the young bulls that are offered for sale, several of which are sired by Logan, and believes that any of our readers who are in the market for Red Polls, will have no difficulty in finding what they want. The prices asked for these young bulls is extremely reasonable and Mr. Snyder would be very glad to have any one interested visit his herd and look over his offering.

Choice Duroc Spring Boars and Gilts

A. White, Jr. Palmyra, Mo., is offering the best lot of Duroc spring boars and gilts he has ever raised. Most of the offering is sired by Mr. White's junior champion boar, Crimson Col. I Am, one of the best bred Duroc boars owned in Missouri, and a boar that is siring the right kind. The dams of the spring stuff represent most of the very choicest Duroc blood lines, and many of them have high records as producers of show ring winners. In addition to the spring lot, Mr. White has a number of fall gilts and mature sows that he has bred for fall farrow that he is pricing worth the money. A number of these sows are bred to Select Col. II, the boar that Mr. White secured at C. C. Boyd's dispersion sale last February. Select Col. II is easily one of the top boars of the breed. He has everything discriminating breeders look for in a high class boar. We feel sure our readers will be pleased with the kind of Durocs Mr. White is producing. Mention this paper when you write.

Oakwood Poland Chinas

H. S. Williamson, Centralia, Mo., one of the pioneer breeders of Missouri, is offering a nice lot of big fall boars and gilts sired by his two well known herd boars, Success and Controller. This stuff has been handled well and at the prices asked are real bargains.

The Oakwood herd is one of the largest in this state and can at all times furnish anything from pigs to bred sows. Every one offered for sale has been given the double treatment and is sold on a guarantee of satisfaction or your money back.

Four Good Angus Bulls

J. M. Jones, Everton, Mo., has four extra good young Angus bulls large enough for service, that he is pricing down the line for a quick sale. Three of these bulls are extra good ones.

Lockridge's Giant Poland Chinas

Will G. Lockridge is offering a highly desirable lot of spring boars and gilts sired by his great young boar, The Giant —in name and in fact one of the largest boars of his age the writer knows of. Mr. Lockridge is to be congratulated upon developing such a boar as he owns in The Giant, and from now on Poland China breeders may expect great things from this herd. Now is the time to secure the blood of The Giant.

In addition to the spring stuff now offered Mr. Lockridge has selected a number of excellent A Wonder fall gilts that he has bred to The Giant for fall litters. These gilts are right in every respect and are the kind that will make the purchaser money. Write Mr. Lockridge for prices.

Chester White Boars and Gilts

For over thirty years H. Rauscher & Son, Kahoka, Mo., have maintained a high class herd of Chester Whites. A statement of this kind should receive more than passing interest from our readers who are planning to buy this fall. In the first place, Messrs. Rauscher's hogs must be the profitable kind, else they would not continue to breed them. In the second place the kind they are producing must meet with the approval of buyers, else old customers would not come back and buy new blood year after year.

The herd was never in better shape than at present and most anything from fall boars and fall gilts bred for September and October farrow, to spring pigs of either sex can be furnished in pairs or more, not related. If in the market for something good at a reasonable price just drop them a card or visit the herd. Mention The Missouri Farmer.

Last Call for Faulkner's Spotted Poland China Sale

Bear in mind that August 11th is the date of H. L. Faulkner's annual Spotted Poland China sale.

Mr. Faulkner is almost too well known to our readers to require any extended notice at our hands, but for the benefit of those who are not familiar with this herd, we will say that Mr. Faulkner is recognized as the pioneer Spotted Poland breeder of this state and that nearly

DUROC JERSEYS

Select Col. II--Crimson Col. I Am

I can furnish spring pigs, fall yearlings and tried sows. Bred the way the winner's are. Priced reasonable. Come and see my herd.

A. WHITE, JR. Box 422 PALMYRA, MO.

ADENHILL DUROCS--SPRING PIGS

Spring pigs sired by Col. Wonder II out of sows carrying as good blood as the breed affords. Get my prices before you buy.

R. L. HILL - - - - - - - - Adenhill Farm, Columbia, Missouri

CHOICE DUROC SPRING PIGS

Sired by COL. WONDER 2nd. Prize winner at Missouri State Fair 1913.

Will show again 1915 at State Fair and at the Panama Exposition, San Francisco, 1915. Others sired by Beauty's Col. and I Am Col. Enough. Dams carrying blood lines of Col. Gano, Col. Wonder, Crimson Wonder Again, Col. Chief, Beauty's Model Top, and B. & C's Col. II. The big type, big bone kind.

The purchaser satisfied or money refunded.

W. H. & GEO. E. THOMSON - - - - - - Columbia, Missouri

DUROC JERSEY SPRING BOARS AND GILTS

Large type, heavy bone, lots of quality. Ninety spring pigs ready to ship last of June. Two May yearling boars, good ones at bargain prices. I always guarantee satisfaction. A. C. BROCKMAN, Centralia, Mo., Route 2

DUROCS and SHORTHORNS

Immune bred gilts and tried sows $20 to $50; also some choice serviceable boars and spring pigs. A pair of good bulls 16 months old at reasonable prices and well bred. Will sell any of above stock worth the money. Write and tell me what you want to buy. Stock sold in 61 counties in Missouri. I believe I can please you.

J. E. WELLER, FAUCETT, MO.

15 DUROC SPRING BOARS & GILTS

We will have 15 boars and a number of open gilts which we will price to sell quick, and are booking orders now for 25 pigs, farrowed November 10th.

J. C. Garrard & Son McBaine, Mo.

Champion Col. Wonder Durocs

A few yearling boars and bred gilts. Booking orders for spring pigs either sex. Col. Wonder sires my champions—he will sire champions for you. Write or come.

CHAS. L. TAYLOR - - OLEAN, MO.

150 Duroc Boars and Gilts

February, March and April boars and gilts sired by Golden Tat, Bob's Col. Wonder, Col. Wonder and Professor's Col. Stretch, size, bone and quality. Priced for quick sale. Write or come.

J. E. McPherson, Columbia, Mo.

DUROC BOARS and BRED GILTS

I am offering a strong lot of Duroc Jersey boars and bred gilts. The big kind with quality. Bred for September and October litters.

J. C, BIGGS, - - Hume, Mo.

POLAND CHINAS

SPOTTED POLAND CHINA BOARS

The big boned, thrifty kind. We have a number of boars now ready for service. A choice lot for only $25 each f. o. b. Rocheport.

HALL & RAPP - - - - - - - Rocheport, Mo.

MEGOWN'S SPOTTED POLANDS

No matured stock for sale but booking orders for pigs to be shipped later. Have length, bone, size and big spots. Sired by two of the biggest boars in the State for their age.

B. B. MEGOWN - - - - - - - - - - - - - - New London, Missouri

Faulkner's Famous Spotted Polands

We are not the originator, but the preserver of the Old, Original, Big-Boned SPOTTED POLANDS. Spring pigs now ready to ship. Pairs or trios not akin. A few good fall boars ready for service. Write your wants.

AUGUST 11, MIDSUMMER SALE.
Ask for Catalog.
H. L. FAULKNER, Box R, Jamesport, Mo

SUPERIOR HERD BIG-TYPE POLANDS

I have at all times anything you want in strictly big-type Polands. Special prices on spring boars and gilts in pairs or more—not related. Write me your wants.

L. L. FREEMAN (Successor to Freeman & Russ) KEARNEY, MO.

The Ennis Farm PERFECTION Spotted Polands

With forty brood sows and gilts in our breeding herd and six great herd boars, we are in position to supply your wants in the Old Original Big Boned Spotted Polands. Spring pigs and bred gilts. Send for free circular and get our prices before buying elsewhere. Satisfaction guaranteed. THE ENNIS FARM, Horine Station, Mo.. (Just south of St. Louis)

Lockridge's Giant Poland Chinas

In my recent sale gilts bred to my great young boar THE GIANT 72083 averaged $57. THE GIANT is conceded to be one of the greatest boars of the breed. You will want some of his blood. Booking orders for spring pigs. Write at once.

WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

POLAND CHINAS AND SHORTHORNS

Bred sows and yearling gilts bred for May farrow. Extra good fall boars and gilts. Several choice young bulls and heifers.

Satisfaction Guaranteed
H. S. WILLIAMSON, R 6 Centralia, Mo

BAKER'S REAL BIG-TYPE POLANDS

Our winnings at the State Fair prove that we "have the goods." Spring boars and gilts of excellent breeding and individuality at very reasonable prices. Also a number of fall boars, big, stretchy fellows.

W. A. Baker & Sons, Butler, Mo.

Linhardt's Polands

Choice spring boars and gilts. Fall boars and gilts. All sired by GIANT MAMMOTH, GOVERNOR HADLEY and MAMMOTH WONDER. Satisfaction is guaranteed. Have shipped to 23 states.

H. O. LINHARDT, LOHMAN, MO.

every herd of any importance has more or less of Mr. Faulkner's breeding. The coming sale will afford an excellent opportunity for the purchase of sows bred for fall farrow, spring gilts and boars of serviceable age.

Mr. Faulkner writes that the sale offering is coming along in great shape. The bred sows are showing down heavy and the spring pigs are an exceptionally strong lot. Mr. Faulkner has made a marked success of handling the popular spotted hog. The kind he sells are the kind that make money for him, and are the kind that will make money for the purchaser. The sale will be held in Jamesport, and those who attend are assured of a royal time. Write at once for the catalog and plan to go to this good sale. Mention The Missouri Farmer.

Brockman's Big Durocs

Readers of The Missouri Farmer who are in the market for Durocs with size and quality should write A. C. Brockman, Centralia, Mo., whose advertisement will be found in this paper. Mr. Brockman has an exceptionally good herd and writes that he never had a better lot of spring boars and gilts than his present offering, and that he is in a position to furnish buyers with pairs or more of unrelated stock.

Holstein Bulls

S. W. Cooke & Sons, Maysville, Mo., are offering eight Holstein bull calves that range in age from two to eight months old. These calves are all nicely marked, have plenty of size, and are out of some of the heaviest producing cows in the Cooke herd.

Messrs. Cooke have one of the very high class herds owned in the Middle West and are breeding for high testing, long distance, heavy producers. This herd has been tested for tuberculosis for years, and has never had a reactor. If you want the good kind they have them.

Adenhill Durocs

R. L. Hill, Columbia, Mo., can supply choice Duroc spring boars and gilts at very reasonable prices.

Mr. Hill's herd is one of the best known in Missouri and many of our readers have found it to their interest to purchase breeding stock from the Adenhill herd.

Mr. Hill, who is a graduate of the College of Agriculture, is a thorough and practical hog man. He understands the essentials of the business and puts into practice the most modern methods of breeding and developing. The spring pigs that are now ready to ship are sired by Col. Wonder II, a prize winner himself, and a son of the champion Col. Wonder, and by Crimson Commander, a very promising young boar. Write Mr. Hill for prices.

Duroc Boar and Gilt Bargains

W. H. and Geo. E. Thomson, Columbia, Mo., who advertise Durocs in this paper, would be glad to hear from any of our readers who are in the market for a choice spring boar or gilt. Messrs. Thomson have built up a herd that ranks among the better herds of this state and readers who make selections from this herd may be sure of getting a square deal and good values.

Messrs. Thomson own a half interest in Col. Wonder II, a prize winning son of Col. Wonder, and counted by many to be the best son of this famous sire. The majority of the spring pigs offered are sired by this boar; other litters are by Beauty's Col, I Am Col. Enough, and Col. Wonder. The dams of the offering carry the blood of such noted sires as Col. Gano, Col. Wonder, Crimson Wonder Again, Col. Chief, Beauty's Model Top, and B. & C.'s Col II.

Thus a nice variet yof breeding is offered and young herds consisting of a boar and one or more unrelated gilts can be furnished. Messrs. Thomson have grown these pigs carefully, feding a balanced ration and plenty of good pasture. We urge our readers to write this firm for their prices.

Angus Heifers

J. D. Blackwell, Fayette, Mo., is offering 22 well bred Angus females. They are two-year-old heifers and cows with 10 suckling calves at foot. The prices asked should prove very attractive to any one interested.

Mr. Blackwell is among the oldest breeders of Angus cattle in Missouri and enjoys the confidence of all who know him.

Holsteins for Sale

M. E. Moore & Co., Cameron, Mo., are offering their whole herd or any part of it for sale. This exceptional opportunity is made possible in order to close the partnership now existing between Mrs. M. E. Moore and William Zimmerman.

The Moore herd is the oldest Holstein herd in Missouri, and for years has been bred and developed along conservative yet progressive lines. Overy eighty per cent of the breed has been given A. R. O. records.

Write for prices, mentioning this paper.

Jersey Bargains

J. B. Smith, Platte City, Mo., is advertising a choice lot of young Jersey cows and heifers for sale. Mr. Smith is one of the best known Jersey breders in the West. For years he maintained his herd at Beatrice, Nebraska, and only a little over a year ago was the herd brought to this state.

Mr. Smith believes in breeding for production as well as beauty and the young stock referred to in his advertisement combine these two points to a marked degree. At the head of the herd is, Stockwell's Champion, a grand champion bull and a sire of prize winners.

Readers of this paper will look a long time before they find better values than are offered by Mr. Smith.

V. E. Lawrence still has a number of good strong young Angus bulls for sale. These bulls are well bred, well grown and are old enough for service. Write Mr. Lawrence for prices. Mention this paper.

Porterfield Has Strong Lot of Durocs

J. A. Porterfield, the popular Duroc breeder at Jamesport, Mo., writes that he has the best lot of spring boars and gilts coming on that he has ever raised.

Mr. Porterfield is one of the leading Duroc breeders of the state and many of our readers have attended his annual February sales. At the head of the herd, and the sire of most of the spring stuff, is the great boar, Top Inventor. Top Inventor, it will be recalled, was shown last year at the State Fair, and was conceded to be the largest Duroc boar on the grounds. Assisting this boar, and represented in the spring crop, are the two younger boars, Auctioneer II by Auctioneer, out of the consistent prize winning dam, Miss Dare; and the other a prize winning son of the champion, Beauty's Model Top. This last boar was purchased after he won second place in a class of twenty-six good ones.

Mr. Porterfield will be at the State Fair this fall and extends a cordial invitation to all our readers to visit his pens.

In the meantime Mr. Porterfield would be glad to hear from any of our readers who are planning to buy Durocs this fall. When you write, kindly mention this paper.

Superior Polands

L. L. Freeman, Kearney, Mo., now controls the herd of big type Poland Chinas formerly owned by Freeman & Russ, and will be ready this fall with an exceptionally useful lot of spring boars and gilts that he plans to sell October 15. This herd takes its name from the former herd boar, Big Superior, a boar that was used with notable effect a year or two ago. At present the herd is headed by King Jumbo, by J. B. D., a son of Miller's Jumbo. The dam of King Jumbo was Big Lill, a Long John sow. This young boar is an exceptionally good kind, he has plenty of size and bone, a wide, high arched back, deep, smooth sides, and extra good hams. He has been used extensively the past year and the majority of the spring pigs are by him. Mr. Freeman writes that he never had pigs do better, and predicts that by sale time he will have one of the best lots to be sold this year. Watch this paper for further announcements.

Dickerson Will Sell Spotted Polands October 6

Homer T. Dickerson, Jameson, Mo., will hold his second annual sale of Spotted Poland Chinas Wednesday, October 6.

Mr. Dickerson is one of the younger breeders of this state, but his herd is entitled to be considered among the best. The foundation stock was carefully selected from the most popular spotted blood lines. This sale will be one of the good ones to keep in mind. We will have more to say regarding the sale offering in subsequent issues.

Hall & Rapp, Rocheport, Mo., can supply any of our readers with mighty good values in Poland Chinas—either black or spotted. Get their prices.

STATE FAIR JUDGES

The following judges have been named for this year's Missouri State Fair Live Stock Shows:

Draft and coach horses—J. G. Fuller, Madison, Wis.

Light harness horses—Victor Robison, Harrodsburg, Ky.; Walter Palmer, Ottawa, Ill., and Ben Glenn, Columbia, Mo.

Jacks and jennets—James Hamilton, Mexico, Mo.

Mules—R. R. Buckner, Mexico, Mo.

Shorthorn cattle—John E. Robbins, Horace, Ind.

Hereford cattle—William Hutcheon, Bolckow, Mo.

Aberdeen Angus and Galloway cattle—Dr. H. M. Brown, Hillsboro, O.

Dairy cattle—C. T. Graves, Liberty, Mo.

Hampshire and Berkshire hogs—W. E. Spicer, Bushnell, Ill.

Duroc-Jerseys—W. A. Williams, Marlow, Okla.

Duroc-Jersey Futurity—Prof. L. A. Weaver, Columbia, Mo.

Poland Chinas—To be named.

Chester White—J. H. Harvey, Maryville, Mo.

Fine wool sheep—E. B. Wilson, Stanberry, Mo.

Medium wool sheep—Frank Kleinheinz, Madison, Wis.

Poultry—Thomas W. Southard, Kansas City, Mo.

Vermont Guernsey Makes Notable Record

The Guernsey cow, Novice Masher 33365, A. R. 2609, bred and owned by E. R. Andrews of Putney, Vermont, has recently completed a very noteworthy record. As a two and a half year old she was put on test in 1912, and made in the following year 7813.60 pounds of milk and 392.39 pounds of butter fat. She was tested again when she freshened in May, 1914, and during the following year she produced 13,649.00 pounds of milk and 706.97 pounds of butter fat, as a three and a half year old, carrying a calf seven months. Her highest production was made in the month of December when she produced 67.19 pounds butter fat, and her lowest month's production was 54.15 pounds of butter fat, thus showing the persistency with which she completed her record

THOMAS E. DEEM
AUCTIONEER
Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased.
Dependable service at a reasonable charge. Address, Cameron, Mo.

Harry W. Graham
AUCTIONEER
PURE BRED LIVE STOCK
Seventeen years experience with America's best breeders.
Chillicothe, Missouri

W. D. ROSS
Auctioneer
Pure bred live stock. Sales made anywhere on reasonable terms. Write for dates.
Otterville Missouri

CHESTER WHITES

RAUSCHER'S CHESTER WHITES!
One of the Oldest Herds in the West
A few choice spring gilts bred for early farrow. Several richly bred big spring boars. A fine lot of fall pigs. Size, quality, and bone. Prices reasonable and every pig guaranteed.
H. Rauscher & Son, Kahoka, Mo.

Maple Grove O. I. C's
Over 100 spring pigs from 2 to 3 months old at the following prices: Choice of litter, $12; litter average, $10; fall gilts, $15. Bred gilts $20 to $25. Bred sows, $30 to $35. Prize winning blood and the most popular strains. Each individual guaranteed to give satisfaction.
F. J. GREINER, BILLINGS, MO.

100 Prize-Winning O.I.C's
Our herd is headed by grand champion and champion boars of 1914 shows. Sows of equal merit. All backed by long line of prize winners. Early pigs, singles, pairs or more not akin, at rock bottom prices. We can please you. Write or come.
S. D. & B. H. FROST,
Box H Kingston, Mo.

JERSEY CATTLE

JERSEY CATTLE
Bulls ready for service. They are sired by the Owls Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.
Wm. H. Bruns & Son, Concordia, Mo.

Jersey Cows
I want to sell 20 head of registered cows and heifers that are either fresh or soon will be. Also four young bulls.
J. B. SMITH Platte City, Mo.

HOLSTEIN CATTLE

IN MISSOURI
Eight bulls, 2 to 8 months, $100 to $175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.
S. W. COOKE & SON, MAYSVILLE, MO

HOLSTEINS
Young bulls and heifers from A. R. O. cows. Sired by Sir Korndyke Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.
M. E. Moore & Co., Cameron, Mo.

ANGUS CATTLE

Choice Aberdeen-Angus
Established 30 years. 100 head in herd. We are offering good useful Bulls, and Heifers of excellent individual merit and breeding. Prices reasonable. Our customers make them popular.
D. L. Sutherland & Sons Windsor, Mo

Aberdeen-Angus
I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.
J. D. Blackwell Fayette, Mo.

ANGUS CATTLE
HERD FOUNDED 1904
Seven early calves—3 BULLS and 4 HEIFERS, sired by Dean's Eric 139686. Every one the right kind, and priced to sell.
V. E. LAWRENCE, SALISBURY, MO.

Angus Bargains
Registered bulls and heifers. The market topping kind. Leading families represented. Priced worth the money and satisfaction guaranteed.
Also Poland China hogs.
J. M. JONES, R. F. D. 3, EVERTON, MO.

OTHER BREEDS

Shorthorn Bulls and Heifers
PEABODY FARM now offers 12 choice young bulls and 20 heifers. Good individuals; reds and roans. Priced to sell. Also 20 open BERKSHIRE gilts. Get our prices.
June K. King & Son Marshall, Mo.

GALLOWAY CATTLE
Young stock for sale at all times. Herd established 25 years.
J. & W. R. CLELLAND,
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RED POLLED CATTLE
HERD ESTABLISHED 16 YEARS
Young stock for sale at all times. Young bulls for sale sired by Logan 13500. The duel purpose kind.
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Dooley's Spotted Polands
Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pairs and trios no relation. Also registry furnished. Send check with first letter.
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MOLASSES Best Feed for Pigs and Calves
St. Louis Molasses Co., Dept. MF.,
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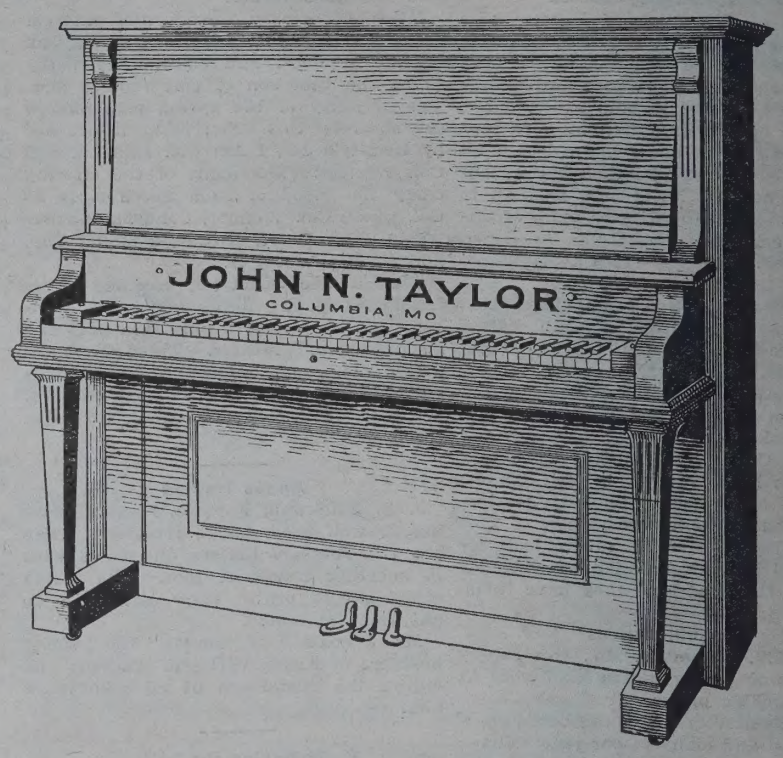
Terre Haute VETERINARY COLLEGE
U.S. ACCREDITED SCHOOL SEND FOR ILLUSTRATED CATALOG-TERRE HAUTE, IND.

A Beautiful Piano FREE

A splendid opportunity for some bright Farmer Girl in every community in Missouri to earn a handsome piano entirely through her own efforts during the next three months!

WHERE is there a normal minded girl—whether she lives in town or on the farm—who would not like to own a beautiful Piano? In these days, the ability to play upon this great instrument is a part of the average girl's education. Not only is it a beautiful ornament which graces the modern farm home—not only is it a source of great pride and pleasure to the entire family—but in the after years the social status of every young woman is more or less affected by her ability to perform, in a modest degree at least, upon this greatest and sweetest of all musical instruments. With a piano comes grace, refinement and culture—those finer sensibilities—that "polish," which means so much to every bright young woman in the after years—which make her more interesting to herself and more charming to her friends and loved ones.



Realizing that there are many bright farmer girls in whose homes THE MISSOURI FARMER is a visitor whose parents are unable to buy them a Piano at this time, we have concluded to offer the splendid instrument illustrated in the accompanying picture to **one** young lady **in every community** in the state—and when you learn the conditions under which this Piano will be awarded you will be surprised to find that it is **within easy reach** of every bright girl who will do a little real hustling to the end that every good farmer in her neighborhood becomes a reader of THE MISSOURI FARMER.

We do not ask you to engage in any "contest". We will simply award the Piano for a certain number of subscriptions and that is all there is to it—and the **first** girl who writes us from any postoffice in the state—if her letter reads as if she really **means business**—will get the **first** chance in that particular territory and no other girl will be permitted to compete with her. Should you finally fail to get the full number of subscriptions necessary to entitle you to the Piano, you will nevertheless receive a substantial commission on every subscription you send in, either new or old—**so in any case your efforts will not have been wasted!** There is, however, no reason why any bright girl who is willing to go into the fight with determination shouldn't **win** this beautiful prize—and in the meantime, when you help extend the influence of a clean and up-to-date farm paper like THE MISSOURI FARMER you will be doing fine missionary work for better farming methods.

Don't confuse the Piano we are offering with the many cheap, second rate instruments on the market. THE MISSOURI FARMER has a good name to sustain and however anxious we are for new subscriptions we couldn't afford to offer any prize which wouldn't be a credit to us in the future. This Piano is supplied to us by the John N. Taylor Music House—the most responsible concern of the kind in central Missouri and one which maintains a number of big branch houses in this section of the state. This Piano sells regularly for $350 and the personal guarantee of Mr. Taylor as well as our own goes with every instrument. It is a Piano of the purest tone and quality and embraces the highest workmanship throughout and can be had in a mahogany or any other popular finish desired. **It is a Piano of which you will be proud for many years to come and when you learn how easily you can win it you will be surprised. But there is no time to lose. If you want to get the FIRST CHANCE in your neighborhood you should write us TODAY! Tell us how old you are, whether your parents have given their consent to your making the fight and how far you live from your nearest postoffice!**

Free Trip to Panama Exposition

How would you like to earn a **free** round trip Railroad and Pullman car ticket to the great Panama Exposition? How would you like to travel across the Western prairies, through the snow capped peaks of the Rocky Mountains into the "Wonderland" of California in a "special" Pullman car filled with other young women like yourself? Wouldn't it be bushels of fun—**a trip to be remembered and treasured as long as you live?**

To those who would prefer this great trip to a Piano we offer this splendid opportunity—and again you will be surprised how easy the conditions are. So far as the Exposition itself is concerned, space forbids any attempt to describe it in this advertisement. A good sized book could be written about it, for upon all hands it is admitted to be the greatest and most beautiful exposition ever held anywhere. Neither have we the space to describe this wonderful trip across the Western plains and through the canons and towering crags of the Rockies into Sunny California—a trip where romance and rugged beauty abound upon every hand—a trip which reveals the true majesty of our wonderful Country and which should inspire every normal man and woman in the land. Already it is apparent that the attendance at this great Exposition will eclipse all similar celebrations which have gone before it. In short, judging from the thousands of inquiries which are pouring into the passenger offices of the different western railroads it looks as though mighty near "everybody and his aunt" are going to "hit the trail" for the Golden Gate this fall. We have some beautiful literature which tells you in detail all about the great Exposition and this wonderful trip through the "Empire of the Mighty West" which we shall be glad to send you upon request. If you want to win this great free trip, the sooner you roll up your sleeves and get into the fight the better. If we can make a lot of fine country girls happy and at the same time extend the influence of the paper we feel we are doing a commendable work—so you had better have us reserve your territory for you **today!**

THE MISSOURI FARMER

Columbia, Missouri

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE
MISSOURI FARMER
COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE
AND THE MISSOURI EXPERIMENTAL STATION

The Circus

As I sit at my desk the strident notes of a steam calliope come flooding in through the open window. The circus has come to town and as I listen to the harsh voice of the "steam pianner" I forget the present and in reverie I am once more a boy back on the farm up in Audrain county and once again I experience those thrills and joys of childhood which are wholly without alloy and which see no threatening cloud upon the horizon of the future. Heroes and statesmen may come and go but in those happy days way back yonder twenty-five and thirty years ago, the magic of old "Pete" Barnum's name meant more to the average country boy than all the pomp and glory that ever attended the greatest conqueror the World has ever known.

For many long, yet happy days I looked forward to the coming of the Circus and as I followed the seemingly endless corn rows and looked off into the shimmering waves of dancing heat I pictured to my mind over and over again the joys that would be mine when the "great day" finally arrived—and once more I live it all over again. Once more I tumble out of bed long before sun up to feed and curry the horses and do the chores in order that we may all get an early start—for one fine thing about a circus is that the "whole family" gets a chance to go; once more I stuff a goodly quantity of hay and a generous feed of oats into the back end of the old wagon-box and put the quilts on the old board seats upon which we "kids" are to sit while Father and Mother and the Baby ride on the spring seat up in front —and when the hurried breakfast is over and the lunch basket has been crammed full of fried chicken, light bread thickly buttered, apple pie and a lot of other stuff good to eat, we are off for the 15-mile drive just as the roosters start their usual morning serenade and the sun—God's immutable and unending smile—begins to peep from behind the crimson horizon in the East.

Once arrived at the county seat and the horses hitched to the back end of the wagon in some sequestered spot, we kids, cautioned to hold onto each others hands, took our places at some point of vantage along the street to await the coming of the parade—and after so long a time the shriek of the steam calliope told us that the great caravan had finally started on its march of triumph. I guess maybe when old Von Hindenburg and Joffre and French and the Russian Grand Duke "come marching home again" they'll scatter flowers in their paths but as for me, in those glorious days of my boyhood I would rather have been the man who proudly and serenely rode at the head of that procession of Elephants, Clowns, Camels, Tigers and Lions than to have had the combined glory and plaudits of all the gladiators and plumed knights in Christendom!

Once more I hear the weird oriental music rendered by the group of "genuine A-rabs." Once more I see the fantastic clown riding backwards on his bucking mule, throwing kisses at shy country maidens. Once more I see the lady with the big, sinuous snake coiled about her and the lion tamer sitting in solitary grandeur amid his servile companions of the jungle. Once more I stare in open-mouthed admiration at the pretty show ladies glistening as if bedecked with a million diamonds and hear the man with the fog-horn voice dwell upon the splendors of the show. Again I see the big, fine prancing horses and once more I am brought back to Earth by my Mother's anxious query about "Sister"—Sister, whose very existence I had forgotten in my excitement of watching the passing panorama.

Years have passed since then and they have had their mixture of lights and shadows. I have sat in great National political conventions and witnessed the man of the hour sway the assembled thousands as the storm sways the sea. So, too, I have seen a great audience of fashionably dressed men and bejeweled women go into raptures over the performance of the haughty stars of grand opera—but all these things are stupid and commonplace compared to the joys of a country boy when the Circus comes to town.

—By the Author of After Thoughts

GEO. B. ELLIS
MANAGING EDITOR

VOL. VII AUGUST 15, 1915 NO. 16

WILLIAM HIRTH
PUBLISHER

HIS HAT IN THE RING

I notice in your August 1st issue you have "thrown your hat in the ring" and are in the fight against large corporations controlling the products of agriculture. In my humble way I will certainly be with you in this fight, and if it should occur that at any future time there should be any assistance, be it great or small, that it is possible for me to render in this cause I shall certainly take great pleasure in doing so.

The farmer stands in a unique position. No other man on earth occupies a position in reference to marketing his products and buying his raw material and other necessities as does the farmer. No other man is so truly the producer for all mankind. No other man works as hard, lives as frugally, or gives so much of his time, substance and very life itself as the farmer. Talk about the brave boys that take up arms in defense of their country! Are they brave! Do they deserve praise or credit? Yes, they do. But how about the brave farmer who does more for the benefit and welfare of the world every year during all the years of peace than can possibly the soldier in any year during the few years of war? The farmer feeds the world. The soldier at best destroys a little. But you say, the farmer is working for himself; he makes money out of his work; he gets well paid for feeding the world. In the first place I can assure you that the average farmer does not "lay by" more in a year, above his living and necessary expenses, than would the soldier if he would save all he could (as the farmer does) out of his wages. And how about the vast hordes of people the farmer feeds? If many a farmer spent as much money in one year as does many a city man in one month he would be bankrupt before Christmas. The majority of the people whom the farmer works so hard to feed spend more money on high living, personal and selfish pleasures, dress and luxuries in 30 days than does the farmer (who produces their very living) in one year.

How the Farmer Makes His Money

It is true that many farmers have become quite well-to-do, but this has often been due to advanced valuation of his land holdings rather than to the sale of his products. It is, however, also true that some farmers have become independent from the sale of their products, but the most of these, I think you will find, have been breeders of pure bred stock of exceptional merit, and good business men, and have made their wealth by selling better breeding stock to the general farmers and not by selling their products to consumers. On the other hand, it is also true that some farmers have made money in feeding cattle and hogs, some in grain farming and selling on the market, but this has generally been due to favorable locations and unusual ability.

Every man ought to have coming to him enough money, after making proper, earnest, conscientious effort and with hard work, to keep him in his old age where hard work or want should not have to stare him in the face. Most every man has this much come to him except the farmer—the hardest working and most deserving of all. But, you say there is more poverty in the cities than in the country. That is due to the waste, extravagance and high living in the city. As before said, if the farmer lived the same way he would go broke before the next Christmas.

Now, why is this? The farmer is a manufacturer. He takes his raw material, his seed, his soil, his plows and cultivators, his horses, and he goes to work at daylight and works to a wee bit after dark. He works under greater disadvantages than does his brother, city manufacturer, for the latter has his plant covered from the elements, and is dependent only on his labor and the labor of his employes who are under his direction, but the farmer is not only dependent upon his hard efforts and those of his "hired men" but his plant is and has to be right out in the open, where not enough rain is destructive; too much is destructive, one wind destroys a month's work; a hail at the right time destroys half the season's products, and so it goes. The farmer is a manufacturer, turning his raw material into a product with which to feed the whole world, and doing so under the hardest conditions and with the hardest work. Surely this entitles him, in every just sense of the word, to get fair and honest compensation for his product after he has successfully manufactured it.

The city manufacturer and his employes work from seven or eight o'clock until five or six. They work up their raw material, working easy hours, and then they have it ready to offer to the trade. We will suppose this is a manufacturer of plain common clothing, which is probably next to food as a human necessity.

Now, what happens when these products are put onto the market. The city clothing manufacturer figures up his cost of production to a half penny, and he figures a reasonable profit in addition. Then he fixes his price and sends forth his salesmen to get the business. If they can't get the price or sell the goods he sends out another man who can. Of course he has to meet reasonable competition but that is all and he ought to be as able to do that as the other men, else he is not the right man for his line of work. If he makes better clothes he gets more money for them—anyhow, he figures his profits and sets his price.

Who Fixes the Price?

The farmer has his finished products ready to offer to the waiting millions of hungry mouths and what does he do. He does not figure the cost of production. No, it would be no use. He does not say, my price on this is so much. No, it would be of no use. He does not send out salesmen to sell his goods. No, it would be no use. He humbly goes to his nearby town and asks the dealer, who is probably an agent of a big corporation, "Well, what will you pay me for my wheat today?" The agent looks up the city paper and says, "Wheat was down 1½ cents today, been too wet down in Taney county for three days now (no wheat from Taney county but that don't matter—it was wet down there) and so the farmer takes what he is offered or if he is game enough to gamble a little himself he holds his wheat and comes back to the same man later, doesn't set the price but takes then what the man will give or holds it longer to again let the same men set the price for him. But, I presume if the price of his products are set by somebody else he then will have a right to set the price for what he buys, but he dosen't. If he goes to buy anything he must pay the other man's price, and when he sells he must accept the other man's price. If the farmer isn't between the "devil and the deep blue sea" who is?

As I said before clothing is probably the next necessity to food or we will say wheat and corn. I can pick up my paper and find out just what wheat is worth, because I can see just what the gamblers were paying for it the day before, but I can't see what they were paying for overalls or blue shirts. Why? Why do we not grade overalls and shirts the same as wheat is graded; have us a clothing exchange; go there every morning and set the price for shirts for the day and swear, go mad, act crazy, pull out our hair and some of us go out and shoot ourselves because shirts went down so much we could not cover our margins. Or, if we don't want to make such public fools of ourselves, let us quietly go about our work like somebody, some big body, who is today buying cream and produce, and let us buy up the shirts or the material from which they are made and if we get big enough we can control the price. People don't do that. Why?

If large corporations and stock exchanges did not today control the markets of all farm products and some man should come along and suggest such a thing in the columns of The Missouri Farmer every reader would think him crazy and think the editor in the same box for printing such stuff. It would not seem possible. We would say that there are too many farmers—too great difference in the quality of the product, etc. We could find a thousand reasons why it would be impossible for any man or any set of men, no matter how many, to control such a thing as the price on staple farm products in such a magnificent big country as that in which we live. But we have grown up with this condition existing all about us! We have grown up with this yoke on our necks and we wouldn't know how to act without it, and we wouldn't know how to make our own prices on our products.

We are not called upon to give a thousand reasons why it would be impossible for men to control prices of farm products because we all know they already control them, but how about being called upon to give a few ways to overthrow the great octopus? Can we do that? Many have been suggested that sounded good, but none have so far worked. The time comes in the life of a farm crop sometimes when to tear out its enemies means to destroy the crop itself, and if the present condition is allowed by the American people, the American farmers, to continue the time will come when to destroy it will mean the destruction of agriculture; that is to say, the destruction of the condition will be the destruction of your business and mine. Of course, agriculture will always exist, but one generation will have to suffer greater than from war if the conditions we are now facing are not halted in the work they are undertaking and making such magnificent headway so far.

Albert S. Ennis.

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Largest and Best Equipped School in the West. Five Teachers of railway experience. Regular Wabash R. R. wire. Students employed on 52 railroads. Many states represented. Attend on credit and pay when in position. Car fare paid. Write for catalog.

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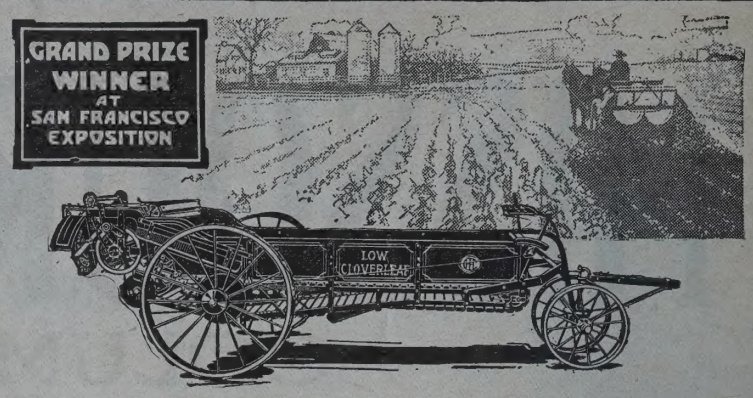

International Harvester Manure Spreaders

"MOST machines handle crops—the manure spreader produces crops." There is a lot of food for thought in that sentence. When you have crops ready, you need machines for the harvesting, but before you can have crops you must have fertile soil. Your yields depend on how well you fertilize the soil.

In the choice of a spreader—your crop producer—you cannot be too careful. Avoid all chance of going wrong by choosing an **International Harvester** spreader—**Low Corn King, Low Cloverleaf,** or **Low 20th Century.**

I H C spreaders are built from careful designs based on rigorous field tests; strength in every part makes them last for years; they can be had with an attachment spreading 8 feet wide or more; they are low for easy loading; narrow for easy handling in yard, stable and field.

If your local dealer can't show you an **I H C** spreader, write us for our booklet "Why You Should Use a Manure Spreader," and when we send it we will tell you where you can see the machine. Don't buy until you have seen an **I H C** spreader.

International Harvester Company of America
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CHICAGO USA
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TWO BAD WEEDS

A reader from Macon County, C. F. Depew, sends us two troublesome weeds and wants to know what they are and how to get rid of them. The first is the Bracted Plantain, a weed quite common in uncultivated fields, more particularly where the land is dry and rather poor. On land that can be cultivated the remedy is clean cultivation and manure. By making the land fertile the grasses and clovers will smoother it out or keep it in check at least. On rough land that is kept in permanent pasture it is a difficult problem. But we think by scattering manure over the pastures to induce a more thrifty growth of the grasses will keep it in check.

The other weed is sheep-sorrel (acetocella) a weed closely allied to sour dock. Like all other weeds this is best controlled by a rotation of crops, clean cultivation and enriching the land. Where the land shows acidity under the test liming would be helpful. For information about liming soils turn back to your files of The Missouri Farmer and read Professor Miller's articles on the use of lime.

In this suggestion let us say to our correspondent and to thousands of others situated similarly that about the best plan to rid the farm of weeds is to keep a flock of sheep. By close grazing until the blooming season of any particular weed is past most weeds can be killed out in a very few years. We know of no other way to fight weeds so successfully and at the same time to get a profit out of the work than to stock the pastures with sheep. In a certain wheat section of western Indiana back forty years ago it was quite common for wheat farmers to borrow a large flock of sheep to turn on the stubble fields after the grain was stacked. The sheep would soon clean the field of ragweed and summer grasses and leave the land in good shape for plowing. Plowing under weeds before the seed will grow is a better practice on cultivated land but on pastures nothing will beat a flock of sheep for killing out weeds.

YELLOW TREFOIL CLOVER

Our subscriber, Mr. J. H. Lipscomb, of Kansas City, sends us for identification a sample of yellow clover found growing in a lawn in the city. This is Yellow Trefoil, a small creeping clover that is sometimes mixed with alfalfa or other clovers and grasses. This clover may be known by its yellow blossom and its creeping habit of growth. We would not advise any one to sow it because our standard varieties are so much more profitable. The seed of Yellow Trefoil is used as an adulterant of alfalfa seed and the inexperienced can not detect the difference and hence in buying seeds it is a good plan to get a sample first and send to the seed testing laboratory at Columbia.

There are a number of splendid characters in "The Plunderer" which began in Aug. 1 issue—but by far the most interesting ones are "Bully" Presby and "Bill" Mathews. They are both giants and neither one knows such a thing as fear. In days gone by the mining camps of the West knew hundreds of such men and we feel sure you will follow them through this splendid story with the keenest interest.

The Missouri Farmer

VOLUME VII AUGUST 15, 1915 NUMBER 16

How to Make the Most of the Corn Crop

Geo. B. Ellis, Managing Editor

The farmers of Missouri have spent a lot of labor and other expenses in producing a corn crop this summer, and it is now about time to figure what they are going to get out of it. The corn crop represents more than one-half the value of all crops grown in Missouri and approximately one-sixth of the whole area of the state, including both improved and unimproved land, is annually cultivated in corn. There are a few farmers in the state who do not grow corn according to the United States Census, but these must be only the truck farmers near cities. Something like 241,192 farms report that corn is grown and the total acreage raised from year to year is from 7,000,000 to 7,500,000 acres. The man who grows thirty acres of corn yearly is therefore about an average corn grower.

Cost of Growing an Acre

Representatives of the Missouri Agricultural College have made investigations among farmers and they find that it costs under present conditions $13.52 to grow an acre of corn. This cost is divided as follows:

Man labor	$3.074
Horse labor	3.596
Seed	.275
Equipment	1.021
Use of land	5.164
Manure	.392
Total	$13.522

The above cost was obtained as the average from 357 acres and we think approximates very closely the cost of growing corn in any section of the state. One item, that for manure which represents the average for that expense on these farms, is entirely too low for the man who figures his cost on the basis of maintaining the fertility of his land for it will take very much more than 39 cents to replace the plant food removed from an acre by even a small crop of corn.

The department of agriculture in the August crop report estimates the corn crop of Missouri for this year at 184,000,000 bushels. Figured then upon this basis at the cost of $13.52 an acre the corn will cost the farmer when put into his crib December 1 about 55 cents a bushel. If we should allow the corn grower a reasonable profit, such a profit as any ordinary business man would expect, and then allow him pay for delivering the corn to the railroad station and the actual cost of replacing the fertility removed from the land it would take a price of at least 80 cents a bushel to make the farmer whole.

With these facts before us how are corn growers to get a profit? When manufacturers meet up with this kind of a situation they must either find a way to reduce the cost of production, to stop the leaks or wastage, or raise the selling price. Raising the selling price is out of the question for the farmer because under our present system he has little to say about what price he gets. The cost of production of corn so far as use of land, expense of labor, etc., is concerned will increase rather than decrease so it leaves only an increased yield or saving the waste open to us to remedy matters and it occurs to the writer that so far as this crop is concerned "saving the waste" should claim our attention at once.

The Great Waste We Must Save

The great waste in the corn crop is in the failure to utilize the forage to the best advantage. It has been determined by accurate experimentation that from 35 to 40 per cent of the feeding value of the whole corn crop is in the stalks, blades and husks. Thousands of farmers who have been saving the corn forage by putting it into the silo substantiate this statement and many of them are more liberal and say that they get double the value from the corn crop when they put it into the silo. Under certain conditions, I think the crop put into the silo may be worth double what the grain alone is worth and even more than double in drouth years when the relative amount of grain is light.

If these are facts then why is it that so many farmres will go along in the same old way and let 35 or 40 per cent of the feeding value of their corn crop go to waste when it could be saved by building a silo?

Several thousand silos have been built in Missouri within the last three years, a few have been in use for ten, fifteen and twenty years and so far as we know every silo properly built and filled has given satisfaction. About the only opposition we know of to the silo comes from men who have never used one or occasionally from a man who has made mistakes in building. No accurate census has ever been taken of the number of silos in this state but from estimates based on reliable data there are probably between eight thousand and ten thousand silos now in use. For every farm with a silo then there are twenty-seven or more without one.

Silage Is Canned Corn

Fifty years ago the housewives of this country knew little about the process of canning fruit and vegetables and the bill of fare was consequently limited to a very plain diet during the winter months. Today there would be thousands of people in the cities facing starvation were it not for the stock of canned meats, fruits, vegetables and milk found available in the stores. The process of siloing crops is the same in principle as the canning of fruit, and in a few years it will be as hard to find a live stock farm without its silo as it is now to find a pantry or a grocery store without its supply of canned food.

Largely because of the use of the silo the state of Wisconsin has become the leading dairy state of the Union in spite of the superior advantages of climate, variety of crops and pastures that we possess here in Missouri. More than fifty thousand silos are in use on the farms of Wisconsin, and as a result their annual commercial dairy product is four or five times what we produce. These are facts which speak more forcibly than any words of mine. The dairy department of the University of Wisconsin gives the following reasons why farmers should build silos and build them now to save the present corn crop:

The silo promises a safe place to store corn that is overtaken by frost when in the milk stage. The crop will then make a fairly good quality of silage if it is cut into the silo at once.

The silo furnishes succulent, palatable feed of uniform quality, that is always near at hand.

The silo preserves the corn crop with the minimum amount of loss, as the entire plant is made fit for food.

The silo doubles the number of dairy or beef animals that can be kept on a farm.

The silo economizes space, time, and building costs in providing storage room for the crop.

The silo equalizes the supply of feed, by carrying a surplus over, in good condition, from one year to another.

The silo can be used for ensiling clover or alfalfa during a spell of wet weather, when it would be impossible to cure it for hay.

The silo furnishes the most economical, convenient feed for supplementing short pastures during a period of drouth.

One of the great losses Missouri farmers have sustained during the last few years has been the sacrifice of live stock on account of the failure of pastures. This accounts largely for the extremely high price of calves and feeding cattle. We are informed buyers are offering in some counties from $30 to $40 a head for weaning calves but what does this matter to the thousands of farmers who sold their cows because of our recent drouth years and now have no calves for sale? The wisest thing a man can do who is raising cattle either for dairy or for beef to protect himself against short pastures and a forced sacrifice of his cattle is to build not one silo but to build two, one for winter and a smaller one for summer. If the pasturage is good and the silage is not needed at once it may be kept over for another year like canned fruit in the pantry.

J. Kelley Wright, who has traveled through every county in Missouri and gathered first hand information from farmers gives some substantial reasons for having a silo:

"When an effort is made to feed some leguminous hay along with silage it may at first seem a little expensive. This in itself will, in all probability, suggest to us that we might just as well grow our own legume hay. Not all can grow alfalfa, but most of us can grow clover. If we can not get clover to grow well, then we will try cowpeas or soy beans. And when we have begun to grow such crops as these in a good rotation on the farm their value will be seen not only in the ration but in the good they do the soil.

Silage Makes More Feed and More Manure

"Again, silage and some legume hay, when fed together with corn, makes much better quality of manure than that coming from corn, corn fodder and timothy hay. Of course, any kind of manure is better than none at all, but since none of us have enough manure to cover every field, it behooves us to improve the quality, especially if it can be done by a better and more efficient and more profitable system of feeding. Then, too, we have more manure. Silage feeders find that since they save practicaly all of the corn plant when it is made into silage they have a greater abundance of feed. The silage is palatable and animals really eat more than they do when silage does not form a part of the ration. Of course, this means more manure. Another item to be considered in connection with the quality of manure is that of concentrated feedstuffs, rich in protein. Such feeds as cottonseed meal, linseed-oil meal, bran, shorts, etc., are often spoken of as concentrates. Nearly every man who feeds silage feeds, in addition to a legume hay, some one of the feeds just mentioned. This improves the ration very greatly, and increases the value of the manure.

"Missouri farmers are rapidly meeting conditions confronting them. It is not hard for a farmer to see that when he has on his farm twice as much manure as he used to have, and that of a better quality, he needs a manure spreader. The judicious use of a manure spreader never was a detriment to any farm. Seventy-five per cent of 300 Missouri silo owners use manure spreaders, returning to the soil at least a part of what it produced.

A Protection Against Drouth

"Again, during seasons like those of 1901, 1911, and 1913, silage is indeed timely and valuable. Dry weather always cuts the grass short. Such a condition becomes serious in years like the ones mentioned. Following years like these there is always a period in the spring of the next year (it happens nearly every spring) when feed is scarce and high priced. The

man who has plenty of good silage does not worry about prices or scarcity of feed. It has happened more than once that a man, a general farmer, has fed $150 or $200 worth of silage and a little grain, bringing his stock through the winter in good shape, while his neighbor fed 25 or 30 tons of clover hay instead, worth from $16 to $18 a ton, and some grain besides to accomplish the same results."

What Kind of Silo to Build

There are several types of silos in use and all of them giving satisfaction when properly built. The kind of silo any particular farmer should build will depend largely on two things: Local conditions as to materials and the farmers finances. In localities where good sand and gravel are to be had for the hauling the concrete silo may be built about as cheap as any other form, and then it has the advantage of being permanent. In other localities where sand and gravel must be shipped in and then perhaps hauled six or eight miles from the railroad the concrete silo is an expensive structure. The hollow tile silo is also a very permanent structure but is high priced when compared with a wood or wood and plaster silo. It is not within the scope of this article to discuss the different types of silos but any farmer who is thinking of building a silo should at once write the U. S. Department of Agriculture, Washington, D. C., the College of Agriculture, Columbia, Mo., and the State Board of Agriculture also at Columbia, and request them to send their literature on silo building and on feeding silage and from the information given in these bulletins a decision as to kind of a silo to build can be intelligently made.

Do Not Build Too Large

An important matter is not to build the silo too large for the amount of stock kept. It is better to build two small silos on the average farm than to build one large one, for in this way any silage not fed out in winter can be utilized without waste the next summer. For mature cattle to be fed a liberal ration of silage supplemented with other feed, a safe allowance will be three tons for the six months winter season. This is an allowance of about 30 pounds daily for each individual. The approximate capacity of a round silo well filled with good corn is as follows:

Diameter	Height	Tons Silage
12 feet	24 feet	49
12 feet	28 feet	61
12 feet	30 feet	68
14 feet	28 feet	83
14 feet	30 feet	93
14 feet	36 feet	130
16 feet	32 feet	131
16 feet	36 feet	155

Most any field crop grown in Missouri can be made into silage but the most dependable crop of all perhaps is corn. The better the corn, that is the more grain it has, the better will the silage be that is made from it. The best time to cut corn for the silo is when it is fully mature, about the time it is ready to put into the shock. in normal seasons this will be when the grain is well dented and the shuck dry with the leaves and stalk yet green. For sorghum it has been found that the seeds should be fully ripe and hard before it goes into the silo. If cut greener than this the sorghum made silage will get too sour and lose much of its feeding value. Some farmers who have learned the value of silage and the convenience of feeding it fill the same silo two or three times. It is filled in the fall and the rest of the corn put into the shock and after the silage is fed out it is filled again from the shock corn. The only precaution necessary is to wet the dry cut fodder thoroughly when filling. The advantage gained in this is that it saves going to the field every day to haul shock corn, makes the feeding much easier and then it saves the fodder from deterioration from late winter and spring rains and in addition the silage made from the fodder is more palatable and is eaten with less waste. It is no longer a question whether a farmer can afford a silo but the question is how can he get along without it and compete with farmers who have one?

HOW TO GET RID OF HOG CHOLERA

J. W. Connaway, D. V. S., M. D., Veterinary Department, College of Agriculture and Experiment Station, University of Missouri.

[This article is a continuation of the articles in previous issues and will be continued until the whole subject of hog cholera control is thoroughly discussed. We suggest that every swine raiser who reads The Missouri Farmer should file away all these papers containing this article and they will then have the most valuable treatise on hog cholera that has been published.—Editor]

Parasites of Swine

It is a matter of common observation that herds of hogs that are badly infested with worms and lice are less resistant to cholera than herds that are kept free from such parasites. The percentage of loss from cholera is greater in wormy herds, and the serum treatment is less effective. And when such herds are vaccinated by the serum-virus method, a larger per cent of the animals contract cholera in a fatal form, than in herds that are practically free from worms.

Worms when present in considerable numbers, in the stomach, intestines or lungs produce an irritation of the mucous membranes which frequently results in local congestions or inflammations that are favorable to the passage of the hog cholera germs into the blood.

There are a dozen different kinds of worms that infest hogs. But the ones most often found, and that cause irritation and inflammatory conditions that increase the susceptibility of hogs to cholera are the following: (1) Common round worm (Ascaris suis); (2) Thorn-headed worm (Schinorhynchus gigas); (3) Lung worm (strongylus paradoxus); (4) Kidney worm (Stephanurus dentatus).

The first named worm, the common round worm, when full grown, is from 6 to 7 inches long and about 3-16 of an inch thick. But smaller specimens, of different sizes, are often found in large numbers in the same hogs. These worms are most frequently found in the small intestines, but occasionally a few crawl into the stomach, and even into the oesophagus and out of the mouth, causing violent coughing from tickling the throat. A few of these worms when quite small may also pass from the small intestine up the gall-duct and into the liver. They sometimes completely obstruct the gall-duct and prevent the bile from passing out into the small intestine, thus producing a very yellow or jaundiced condition of the skin and fat of the affected hog. This yellowness of the skin is so noticeable in white skinned hogs, that the presence of these worms in the gall-duct and liver can often be predicted before cutting into the carcass. These worms are sometimes so numerous in pigs as to cause severe digestive troubles, and even obstruction of the bowels. I recall finding over fifty worms in a 25-pound pig; and a mass of worms had obstructed the bowel at one point.

The **thorn-headed worm,** about the same size as the common round worm, also infests the small intestine; but it fastens itself to the wall of the gut, where it remains until fully matured. The head of this worm is provided with barbs or hooks pointed backward, so that when the head is thrust into the wall of the gut, the worm cannot be detached without considerable force. The irritation caused by the rough barbed head of this worm produces a small fibrous tumor, which is quite noticeable on the outer surface of the small intestine, as a white, raised lump, from a fourth to a half inch in diameter. The head of the worm is imbedded in these tumors. Sometimes a dozen of these worms will be found attached to the wall of the small intestine. Hogs thus infested are less resistant to cholera, because of the irritated bowels. When cholera atacks hogs with worm-infested bowels the signs of the disease are often found in this location, in the form of hemmorhages or an acute inflammation of the mucous membrane —or in the chronic form of ulcerations. It is therefore a wise precaution to prevent hogs from becoming infested with intestinal parasites.

The next worm mentioned is the **lung worm** (Strongylus paradoxus). This is a small thread-like worm an inch to an inch and a half in length. And is usually found in clumps of a half dozen or more in the smaller bronchial tubes, in portions of the lungs that show evidences of inflammation. On cutting through the inflamed or solid portion of lung so as to cut across the small air tubes, masses of the worms are sometimes exposed, protruding from the small bronchi. A better way is to cut along the trachea by means of a hevy pair of scissors, and follow the air tubes down into the inflamedarea. Masses of mucous and worms will be easily found, if a serious infestation exists. This lung infestation is sometimes found in apparently healthy hogs that are butchered; the animal having shown no loss of appetite nor evidences of illness, except possibly an occasional slight cough. Yet when the animal is slaughtered the lungs may show small areas of solidification as large as a hen's egg or larger. And the worms mentioned may be found in these small localized areas of bronchopneumonia. Should herds thus infested with lung-worms be exposed to cholera, or be vaccinated by the serum-virus method for protection against cholera, the already irritated lung would supply a favorable condition for the development of acute cholera with serious pneumonic complications. Hence the importance of keeping the hogs free from these lung parasites.

The **kidney worm** (Stephanurus dentatus) has never been accused of carrying cholera; but when we consider that this is a worm that bores through the tissues of the hog, and finds its way to various parts of the body, the kidney fat and sometimes into the kidney and liver, producing abscesses in these organs, it is not at all improbable that in the migrating stage of this parasitic worm it produces minute lacerations and inflammations in the intestinal walls, which are favorable to the passage of hog cholera germs into the blood. At any rate the presence of these parasites in the tissues of the hog cannot help but lower the vitality of the animal; and every precaution should be taken to prevent the pigs from becoming infested with these worms.

There are other worm that infest hogs, that are not regarded as dangerous to the health of the animal, unless present in excessive numbers. There are four and possibly five kinds of small parasitic worms that infest the stomach. Some of these lie free on the mucous surface; and probably subsist on the food contents without irritating the walls of the stomach. One, however, form small cysts in the walls of the stomach; and another is a blood sucker (Strongylus rubidus) which causes severe inflammation of the stomach walls. Fortunately this latter parasite is rare in America, and on that account has but little significance for us so far as cholera is concerned.

There are also three or four small parasitic worms that infest the intestines, but which do not appear to cause any serious irritation of the intestinal walls. Of these, I will mention the whip worm (Trichocophalus crematus) found in the large intestine and caecum. This worm is from 1½ to 1¾ inches long. But the greater part of its body is so slender that the worm is easily overlooked, when the mucous surface is examined. The head portion resembles the lash of a whip, while the posterior portion, short and thick (containing the ova) represents the handle of the whip. The head of these worms is embedded in the mucous coat of the caecum or large intestine. And the possibility exists that they may, if present in large numbers, cause sufficient irritation to produce favorable points of entry for the hog cholera infection into the blood. It is in this region that hemorrhages and chronic ulcerations often occur in cholera.

Somtimes pin worms (small white worms ½ inch long) occur in considerable numbers in the large intestine.

Trichina and tape worm cysts are so rare that their possible relation to hog cholera, as contributory causes, scarcely needs mention.

Prevention: No one believes that any lot of the worm parasites mentioned are in any way beneficial to the hogs. And their destruction is to be desired. This can be accomplished easiest by good sanitary farm management. It is better to keep the worms out of the hogs than to try to kill and expel the worm, after the hogs are badly infested. The latter task is sometimes a difficult one. Nearly all these parasites pass a part of their existence outside of the animal body, in the barn-yard manure and litter. And if these barn yards are given proper attention most of the worms and their eggs can be destroyed, so that the pigs will not become badly infested. The same disinfection that was recommended to destroy the germs of hog cholera, on the hog lots, will also destroy the worms, eggs and embryos of all these parasitic worms, when they have escaped from the body of the hog. The free use of fresh lime on the hog yards is the best worm medicine known, the hog does not have to take the dose; the worms and the eggs and embryos get it instead. The water supply should also be protected to prevent hog dung, worms, and worm eggs from washing into the ponds.

Worm remedies: Prevention of worm infestation is more desirable than treatment; and the measures recommended for hog lot sanitation will be a great aid. But occasionally internal medication will be necessary. The following remedies and measures are recommended:

(1) A mixture of equal parts of salt, sulphur or hyposulphite of soda, Glaubers' salts and copperas (iron sulphate) and a double portion of wood

charcoal is a good laxative tonic, which also has vermicidal properties. It is helpful in destroying the eggs and embryo worms in the stomach and intestines in the early stages of infestation. The mixture is relished by hogs, and it can be kept in a trough under shelter where the hogs can partake of it at will. The ingredients should be thoroughly pulverized and well mixed.

Experiments made at this Experiment Station showed that "blue stone" (copper sulphate) was more efficacious in destroying the thorn-headed worms than other drugs that were used. It can be substituted for the "copperas" in the above mixture, using half the quantity.

(2) **Turpentine** is useful as a vermicide. It can be given in tablespoonful doses to a hundred pound shoat. It should be fed in greasy slop or milk.

Turpentine is absorbed to some extent, and eliminated in part through the lungs, as well as the kidneys. It stimulates the mucous secretion of the bronchial tubes, and aids in the expulsion of the "lung worms."

(3) **Santonin** is one of the most efficient worm remedies; but is somewhat expensive. It can be given to hogs in doses of four to six grains, to the 100 pounds of live weight. It is usually combined with calomel and bicarbonate of soda; santonin 6 grains, calomel 4 grains, bicarbonate of soda, 1 drachm. By adding powdered areca nut, in 1 drachm doses, the quantity of santonin and calomel can be reduced a half.

When giving this combination the pigs should not have access to the first mixture containing salt; since calomel and salt may combine and form corrosive sublimate, which is very irritant and liable to salivate the pigs, and ulcerate their bowels.

Before giving the worm medicine, the pigs should be grouped into bunches of ten to a dozen, according to size, so that the smaller pigs will not be robbed by the larger ones of their proper portion of the medicated food. The pigs should have no food, except water, for twelve to eighteen hours, so as to empty the bowels.

The quantity of the medicine necessary for each lot of ten or twelve pigs can be calculated with sufficient accuracy, from a rough estimate of their combined weight. The medicine should be stirred into a thick slop made of shorts and water. In order to ensure its more even distribution through the slop the dry powders should first be thoroughly mixed with a handful or two of dry meal, and this can be sprinkled into the slop while it is being stirred. After feeding the slop, keep the pigs in the quarantine pen for twelve hours, or longer, so that the expelled worms will not be scattered over the hog lots. Some of the expelled worms will not be killed and may contain numerous fertile eggs. Scatter air-slacked lime over the floor of the quarantine pen to destroy the expelled worms and their eggs.

It is a good practice where coal is burned, to keep in the corner of the hog lots a pile of coal cinders. The bits of unburned coal, and the iron and other salts contained in the ashes, are better worm remedies than many of the "hog powders" which the farmers pay out money for. If a half bushel or more of crushed lime rock is added occasionally to the cinder pile, it will be helpful in strengthening the bone of the pigs and brood sows that eat of it. No coaxing is required to get the hogs to attack the cinder pile. But a little salt and shelled corn thrown upon it makes it more attractive.

Lice and Hog Cholera

In combating hog cholera, the herd that is kept free from lice, is less liable to contract the disease than a herd that is badly infested with these irritant blood suckers. The resistance of lousy pigs is greatly weakened; and the losses from cholera in such herds is usually quite heavy. The following measures of prevention and treatment are recommended:

Kerosene Emulsion is very effective in destroying lice. It is made as follows: Dissolve a half pound of hard soap in a gallon of hot water. The soap is dissolved more quickly by cutting it into thin slices. When the soap is completely dissolved, add two gallons of kerosene. The kerosene is added little by little and the mixture is stirred vigorously until a permanent creamy emulsion is formed. The mixing is made easier by churning up the fluid, by means of a hand spray pump. The emulsion thus made can be kept for a considerable time by pouring it into jugs and corking tightly. For use in killing lice on hogs this emulsion is diluted with 15 to 20 volumes of water. It is stirred or churned into the water so as to make a uniform mixture. The diluted emulsion is applied to the hogs by means of a sprinkling can, or a spray pump. The hogs that are to be treated should be put in a pen that is small enough to crowd them well together; so that the rubbing of the aniamls against one another will ensure a thorough smearing of the emulsion into the hair of every hog. The bedding places should be thoroughly sprinkled or sprayed, with the emulsion. It is a good practice to clean out and burn the hog bedding frequently.

Crude petroleum oils: The lighter oils are now finding favor with many swine breeders and feeders. It is a cheap and effective means of destroying lice. And can be applied in the same manner as the Kerosene Emulsion. The heavier oils are objectionable because they "gum up" the hair. When sprinkled over the hog beds, the crude oil not only kills the lice, but it keeps down the dust and prevents bronchial irritation, and the resulting coughs, and makes the hogs less liable to contract cholera.

Dipping tanks may also be utilized by filling them to a proper depth with water, and adding a layer of oil 3 or 4 inches deep. Where concrete hog wallows are in use, it is advisable to pour in a little oil occasionally.

The grade of oil recommended will cost from $3.50 to $4 for a 50-gallon barrel, and probably less when several barrels are purchased by farmres' clubs.

(Continued in the next issue)

TO CHECK THE HESSIAN FLY

It is not necessary to call the attention of wheat raisers to the great loss caused by Hessian flies this year for the threshing machines are telling that fact much more forcibly than anything The Missouri Farmer could say. But unless we try to get rid of the pest it may do as much or more damage to our next year's crop than it did to this one. Paul V. Maris, the county agent of Saline County, is sending out some good suggestions to the farmers of that county. He says:

1. Most important of all, plow under all wheat stubble good and deep, except that in which there is a good stand of clover. There is too much green vegetaation to permit burning. It is easier to trap the flaxseed than the living fly.

2. Follow the plow with the harrow. This will close up the open spaces from which the fly might escape and will, also cause the wheat in the ground to germinate and grow at once.

3. Remember that with these precautions some flies will escape, both from clover stubble and from fields where there is an effort made to cover them up. Therefore, keep down all volunteer wheat by frequent discing or harrowing and thus destroy the seeding place of the fly. If the volunteer wheat gets ahead of the disc, rebreak the ground by shallow plowing just ahead of wheat seeding. Above all, have the fields clean from growing wheat when seeding starts.

4. Avoid putting in wheat after wheat as far as possible.

5. Observe the fly-free date. That date is October 10 (for Saline county). There may be eggs deposited after that date, but freezing will likely destroy most of them before they become brown, winter resistant flaxseeds.

6. Urge your neighbor to observe these rules also, for without co-operation, we fail; with co-operation, fly loss can be quite largely eliminated.

WINTER DAIRYING

In many sections most of the cows freshen in the spring. The more observing and careful dairymen, however, having found that winter dairying has many advantages, are breeding their cows to drop the calves in the fall. The following are some of the advantages of winter dairying:

First, higher prices are obtained for milk and cream. As the usual season for cows to freshen is the spring, milk has always been plentiful during the early summer and scarce and higher during the winter.

Second, milk and cream can be handled in cold weather with less danger of souring, so there is little loss on account of milk returned from the creamery.

Third, the amount of labor on the farm is better distributed throughout the year. If the cows freshen in the spring, they are in full flow of milk and need the best care when work in the fields is more pressing. On the other hand, if the cows calve in the fall and are milked during the winter, the farmer can give them close attention, has more time to study the problem of feeding, and can give his men employment all the year and in that way get better help.

Fourth, the lactation period is lengthened and the amount of milk given during the year increased. Cows that freshen in the spring milk heavily while grass is good, but as the pastures dry up the flow of milk falls off and with the approach of winter the cows are nearly dry. If they freshen in the fall, they should at once be started on a good winter ration, and when they have been milked six months it is time to turn them to pasture and for a time the flow of milk will be nearly as great as that from fresh cows. Recent investigations by experiment stations verify this observation.

Fifth, fall calves can be raised better than those born in the spring. Young calves should be fed on milk for several months, after which they must be weaned and fed on solid food. If they are born in the spring, they will be tormented by flies all summer, they may be neglected because of the farm work, and when it is time to wean them they must be put on a dry winter ration. Fall calves come at a time when the dairyman can give them the closest attention, and when weaned they can be put on grass at an age when an easily digested and nutritious food is most needed.

As more milk can be produced, higher prices obtained, the labor more evenly distributed throughout the year, and better calves raised, winter dairying offers the best returns to producers.—Weekly News-Letter.

Worth Investigating

Elsewhere you will find the advertisement of the Kramer Rotary Harrow manufactured at Morton, Ill., and we suggest that every farmer who reads this drop a postal card to the company and ask for their descriptive literature. This is a new idea in seed bed preparation. It helps to prevent the escape of soil moisture and does away with clods. It is worth a postal card to investigate. When you write mention The Missouri Farmer.

Which is the Best Silo?

Mr. Harry Pugh, manager of the Beatrice Creamery Company, Topeka, Kansas, took a silo "census" of his state. In an article in the "Farmers' Mail and Breeze" of March 14, 1914, he said of it:

"I have taken considerable trouble to find out the actual number of silos in Kansas. After making all the inquiries through reliable sources that it was possible to make, I found that the following figures are fairly accurate:

"4,700 wood stave silos; 400 wood 2x4, known as Common Sense; 50 built of floorings; 5 Buff Jersey type; 160 monolithic concrete; 125 metal lath; 100 cement-stave; 20 hollow tile; 100 galvanized iron; 40 pit, or hole-in-the ground, and 15 brick."

Of a total of 5,715 silos in the State of Kansas, 5,155 were wood!

Kansas has given all types of silos a thorough try-out, and has determined which is best. Kansas farmers are prosperous, and can afford to buy the best.

Of every ten silos Kansas farmers have bought, NINE ARE WOOD!

And it's the same way with a granary.

Everybody knows grain keeps best in a wood container. You can build a Southern Yellow Pine storage bin or granary for 4 cents a bushel capacity. In these days of soaring wheat prices, how long will you have to hold your grain to make a profit on the building investment?

Investigate! Fill out the attached coupon and mail—our publications are FREE. We have nothing to sell to you.

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Name.....
Town.....
R. F. D.....State.....

"JUST A LETTER"

A fellow ought never to get it into his little head that he is the only guy really worth while, and that where he lives is the only place that is really fit to live. This country is so tremendously big, and I can say from what little I have seen of it, that there really are a big lot of fine folks in it and a lot of good places to live.

As I am writing this, August 2, 1915, I am in the fine cool writing room at the Claypool Hotel in Indianapolis, Ind. It was pretty hot out on the street "rubbering" the passers by, so I bought me a tablet to write upon and am busy, maybe doing no more good than looking at the pretty girls "as they pass by" and that perhaps does no good any way for "None of the girls loves a fat man." So what's the use?

I left Sedalia on the 26th for Charleston, Ill. Filled date on the 27th and took night train for Cincinnati where I arrived on time. At 1:40 p. m. took interurban for Georgetown, O., to visit my old time friend, C. D. Lyon. Spent two days with him and how we did jabber and eat. I have always had a "weakness" for good country cured ham, and C. D. knew it, and ham found its way to the table for most every meal.

I found him feeling fine and saw good crops on most every spot on his farm. It was interesting to know that while his farm has been in cultivation for over one hundred years, there is no "worn out land" on it. Yet the hills are so steep that I would not know how to go about it to farm them. That part of the county "sure stands on edge." His system has and is producing gratifying results. I was sorry I did not have my camera to take some pictures of the tobacco covered hills. His home is in view of the "blue hills of Kentucky."

After this most enjoyable visit I went back to Cincinnati, where I remained till the next morning when I headed for Wilmington, Ohio, to fill a date on the 31st. Found a great audience at that place, but when I had talked 45 minutes a storm came up that made more noise and bluster than I could make. So for 20 minutes we let the storm occupy the entire "platform." When it was done I resumed my speech and then the "question box" took considerable time. Found a dandy good bunch at Wilmington. Met a former acquaintance there that I got well acquainted with at the National Corn Show at Omaha.

"I START YOU AT $900.00 PER YEAR (Uncle Sam)

That is what the U. S. Government pays its Railway Mail Clerks at the start while promotion is rapid. You have pleasant work and a position for life.

ATTEND ON CREDIT

We pay railroad fare and allow you to pay us our tuition as the government pays you.

No high school work necessary, just an ordinary education together with the special training that we give you.

Write for free catalog.

CHILLICOTHE SCHOOL OF CIVIL SERVICE

63 McNally St., Chillicothe, Mo.

I took auto from W. at 5 p. m. for Xenia, about 10 or 12 miles away, and the price was 25 cents. How could it be done? Rock roads of course. Left Xenia about 6 p. m for Dayton on interurban. Stayed the night in Dayton and at 9 a. m. took interurban to Richmond, Ind. Left that town at 3:40 for Indianapolis where I arrived at 6 p. m. Sunday I will go to Shelbyville, Ill., for my next date and will take interurban out of here and go on that as far as Paris, Ill.

I have not seen much but rock roads for wagons and autos. Electric lines everywhere, on which the people can "come and go" most any old time.

Do you think you live in the only place worth while even though that place is Missouri? Good as it is, it would be a lot better if we had more rock roads and more electric lines, especially, reaching into those thousands of places that have no facilities for marketing what they might grow.

Crops most all along are good, and when one sees all I have seen in Ohio and Indiana it makes me think that these two states are just as good as can be found.

Just awhile ago I was on the street killing time and concluded to hunt up the secretary of the state bankers association. I remembered that his name is Smith but could not recall "which Smith." So I stepped into the Indiana National Bank and passed along a row of bank officials or clerks till I came to the last one. I stepped up to him and asked the name of the secretary of the state bankers association. He put out his hand and said "His name is Andrew J. Smith, Mr. Jordan, how are you?"

You see I attended their state association meeting two years ago and he remembered me.

I had a fine little visit until some persons came to him to attend to some business matters, when I took my leave, and came back to the hotel to drop these lines to The Missouri Farmer folks to whom I hope I can write more often than I have been able to do in the past three years.

S. M. Jordan.

CORN IS KING

Corn is King of all the crops. Over 20% of all the improved farm land in the United States is annually devoted to the growing of corn. In 1914, 105,000,000 acres were planted to corn in this country, producing 2,700,000,000 bushels which brought the growers $1,900,000,000. For nearly 50 years the land planted to corn has been equal if not greater than the acreage of all other cereal crops combined.

Corn is the universal crop. In 1914 the world's crop amounted to more than 3½ billion bushels, grown on 170 million acres of land. United States produced two-thirds of this tremendous crop. In 1868, 49 years ago, corn brought the American farmers $411,000,000, and for 49 years since, corn has steadily increased in acreage and value, never once falling below this figure.

The annual corn crop exceeds cotton by nearly a billion dollars. In 1913 the cotton crop brought $800,000,000; hay $797,000,000; wheat $610,000,000; oats $440,000,000.

Wherever corn is grown there you find rich prosperous communities. Corn is grown in every section of the United States. It was but a few years ago that we thought Northern Iowa was too far north to produce profitable crops of corn, but South Dakota is now numbered among the corn growing states with an annual yield of 75 million bushels. In 1913, Canada produced 17 million bushels.

Notwithstanding the immense amount of corn produced in this country, we imported in 1913, 5 million bushels from Argentina, South America.

In Argentina corn culture has in recent years made great strides. From 3 million acres in 1900, the planting has been rapidly extended and a recent estimate made by the Argentine Department of Agriculture puts the land seeded for the crop maturing in the spring of 1914 at 10,250,000 acres.

Corn culture in Europe is largely centralized in a group of countries comprising Austria, Hungary, Roumania, Servia, Bulgaria, and in the southern governments of Russia. In this territory upwards of 20,000,000 acres are planted annually and the normal yield is approximately 500 million bushels. Over a million acres are devoted to growing this crop in the Philippines and upwards of 130,000 acres in Japan. We begin to realize what a great crop is corn when we learn that in 1914 the corn crop in the United States would build seven Panama Canals. The Panama Canal cost approximately $300,000,000 and is the greatest engineering feat of the age. The attention of the world has been attracted by its greatness, yet every year the farmers are growing 1¾ billion dollar crop and we hardly give it a second thought.

The feeding of the corn crop is another important matter. There are about 100,000,000 people and over 200,000,000 farm animals in the United States, including cattle, horses, mules, sheep and swine that eat corn in some form every day in the year. Corn furnishes a great variety of feed and food for man and animal. Take away wheat, barley, rice, and oats, and corn will completely substitute them all, supplying our needs with meal, hominy, syrup, starch, corn sugar, oil, alcohol and 150 other preparations.

For centuries our domestic plants have been bred for certain purposes and as a consequence certain parts of the plant are abnormally developed. The selection, in the case of corn, has been to secure more grain, not a greater per cent of stalk. The result is that an ear of corn weighs as much as the stalk under ordinary conditions. When a highly bred plant is subjected to unfavorable or even to normal conditions, the first thing to suffer is that quality which has been most abnormally developed. In the case of corn, if the care is poor we may obtain two-thirds of a crop of stalks, but less than one-half—possibly but one-third of a crop of grain.

Corn requires much greater care to prevent deterioration than most other crops since it is a comparatively new crop, as we know it today, and it's characteristics have not been so thoroughly fixed through centuries of breeding, as have those of many grains, but for the same reason it is also much more susceptible to improvement by proper treatment.

By intelligent selection and breeding, corn has been improved in the past few years far beyond our greatest expectations. Corn is yet in the plastic stage of its development and for that reason, it adapts itself readily to new conditions, responds quickly to good treatment and gives better returns for the efforts put into it than any other crop that grows.

Upon the great fundamental law that "Like produces like," rests all human progress. That "poor seed" means a "poor crop" no one will question, but it is not so fully recognized that unless great pains be taken to plant only the best seed, the crop will gradually deteriorate, or "run out," as we often say.

Corn has been taught, talked, preached, printed, painted, demonstrated and advertised in every agricultural country of the world. Thousands are teaching it today. Hundreds of corn demonstration trains have penetrated every section of the country in the past 15 years. There are corn demonstration farms everywhere. Thousands of corn clubs have been organized, and are now at work. There are corn shows, corn picnics, corn growing contests, and corn schools but still with all of the work done by our educational institutions, bankers, manufacturers and farmers for the improvement of corn, the average per acre yield in the United States is less than 26 bushels—not half a crop.

Poor seed is the greatest cause of the poor yield of corn. Just one small 8 oz. ear of corn added to each hill will raise the average in the United States to 52 bushels per acre, double the yield and value of the crop and add about $1,700,000,000 to its total value.

To summarize:

1st. Corn from a standpoint of acreage yield and value exceeds every other crop.

2nd. Wherever corn is grown, there you find high priced land and prosperous people.

3rd. No other crop can replace corn, but corn can readily take the place of any other grain crop.

4th. Corn is put to a greater number of uses than any other crop that grows.

5th. There are greater possibilities for improvement, yield and quality of corn than any other crop.

The most important needs for a greater yield and better quality of corn are:

1st. Better care and testing of the seed.

2nd. Campaigns of education for home consumption of home grown corn. Better methods of cultivation. Organization of Boy's Corn Clubs, etc.

[Extract from address to be delivered at the Universal Corn Convention and Exposition under the auspices of the Top Notch Farmer's Club, Panama Exposition, by Professor P. G. Holden, of the International Harvester Company.]

PRACTICAL FARM PAPERS

My only excuse for my long absence from your columns is the statement that I have had too much work on the farm to permit much writing.

Sam Jordan was with us three days last week, and to say that we enjoyed every minute of the time is to put it mildly.

Sam compliments our farming by saying that it surprises him to find lands which are rolling and some pretty steep, producing first class crops, after having been cultivated over 100 years. He says that our crops are as good as he has seen anywhere, and as free of weeds, but owing to the very wet July, we have more weeds than usual. It has been one eternal fight with weeds since June 15, and while they have not greatly damaged crops, they have lessened yields in some places.

June 2 I planted five rows, each 65 feet long, to the new crop Sudan grass, and today, August 6, Professor Hugh B. Gordon, of the Texas Agricultural College, photographed the plat, which averages nearly eight feet high, with some plants measuring over nine feet. The five rows are 26 inches apart and

the seeds were drilled about ten to the foot, but the plants stooled out until the plat is nearly solid. I am inclined to think that this grass will be grown in place of millet and the sorghums to a great extent, as it may be cut for hay fifty days after seeding, making a second crop in forty days. A small plat sown broadcast, late in June, will be cut next week, it now being four feet high.

Wheat was the poorest crop in years owing to the dry April and May, followed by wet, but some damage was done by Hessian fly. When Geo. B. Ellis had me as his hired hand at institute work, I tried to impress the fact upon Missouri farmers that they were sowing their wheat too early, and that some time the fly would damage them severely, and Mr. Jordan tells me that they had the damage this year. We cannot safely sow wheat until October 1, and I think the same date is right for Missouri. Of course the extreme northern part of the state will allow earlier seeding, and the southern part later seeding, but for the central section October 1 is about right.

The mail informs us that Doctor D. F. Luckey will spend a night with us next week, when he speaks on tuberculosis at our Chautauqua. Jordan's visit was between two Chautauqua dates, so our plain old farm home is honored by reason of the meetings near us.

There is a boom in Grange work here and the deputy phones me that we will re-establish a Grange a mile and a half from my home. I have been a member since 1874, but have not been at a meeting in six years.

We have the most wonderful garden and truck patch in years, everything more aboundant than in years and our corn and tobacco promises an enormous yield. I never saw as large a crop of early potatoes, and only once before do I remember of having sweet potatoes, Jersey yellow, large enough to use the first week in August.

Georgetown, O. C. D. Lyon.

OLEO INVESTIGATION

Twenty-seven million dollars in stamp and special taxes is the grand total which has just been discovered by the commissioner of internal revenue to be due the government. When in 1902 the law putting a tax of 10c on each pound of colored margarine was passed, the oleo manufacturers and oleo dealers raised a big cry about being forced out of business. That this has not been the case is proven by the finding of the department of internal revenues which has just submitted its report to Secretary of Treasury McAdoo. A good part of 200,000,000 pounds of oleomargarine was sold to dealers as uncolored oleo and colored by them and sold to the consumers as butter. The usual method employed in evading the stamp tax is to buy some six or eight tubs of oleo, paying the tax of $10 per 100 pounds, but taking great care not to let the tubs become emptied, as under the law the stamps on these butter tubs are not to be cancelled until the vats are emptied completely. The dealers have made it a practice to allow their tubs to become empty within only a pound or two, at which time they would refill their vats with oleo colored with vegetable oil in a back room of their establishment. Thus they sold the untaxed product for the same price as either the taxed or more often real butter. Where the government was to have received 10c per pound, it only received ¼c, and thus in the 13 years of this law lost according to the report the immense total of $27,000,000. In many cases the manufacturers themselves would color the margarine with palm oil, and by various routes ship it from the factory, running the gauntlet of United States revenue inspectors. How they could do this successfully for so many years is a matter of opinion, but it is certain that they have been closely watched during the last two years by Commissioner Osborne.

During 1914 and 1915 the total revenues amounted to $3,041,000, while in the 11 years before they amounted to only $9,628,665. This shows that more than 24 per cent of the total collection of oleomargarine taxes from 1902 to 1915 was received during the last few years. Of the $27,000,000 due the government, only $4,650,000 was within the assessable period of two years fixed by the statutes, the remaining taxes all unassessable and recoverable only by suit. All the stamp taxes during these two years have been assessed and since last June a total of $751,000 has been collected. Besides these recoveries numerous violations of oleomargarine and butter laws involving special and stamp taxes were discovered and collections amounting to $100,000 have been made on these. This brings the total of collections, thus far made, up to $851,000. The recoveries represent the results of seizures of plants, assessments of evaded taxes and negotiations between the commissioner and the defendants to settle their civil liability.

Of the more flagrant violations are the following: One manufacturer was assessed $32,000 special and stamp taxes on account of the manufacture and sale of oleomargarine colored with tumeric which has already been paid. In this case the manufacturer seemed ignorant of the fact that the oils used contained tumric and was excused from the criminal proceedings. One company, whose president, treasurer and secretary are under indictment on charges of oleomargarine fraud and whose plant was seized, has been assessed $916,523 for evaded taxes. Another concern, whose president, secretary and treasurer likewise had been indicted and whose plant was seized, has been assessed $193,413. In St. Louis 34 persons were convicted, 27 being given prison terms ranging from one month to three years and find a total of $138,000. Another company, whose president and treasurer pleaded guilty and were sentenced to one year and one day in the penitentiary and to pay a fine of $1,000 each, and whose plant was seized, has been assessed $612,391. It is believed that from one manufacturer the total collection will ultimately reach $1,500,000.

Many creamerymen share the belief of the government that this investigation has checked the extensive fraudulent practices, and it is the determination of the treasury officials to bring every law breaker to justice. The law was made to protect the public, the farmer, and the honest oleomargarine manufacturer, and the department will do its utmost in carrying out the intentions of the authors. It has always been the belief of creamerymen that corrupt practices were being followed by many of the margarine manufacturers, but this investigation has proven a surprise because of the comprehensive and far-reaching results which have been obtained. It simply goes to prove that any law can be enforced when the officials are so minded.

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STRAW AND MANURE

We are just beginning to realize the value of stable manure. While the market gardener has for years depended upon it for success, the general farmer is just beginning to see its value, and to give it a place in his farming scheme. With its more general use is also coming more care in saving it, without a loss of the ingredients.

The liquid portion of manure constitutes an important part of it. It may be of interest to note that over half the nitrogen and nearly half of the potash produced by horses is in the liquid excrement. Over half the nitrogen from cows is found in the liquid while there is five times as much potash in the liquid as in the solid excrement. Liquid manure from the pig contains one-fifth of the nitrogen and one-third of the potash. Sheep liquid manure contains one-half the nitrogent and two-thirds of the potash. In general it may be said that the liquid manure is as valuable as the solids when we think of the total plant food, but when we consider the availability, we find that that found in the liquid is immediately available, while that in the solid becomes so only slowly. While the nutrients in the liquid are easily available they are very easily lost, and that is one of the big problems we run against in conserving the manure while it is accumulating.

How can we best save it? The first thing to do is to see that the floor of the stable is water tight. Quit using dirt floors. Then catch the liquid. This can be best done by use of an absorbent. Fortunately we have at hand a cheap and an efficient absorbent. We want to keep the animals clean and this absorbent is ideal for that purpose also. I refer, of course, to straw. Straw will absorb several times its own weight. In addition to this, it contains valuable fertilizing elements in itself. It contains one-third of the nitrogen, one-fourth of the phosphorus, and three-fourth of the potassium of the wheat crop. With the combination, then, we are returning a considerable amount of fertility to the soil. Certainly there is no profit in burning our straw stacks. That is a practice of fifty years ago, and has no place on the modern farm. It is worth figuring pretty closely whether it is even wise to bale and sell the straw, or sell it to a more progressive neighbor to use as fertilizer on the farm across the road.

Geo. W. Graves,
Idaho Experiment Station.

If the wheat ground is not already in shape it should be put in condition at once. It is a fact know to our best wheat raisers that land plowed in July or first half of August and thoroughly worked down will produce more wheat than land plowed later.

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SAVING LABOR

Cutting expenses is one way of increasing profits that should not be overlooked in these days of high priced land and big wages. One way to cut expenses with a part of the corn crop is to let the hogs do the harvesting. Hogging down corn is a practice that is on the increase but is not yet used as generally as its advantages warrant. The Iowa station has found by a number of trials that as good results are produced by hogging down corn as can be obtained by gathering the crop and feeding it out and in addition to the equally good results there are several decided advatages. In the first place the labor of gathering the corn, putting it in the crib and then feeding it out of the crib is all saved by letting the hogs gather the corn and feed themselves. The next important gain is in the distribution of the manure which is evenly spread over the land when the corn is fed off in this way but which is usually allowed to waste where the hogs are fed in a dry lot. On many farms where the manure from the horse barns and cattle sheds is saved with some care, the manure from the hog lots is allowed to go to waste without any effort to save it and if this loss could be saved it would add several million dollars to the income of our farms every year.

The Iowa station finds that the corn is harvested without waste, even more closely than the average husker will gather it. The hogs help to clean up the land of bad weeds and grasses by eating some of them and destroying others. The hogs are healthier feeding in the clean fields than when confined to lots infested with all kinds of swine parasites and the exercise they get in gathering their own corn develops good frames which can be finished off with a few weeks feeding in a close pen.

Instead of feeding costly supplements for corn as we must do when the hogs are in a dry lot we can utilize green crops such as rye, rape, soybeans, etc., planted right with the corn or in nearby fields. Where the field is cleared up early enough it can be fall-plowed and the green stalks when turned under will rot quickly and the land will be in the very finest condition for a crop the next spring. We believe if hog and corn raisers will try this method on a part of the corn crop they will find it a good practice.

THE CROP OUTLOOK

While there has been heavy loss in many places from excessive rains this season and upon individual farmers here and there this loss will be heavy if we take the corn situation as a whole the prospect is better than an average. With reasonably good prices prevailing the farmers will be in a better position to take up needed improvements of the farm than they have been for several years.

The August report of the U. S. Department of Agriculture shows that the average condition of all crops for this year is nearly four per cent better than the average condition for the last ten years. Of the leading crops the report gives corn a condition of nine per cent above the average, wheat eight and a half better, oats nearly twenty-three better and hay six and a half per cent above the average. The only crop of importance showing a production under the ten-year average is cotton, which is put down at seventy-three and eight-tenths of an average crop. Iowa and Missouri are among the few states showing a condition under the average but the loss in Missouri is only about two per cent and when we take into consideration that forage crops and pasturage are so abundant this year that grain feeding can be reduced to a minimum it will place the farmers of this state in a much better position than they have been for several years.

We have been asked for an opinion as to whether farmers should sow a large wheat acreage this fall but that is a matter affected by other things than the amount of this year's crop. While the crop is large this year—the largest we have ever produced in this country—a considerable amount of wheat has been damaged from wet weather and every bushel of wheat not fit to mill can be taken off the total and figured as so much feed. If the European war continues many months their armies must be fed, and it is safe to assume that at least a reasonable demand will be made for all our merchantable wheat. If the war should end soon there is no question but what the demand would be lessened considerably but in that event we do not think wheat would be so low as to be unprofitable where good yields are obtained.

It seems to us that the safe plan for Missouri farmers to follow is to plan to sow about the usual acreage but we do not think it advisable to try to sow the full acreage unless the land can be put in good shape for sowing. With the rank growth of weeds on the stubble fields it will not be safe to try wheat on late plowed fields. Where vegetation can be plowed under by the middle of August it will have ample time to decay by the time wheat should be sown but if plowing is delayed until after September 1 it will be very hard to get a good seed bed. Another matter to consider is that wheat insects have been numerous and the best way to check them is to sow less wheat, so we think it the safest plan to cut down the wheat acreage this year to just what can be put into first-class condition for sowing.

WHEN DOCTOR'S DISAGREE?

The series of articles we are running on "How to Get Rid of Hog Cholera" ought to be carefully read by every swine raiser of Missouri and after reading the papers should be filed away for future reference and use. There is a great deal of discussion on this subject coming from the various experiment stations, the U. S. Department of Agriculture, veterinarians and farmers and there is considerable difference of opinion about the best methods to pursue to get rid of cholera, but we do not hesitate to recommend the plan adopted by Dr. Connaway of the Missouri Experiment Station. This plan for getting rid of hog cholera is along the same line as the plan pursued by the Government officials in stamping out the dreaded foot and mouth disease. It is practically the same plan that is followed by various boards of health in getting rid of contagious diseases among people.

This plan should appeal to farmers because it can be carried out by them at a minimum expense and without danger to neighboring farms. No doubt the reason that this simple method of the use of serum with sanitation has been so bitterly assailed by so many is because there is little chance for some one to work the farmers for a big "rake off" in this plan. On the other hand those who depend on the serum and virus method must keep up the expense indefinitely and as few men know how to use the virus safely it calls for extra verterinary fees which take off a considerable part of the profit in hog feeding.

The most unfortunate thing about this controversy as to the two methods of hog cholera control is that so many farmers, veterinarians and experiment station men have placed themselves in a position where it is impossible for them to render an unprejudiced opinion. Recently we read an article printed in one of the leading live stock papers of the country and written by a professor of Animal Husbandry in one of the leading agricultural colleges and the whole weight of the article was to prove that the serum virus method of hog cholera control was a safe method for breeders to use. But to arrive at this conclusion the writer omitted results of investigation that did not support what he wanted to prove with the excuse that this data was not satisfactory. Why did this professor do that? We have it from unquestioned authority that this professor owns stock in a serum company and as a matter of course is profiting by the largest possible sale of serum. A great many farmers have taken stock in serum plants, a perfectly legitimate investment we admit but a man who has this pecuniary interest in the use and sale of serum is not in a position to give unprejudiced advice about matters that will reduce his own profit. And so it is with a great many practicing veterinarians, the serum companies give them a rebate or commission on all the serum they use and it is to their immediate advantage to use all of it they can get the farmers to pay for. Furthermore, you will find many farm and live stock papers biased in their opinions due to advertisements they carry. Some of the largest serum companies refuse absolutely to use the columns of papers for their advertising whose editors advocate the serum-sanitation methods of hog cholera control. Veterinarians who hold stock in serum companies write articles which go out with their official endorsement but the public is in ignorance of their true motive. In differences of this kind it is well for farmers to study the questions from the point of motive and self-interest as well as from the point of effect and that may help them to arrive at a correct conclusion. The Missouri Farmer is trying to give farmers the best and safest methods to save their hogs.

CHANCE FOR FARMER BOYS

The Missouri Farmer wants to get in touch with an ambitious farmer boy in every community in Missouri. We have a plan by which we will pay your board and all other expenses during the "Farmers' Short Course" at Missouri's great Agricultural College. The first course begins in November and will last for seven weeks. The second course begins in January and also lasts for seven weeks—and you can attend either course you prefer. It will be easy for you to comply with our terms by giving us the use of your spare time during the next 60 days and if you make good it means that we will pay for your board and lodging and the text books you will need during your seven weeks' stay in Columbia.

Surely this is a proposal which will interest every ambitious farmer boy in the state. This is an age when young men must know things before they can expect to do things—and, especially is this true of the farmer who is today the most important citizen in the land. The Country is overcrowded with lawyers, doctors and engineers—but never have the myriad farms of the Nation appealed so strongly to the young farmer who truly understands the great fundamentals of modern Agriculture. To this end, every bright young farmer boy should grasp this opportunity to spend seven weeks at Missouri's famous Agricultural College where he will be taught to analyze soils, crop rotations, the breeding and feeding of live stock and a score of other things which will be of inestimable value to him in the future and which he can put into practice with great profit the moment he returns home. **Every father who has a bright son should urge him to take advantage of this splendid offer because his son will return home with a lot of information which the average farmer who has not received a technical training does not possess!**

How many farmers are there who understand how to analyze their soil? How many understand the rotating of crops which will not only bring forth more profitable yields but improve the land? How many understand the value of balanced rations in feeding live stock? These and other important farm problems will be explained by the greatest soil, crop and live stock experts in the state to the boys who take the "Farmers' Short Course." Again, it will do any boy incalculable good to spend seven weeks in a beautiful and clean community like Columbia where he has a chance to mix and mingle with the 3000 other bright Missouri boys and girls who attend Missouri's great University—and our plan is easy for any boy who is really anxious to make something of himself. If our readers know of some farmer boy to whom this offer would appeal we will thank them to bring this matter to his attention. We would like to pay the board and expenses of 500 farmer boys through the two short courses this winter and those who are interested should get in touch with us at once.

THE MISSOURI FARMER, Columbia, Mo.

BUCKSHOT BY THE PROFESSOR

It's hard to write this kind of stuff and wrestle with a sprained back at the same time.

If we are really so wild to get into the war game, there's a mighty tempting situation beyond the Rio Grande.

The United States is getting four times as much money out of its new crop of guns and cartridges as it is out of its splendid new crop of wheat. Such is life in this glorious twentieth century.

"Teddy" and "William J." haven't had anything to say for two whole weeks. They must be suffering from an attack of hay fever. Well, anyway, it's an "ill wind that blows no good"—and at that I like both of them.

Are you and your children real friends? Do they come to you with their secrets and plans? If you would have them listen to you in the after years now is the time to entwine their heart strings arounds yours. Once they are grown it is forever too late.

I have often wondered why so many farmers would rather see a plug horse race than to look at fine hogs and cattle. Some of these days we will see a county fair that possesses some real value from an Agricultural standpoint—as well as mere, worthless entertainment.

Some day before long the floods and drouths and the mad war will end—and in the serene sunshine of the tomorrow which is to come we will once more be wholesomely busy and quietly happy—for surely these extremes of the elements and this world-wide human madness cannot go on forever.

I used to think Chautauquas were splendid institutions—and they were before they degenerated into a rendezvous for broken down bandits, political freaks and other wrecks, jugglers and sleight of hand performers. Maybe some day it will once more be possible to hear a really fine collection of thinkers on these occasions.

If you didn't read the first chapters of "The Plunderer" in our last issue, do so now—and then read the continuing chapters in this number. It's a powerful,fascinating story which would cost you $1.50 at any news stand in the Country. During the next two or three months it will afford you hours of pleasing diversion and relaxation.

As I have said before, I am entirely willing that the United States should prepare itself for defnese in the future but I am not agreeable to the idea that we should convert the Republic into a permanent war camp. Off here to ourselves, we have no quarrels with the great world powers which will come out of the present conflict so exhausted in men and money that they will not be in position to fight again for years to come. The battles we Americans need to fight are upon our farms, in our factories and in the school room. Here lies the true path of our future destiny.

While here and there the excessive rains have done much damage, yet everything considered the farmers of Missouri are in much better condition than they were during 1913 and 1914. After all, we have raised a good average wheat crop and a splendid oat crop. Hay and grass have not been as good in many years and this means an abundance of feed for live stock—while a corn crop which will crowd 200,000,000 million bushels mighty close in on the way. So, altogether, money matters with the average farmer should be fairly easy this fall—and when we think of the peace which obtains in our blessed land as against the red strife which prevails in Europe we should be profoundly thankful.

I wonder how many of you farmers who have been reading this paper for the last year or two really appreciate it and realize what it is striving to do for you? For years Missouri has been without a great farm paper of its own and you farmers have been depending on publications owned and edited in other states which often advocate ideas not suited to Missouri conditions. Two years ago when the Single Tax threatened the farmers of this state it was The Missouri Farmer that first sounded the alarm and most of the literature which exposed that vicious propaganda was written in The Missouri Farmer office. Since then it has plead early and late for an Agricultural Credit System and it did more to pave the way for the Land Bank Bill in the last Legislature than all other publications in the state combined—a measure which, if enacted into law, will give the farmers of this state money at less than 5% interest with 25 years time in which to repay loans. Isn't this kind of service and loyalty entitled to your good will and support? Wouldn't it be doing the "square thing" to send the editor a dollar and ask him to mark you up for three years? Isn't such a paper worthy of your help to the extent of 33⅓ cents per year for three years? It is fighting your battles not only by trying to give you the best information on all kinds of farm problems, but it is trying to help you get a "square deal" in those economic matters upon which the welfare of you and your children depends in the years to come. So why not send in a dollar for which you will get value received ten times over and do your share in building up a great Missouri farm paper which will be a really powerful help to you in the future and a pride to the state?

MADE GOOD ON $20 A MONTH

Many a young man has left the farm because $20 a month looked too small to him to ever get a start. But after a few months in the city on a wage of $60 or $80 a month he finds he has less money at the end of the year than the farm hand has saved. Here is a story from the Dallas News that teaches a moral every young man in the country should not forget:

"Several years ago I read in a Clarksville paper a story concerning two young men of the same age and equal ability who started out from the same neighborhood to make their way in life. Jim sought the country, hired himself to a farmer at $20 a month and at the end of the year he took an inventory of his effects, to-wit: One large floppy straw hat, two suits of overalls, a rugged constitution and $200 in cash. Bob, the other youth, went to a small city and connected with a job paying $65 a month, and at the year's end he also took an inventory, finding these accumulations, to-wit: One suit of ice cream clothes, one imitation Panama hat, four pairs of near silk socks, an appetite for beer and $90 in unpaid bills.

"Have you," asks the Paris reader, "any later information concerning these young men?" To which inquiry State Press begs to say that he has kept in close touch with each of them and today he will make an exhibit of their present standing. Jim duplicated the second year the first year's performance, coming out with $200 cash, making a total of $400. He bought a pair of feminine plow horses, a second-hand wagon, a cultivator and a weeding hoe for half his capital, rented forty acres of land, raised 600 bushels of corn, nine bales of cotton, a mustache and a mule colt. Next year he did about as well and at the end of four years he found himself possessed of $800 in real money, three milch cows, two mule colts, a sow with seven pigs, a set of chin whiskers and 500 bushels of corn.

Feeling plenty able to support a family in comfort he got married, bought thirty acres of land for $1,500, paying $500 cash. He had a couple of light crops and a set of twins during the next two years and had to hustle to pay interest and extra expenses. But he was no quitter; he knew he was on the right track; he raised plenty of good foodstuffs for his home consumption and bought no feed for his live stock. Seven more years have passed and at this writing Jim has three children, one wife, ten head of valuable work animals, a small herd of good cows, a dozen fat shoats, a barn full of corn and hay, 150 acres of land, a white farmhouse with vines growing over the porch, a motor car, a phonograph, $400 in bank and a gorgeous, sunburned complexion. Jim, in short, is rich and happy and a conscious success.

Bob, who chose the town for his operations, also makes an interesting showing at this date. Bob has a wife and a 12-year-old son, the latter being a swell guy who knows the records of all the pugilists and billiard experts and is so smart he calls country folks "rubes." He lives with his parents in a hot little "apartment" close to the business center, thus saving carfare at the expense of eating dust. His father, Bob, is also a wonderfully bright man, who works when he can get a job. He mostly earns about $80 a month, keeps the icebox at home full of beer, when he has the price, and hates his landlord. He is now 35 years old, owes all he can, is a conscious failure and envious of all those who have acquired competencies by saving their wages and not trying to deadbeat their way through the world. This, reader, is how Jim and Bob stand today.

TO FEED SPRING LAMBS

I have 100 acres of good stubble pasture, and I wish to try about 300 head of spring lambs on this for about 4 weeks, and then let them run on 20 acres of peas, for 2 weeks more, and then ship them to the market. Do you think it would pay me to buy the lambs and is there very much risk in western lambs. I have the pasture. Any information you can give me will be appreciated. Yours very truly,

A. J. Martin, M. D.,
Mississippi County.

I am in doubt as to whether it would pay you to buy lambs to run on stubble pasture. The plans that we have been following have always included some crop with a relatively high feeding value such as cowpeas, soybeans and rape. I know that your twenty acres of peas would furnish good pasture. Of course it would not fatten three hundred head of lambs but you should be able to fatten a deck, about one hundred and twenty-five Western lambs, on it if there is a good growth. You do not say whether the peas are in the corn or not. If they are by themselves the waste in pasturing is much greater than where the peas are in the corn and the lambs graze them out of the corn.

There is relatively little risk in feeding Western lambs when you have the proper kind and amount of feed. A trouble called big-head has some times attacked the sheep and has proven quite disastrous, but it is not a common trouble at all.

D. H. Doane,
State Leader County Agent Work,
U. S. Department of Agriculture.

Miss Elsa Gurthet of Pattonsburg, Mo.

Miss Gurthet is another young lady who has recently won our free round trip Railroad and Pullman ticket to the great Panama Exposition. In telling about it in a recent letter she said: "Surely the young women in the thousands of farm homes in which The Missouri Farmer is a visitor don't know about this fine offer of yours or it seems to me you would be having to hire special trains to accommodate them. I didn't find it difficult at all to get the necessary subscriptions for the paper because wherever The Missouri Farmer is known it is liked better than any other farm paper. It is clean and reliable and it is our **home** paper—and any bright girl who is willing to do a little hustling can easily win this great free trip. I am anxious to leave with the first bunch of girls that are ready to go and I am expecting to have a great time seeing the West and the wonderful Exposition."

Beware of Patent Cholera Remedies.

"Hog owners should be very careful about investing in any of the so-called hog cholera cures and preventives, especially the ones that are peddled around in communities where cholera is prevalent," says H. P. Hoskins, Assistant Veterinarian, University Farm, St. Paul. "The very fact that the men who sell these remedies go from farm to farm, on some of which cholera may exist, should be sufficient warning to the farmer who wishes to keep his herd from becoming infected. Quite a number of these remedies have been examined or tested by the Experiment Station in this and other states, and practically all have been found to be of little value in either preventing or curing hog cholera.

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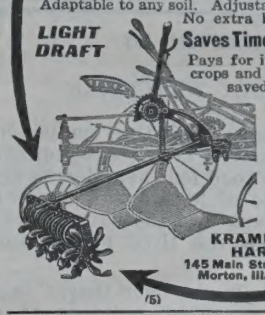

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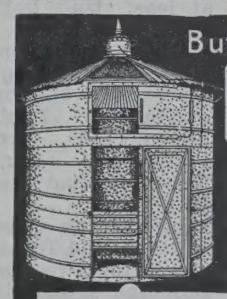

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The Plunderer

By ROY NORTON

Author of "The Garden of Fate"

CHAPTER III

AN UGLY WATCHMAN

By easy stages indicating competent engineering and a lavish expenditure of money, the road led them downward to a barricade of logs, in an opening of which swung a gate barely wide enough to pass the tired burros and their packs.

"You'll find Presby over there," said their unwilling guide, pointing at a group of red-painted mining structures nestled in a flat lap in the ragged mountains.

They surmised that this must be the Rattler camp, and inspected its display of tall smokestacks, high hoists, skeleton tramways, and bleak dumps. Before they could make any reply, the gate behind them slammed shut with a vicious bang that attracted their attention. They turned to see the watchman hurrying back up the road. Fixed to the barricade was a sign, crudely lettered, but insistently distinct:

No one allowed on these premises, by order of the owners. For any business to be transacted with the Croix d'Or, apply to Thomas W. Presby.

"Curt enough, at least, isn't he?" commented Townsend, half-smiling.

"Curt!" growled his companion, frowning, with his recent anger but half-dissipated. "Curt as a bulldog takin' a bite out of your leg. Don't waste no time at all on words. Just says: "It's you I'm lookin' after.' Where do you reckon we'll find this here Thomas Presby person?"

"I suppose he must have an office up there somewhere," answered Townsend, waving his arm in the direction of the scattered buildings spread in that profligacy of space which comes where space is free.

"These mules is tired. It's a shame we couldn't have left them up there," Matthews answered, looking at them and fondling the ears of the nearest one. "You go on up and get an order letting us into your mine, and I'll wait here. No use in makin' these poor devils do any more'n they have to."

Townsend assented, and followed a path which zigzagged around bowlders and stumps up to the red cluster on the hillside above him. He was impatient and annoyed at the useless delays imposed upon them in their new venture, and wondered why his father's partner had not informed him of the fact that he would find the mine guarded by the owner of the adjoining property.

A camp "washwoman," with clothespins in her mouth, and a soggy gray shirt in her hands, paused to stare at him from beneath a row of other gray and blue shirts and coarse underwear, dripping from the lines above her head.

Two little boys, fantastically garbed in faded blue denim which had evidently been refashioned from cast-off wearing apparel of their sires, followed after him, hat in hand, as if the advent of a stranger on the Rattler grounds was an event of interest, and he found himself facing a squat, red white-bordered, one-storied building, over whose door a white-and-black sign told the stranger, or applicant for work, that he was at the "office."

A man came to a window in a picketed wicket as he entered, and said briskly: "Well?"

"I want to see Mr. Presby," Dick answered, wasting no more words than had the other.

"Oh, well, if nobody else will do, go in through that door."

Before he had finished his speech, the bookkeeper had turned again toward the ledger spread out on an unpainted, standing desk against the wall behind his palings, and Dick walked to the only door in sight. He opened it, and stepped inside. A white-headed, scowling man, clean shaven, and with close-shut, thin, hard lips, looked up over a pile of letters and accounts laid before him on a cheap, flat-topped desk.

Dick's eyes opened a trifle wider. He was looking at the man who had defied the mob at the road house ,and at this close range studied his appearance more keenly.

There was hard, insolent mastery in his every line. His face had the sternness of granite. His hands, poised when interrupted in their task, were firm and wrinkled as if by years of reaching, and his heavy body, short neck, and muscle-bent shoulders, all suggested the man who had relentlessly fought his way to whatever position of dominancy he might then occupy. He wore the same faded black hat planted squarely on his head, and was in his shirt-sleeves. The only sign of self-indulgence betrayed in him or his surroundings was an old crucible, serving as an ash tray, which was half-filled with cigar stumps, and Dick observed, in that instant's swift appraisement, that even these were chewed as if between the teeth of a mentally restless man.

"You want to see me?" the man questioned, and then, as if the thin partition had not muffled the words of the outer office, went on: "You asked for Presby. I'm Presby. What do you want?"

For an instant, self-reliant and cool as he was, Dick was confused by the directness of his greeting.

"I should like to have you tell that watchman over at the Croix d'Or that we are to be admitted there," he replied, forgetting that he had not introduced himself.

"You should, eh? And who are you, may I ask?" came the dry, satirical response.

Dick flushed a trifle, feeling that he had begun lamely in this reception and request.

"I am Richard Townsend," he answered, recovering himself. "A son of Charles Townsend, and a half-owner in the property. I've come to look the Croix d'Or over."

He was not conscious of it then, but remembered afterward, that Presby was momentarily startled by the announcement. The man's eyes seemed intent on penetrating and appraising him, as he stood there without a seat having been proffered, or any courtesy shown. Then, as if thinking, Presby stared at the inkwell before him, and frowned.

"How am I to know that?" he asked. "The Cross has had enough men wanting to look it over to make an army. Maybe you're one of them. Got any letters telling me that I'm to turn it over to you?

For an instant Dick was staggered by this obstacle.

"No," he said reluctantly, "I have not; that is, nothing directed to you. I did not know that you were in charge of the property."

He was surprised to notice that Presby's heavy brows adjusted themselves to a scowl. He wondered why the mine owner should be antagonistic to him, when there was nothing at stake.

"Well, I am," asserted Presby. "I hired the watchman up there ,and I see to it that all the stuff lying around loose isn't stolen."

"On whose authority, may I ask?" questioned Dick, without thought of giving offense, but rather as a means of explaining his position.

"Sloan's. Why, you don't think I'm watching it because I want it, do you, young man? The old watchman threw up his job. I had Sloan's address, and wrote him about it. Sloan wrote and asked me to get a man to look after it, and I did. Now, you show me that you've got a right to go on the grounds of the Cross Mine, and I'll give an order to the watchman."

There was absolute antagonism in his tone, although not in his words. Dick thought of nothing at the moment but that he had one sole proof of his ownership, the letter from Sloan himself. He unbuttoned the flap of his shirt pocket, and, taking out a bundle of letters, selected the one bearing on the situation.

"That should be sufficient," he said, throwing it, opened, before Presby.

The latter, without moving his solid body in the least, and as if his arms and hands were entirely independent of it, stolidly picked up the letter and read it. Dick could infer nothing of its reception. He could not tell whether Presby was inclined to accept it as sufficient authority, or to question it. Outside were the sounds of the Rattler's activity and production, the heavy, thunderous roar of the stamp mill, the clash of cars of ore dumped into the maws of the grizzly to be hammered into smaller fragments in their journey to the crusher, and thence downward to end their journeys over the thumping stamps, and out, disintegrated, across the wet and shaking tables.

It seemed, as he stood waiting, that the dust of the pulverized mountain had settled over everything in the office save the granite-like figure that sat at the desk, rereading the letter which had changed all his life. For the first time he thought that perhaps he should not have so easily displayed that link with his past. It seemed a useless sacrilege. If the mine-owner was not reading the letter, he was pondering, unmoved, over a course of action, and took his time.

Dick thought bitterly, in a flash, of all that it represented. The quarrel with his father on that day he had returned from Columbia University with a mining course proudly finished, when each, stubborn by nature, had insisted that his plan was the better; of his rebellious refusal to enter the brokerage office in Wall Street, and declaration that he intended to go into the far West and follow his profession, and of the stern old man's dismissal when he asserted, with heat:

"You've always taken the road you wanted to go since your mother died. I objected to your taking up mining engineering, but you went ahead in spite of me. I tried to get you to take an interest in the business that has been my life work, but you scorned it. You wouldn't be a broker, or a banker. You had to be a mining engineer! All right, you've had your way, so far. Now, you can keep on in the way you have selected. I'll give you five thousand dollars, but you'll never get another cent from me until you've learned what a fool you're making of yourself, and return to do what I want you to do. It won't be long! There's a vast difference between dawdling around a university learning something that is going to be useless while your father pays the bills, and turning that foolish education into dollars to stave off an empty belly. You can go now."

In those days the house of Phillip Townsend had been a great name in New York. Now this was all that was left of it. Dissolution, death, and dust, and a half-interest in an abandoned mine! The harsh voice of Bully Presby aroused him from his thoughts.

"All right," he said. "This seems sufficient, but if you've got the sense and judgment Sloan seems to think you have, you'll come to the conclusion that there's not much use in wasting any of his good, hard dollars on the Croix d'Or. It never has paid. It never will pay. I offered to buy it once, but I wouldn't give a dollar for it now, beyond what the timber above ground is worth. It owns a full section of timberland, and that's about all."

He reached for a pen and wrote a note to the watchman, telling him that the bearer, Richard Townsend, had come to look over the property and that his orders must be accepted, and signed it with his hard-driven scrawl. He handed it up to Dick without rising from his seat, and said: "That'll fix you up, I think."

As if by an afterthought, he asked: "Have you any idea of the condition of the mine?"

"No," Dick answered, as he folded the letter and put it into his pocket, together with the one from his late father's partner.

"Well, then, I can tell you, it's bad," said Presby, fixing him with his cool, hard stare. "The Cross is spotted. Once in a while they had pay chutes. They never had a true ledge. There isn't one there, as far as anybody that ever worked it knows. They wasted five hundred thousand dollars trying to find it, and drove ten thousand feet of drifts and tunnels. They went down more than six hundred feet. She's under water, no one knows how deep. It might take twenty thousand to unwater the sinking shaft again, and at the bottom you'd find nothing. Take my advice. et it alone. Good-day."

Dick walked out, scarcely knowing whether to feel grateful for the churlish advice or to resume his wonted attitude of self-reliance and hold himself unprejudiced by Presby's condemnation of the Croix d'Or. He wondered if Bully Presby suspected him of having been friendly with the mob of drunken ruffians at the road house, but he had been given no chance to explain.

At the bottom of the gulch he found Bill sprawled at length on his elbows almost under the forefeet of one of the burros which was nosing him over in a friendly caress. He called out as he appproached, and the big prospector sat up, deftly snapped the cigarette he had been smoking into the creek with his thumb and forefinger, and got to his feet.

"Do we get permission to go on the claim?" he grinned, as Townsend reached him.

"Yes, I've got an order to the watchman. The old man doesn't seem to think much of it. Says it's spotted. Had rich pay chutes, but they pinched. No regular formation. Always been a loser. Thinks we'd be foolish to do anything with it."

"Good of him, wasn't it?"

Dick looked quickly at the hard, lined face of his companion.

"That's the first thing I've heard that made me feel better," declared the prospector, as he swung one of the burro's heads back into the trail and hit the beast a friendly slap on the haunches to start it forward. "Whenever a man, like this old feller seems to be, gives me that kind of advice, I sit up and take notice."

"Why—why, what do you know about him?" Dick asked, falling into the trail behind the pack animals, which had started forward with their slow jog trot, and ears swaying backward and forward as they went.

"While you was gone," Matthews answered, "I had a long talk with a boy that came along and got friendly. You can believe boys, most of 'em. They know a heap more than men. They think out things that men don't. Kids are always friends with me; you know that. I reckon, from what I gathered, that this Presby man is about as hard and grasping an old cuss as ever worked the last ounce of gold out of a waste dump. He makes the men save the fags of the candles and the drips, so's he can melt 'em over again. He runs a company store, and if they don't buy boots and grub from him, they have to tear out mighty quick. He fired a fireman because the safety-valve in the boiler-house let go one day twenty minutes before the noon shift went back to work. "If he says, 'Let the Cross alone,' I think it's because he wants it."

"You couldn't guess who he is," Dick said, preparing to move.

"Why? Do I know him?"

"In a way. He's the man we saw the mob tackle, back there at the road house."

Bill gave a long whistle.

"So that's the chap, eh? Bully Presby! Well, if we ever run foul of him, we've got our work cut out for us. Things are beginnin' to get interestin'. 'I like the place,' as Daniel said when he went to sleep in the lion's den."

They opened the gate through the barricade without any formality, and were well started up the inclined road of the Croix d'Or before they encountered the watchman who had given them so much trouble. As he came toward them, frowning, they observed that he had buckled a pistol round him as if to resist any intrusion in case it should be attempted without instructions. Dick handed him Presby's order, and the man read it through in surly silence; then his entire attitude underwent a swift change. He became almost obsequiously respectful.

"I'll have to go down and have a talk with Mr. Presby," he said, and would have ventured a further remark, but was cut short by the mine-owner.

"Yes, you'd better go and see him," Dick said concisely. "And when you go, take all of your dunnage you can carry, then come back and get the

rest. I shall not want you on the claim an hour longer than necessary for you to get your stuff away. You're too good a man to have around here."

The fellow gave a shrug of his shoulders, an evil grin, and turned back up the road to vanish in what had evidently been the superintendent's cabin, and noisily began to whistle as he gathered his stuff together. The partners halted before the door, and Dick looked inside.

"I suppose you have the keys for everything, haven't you?" he called.

The man impudently tossed a bundle at him without a word. Apparently his belongings were but few, which led the newcomers to believe that he had taken his meals at the Rattler, and perhaps slept there on many nights. They watched him as he rolled his blankets, and prepared to start down the trail.

"The rest of that plunder in there, the pots and the lamp, belong to the mine," he said. And then, without other words, turned away.

"That may be the last of him, and maybe it won't!" growled Bill, as he began throwing the hitches off the tired burros that stood panting outside the door. "Anyway, it's the fag end of him tonight."

They were amazed at the lavish expenditure of money that had been made in the superintendent's quarters. There were a porcelain bath tub brought up into the heart of the wilderness, a mahogany desk whose edges had been burned by careless smokers, and a safe whose door swung open, exposing a litter of papers, mine drawings, and plans. The four rooms evidently included office and living quarters, and they betokened a reckless financial outlay for the purpose.

"Poor Dad!" said Dick, looking around him. "No wonder the Cross lost money if this is a sample of the way the management spent it."

He stepped outside to where the canon was beginning to sink into the dusk. The early moon, still behind the silhouette of the eastern fringe of peaks and forests, lighted up the yellow cross mark high above, and for some reason, in the stillness of the evening, he accepted it as a sign of promise.

CHAPTER IV

THE BLACK DEATH

It took seven days of exploration to reveal the condition of the Cross of Gold, and each night the task appeared more hopeless. The steel pipe line, leading down for three miles of sinuous, black length, from a reservoir high up in the hills, had been broken here and there maliciously by some one who had traversed its length and with a heavy pick driven holes into it that inflicted thousands of dollars of expense.

The Pelton wheels in the power house, neglected, were rusted in their bearings, and without them and the pipe line there could be no electric power on which the mill depended. The mill had been stripped of all smaller stuff, and its dynamos had been chipped with an ax until the copper windings showed frayed and useless. The shoes of the huge stamps were worn down to a thin, uneven rim, battering on broken surfaces. The Venners rattled on their foundations, and the plates had been scarred as if by a chisel in the hands of a maniac.

The blacksmith's tunnel—the tunnel leading off from the level—was blocked by fallen timbers where a belt of lime formation cut across; and fragments of wood, splintered into tooth-pick size, had been thrown out when the mountain settled to its place. But a short distance from the main shaft, which was a double compartment, carrying two cages up and down, in every level the air was foul down to the five-hundred foot level and below that the mine was filled with water.

Patiently Dick and the veteran explored these windings as fast as they might until the sputtering of their candles warned them that the air was loaded with poison, and often they retreated none too soon to scale the slippery, yielding rungs of the ladder with dizzy heads. Expert and experienced, they were puzzled by what was disclosed. Either the mine had yielded exceedingly rich streaks and had been, in mining parlance, "gophered," or else the management had been as foolish as ever handled a property.

In the assay-house, where the furnaces were dust-covered, the scale case black with grime, and the floor littered with refuse crucibles, cupels, mufflers, and worn buckboards, they discovered a bundle of old tablets. Almost invariably these showed that the assays had been made from samples that would have paid to work, but this alone gave them no hope.

But this was not all. A mysterious enmity seemed to pursue all their efforts. Yet its displays were unaccountable for by natural causes. On their arrival at the mine they found water, fresh and clear, piped into every cabin, the mess-house, and the superintendent's quarters. They traced it back and discovered a small lake formed and fed by a large spring on what was evidently land of the mine. It suddenly failed them, and proved unwholesome. An investigation of the tiny reservoir disclosed masses of poisonous weeds in the water. They decided that they must have been blown there after their arrival, cleared the supply and yet, but two days later, when there had been no wind of more than noticeable violence, the weeds were there again. They abandoned their water supply for the time being and resorted to the stream at the bottom of the canon.

A day later one of their burros died mysteriously, and Bill, puzzled, said he believed that it had lost its sense of smell and eaten something poisonous. On the day following the other died, apparently from the same complaint. The veteran miner grieved over them as for friends.

"I've been acquainted with a good many of 'em," he said, sorrowfully, "but I never knew two that had finer characters than these two did. They were regular burros! No cheaters—just the square, open and above-board kind, that never kicked without layin' back their ears to give you warnin' and never laid down on the trail unless they wanted to rest. The meanest thing a burro or a man can do is to die voluntarily when you're depending' on him, or when he owes you work or money. So it does seem as if I must have been mistaken in these two, after all, because we may need 'em."

Dick did not smile at his homily, for he caught the significance of it, that the Croix d'Or would have to make a better showing than they had so far discovered to warrant them in opening it. They had come almost to the end of the investigations possible. They scanned plans and scales in the office to familiarize themselves with the property, and there was but one portion of it they had not visited. That was a shaft which had been the "discovery hole," where the first find of ore had been made. And it was this they entered on the day when Fate seemed most particularly unkind. Yet even Fate appeared to relent, in the end, through one of those trifling afterthoughts which lead men to do the insignificant act. They had prepared everything for the venture. They had an extra supply of candles, chalk for making a course mark, sample bags for such pieces of ore as might interest them, and the prospector's picks and hammers when they started out. They were a hundred yards from the office when the younger man hesitated, stopped and turned back.

"I've an idea we might need those old maps," he said. "We haven't gone over them very much and they might come in handy."

Bill protested, but despite this Dick went back to the quarters and got them. They were crude, apparently, compared with the later work when competent engineers had opened the mine in earnest; but doubtless had served their purpose. The men came to the mouth of the old shaft which had been loosely covered over with poles, and around which a thicket of wild blackberry bushes had sprung up in stunted growth. An hour's work disclosed the black opening and a ladder in a fair state of preservation. They lowered a candle into the depths and saw that it burned undimmed, indicating that the air was pure, and then descended cautiously, testing each rung as they went. The shaft was not more than fifty feet deep, and they found themselves standing on the bottom and peering off into a drift which had been crudely timbered and had fallen in here and there as the unworked ground had settled.

"There doesn't seem to be much of anything here except some starved quartz," Bill said, staring at the wall after they had gone in some thirty or forty feet, and they had come to a place where the lagging had dropped away. He caught another piece of the half-rotted timbering and jerked it loose for a better inspection. It gave with a dull crack, then, immediately after, and seeming almost an echo, there was a terrific rumble, and a report like the explosion of a huge gun back in the direction of the shaft. Their candles flickered in the air impact, and for an instant they feared that the roof was coming down on them to crush them out of all resemblance to human beings.

They turned and ran toward the shaft. A few loose pebbles and pieces of rock were dripping from above like a shower of porphyry. For an instant they dared not step out, but stood inside the drift, waiting for what might happen and staring at each other with set faces exposed in the still flicekring light. They had said nothing up to this time, being under too great stress to offer other than sharp exclamations.

"Sounds like that shaft had given way!" the veteran exclaimed. "If it has——"

He leaned forward and looked into Dick's face.

"If it has," the latter took up, "we are in a bad predicament."

They stood tensed and anxious until the pebbles stopped falling and a silence like that of a tomb, so profound as to seem thick and dense, invaded the hollows; then Dick started out into the shaft. He felt a restraining hand on his arm.

"Wait a minute, boy," the elder man said. "You're the owner here. It's dangerous. I ought to be the one to go first and find out what's happened. You wait inside the drift."

But Dick shook his hand off and stepped out to look upward. A dense blackness filled what should have been a space of light. This he had partially expected from the fact that when they came out toward the shaft there had been no sign of day; but he had not anticipated such a complete closing of the opening.

"Lord! We're buried in!" came an exclamation from behind him, and he felt a sudden sinking of the heart.

"I'll go easily till I came to it," he said, his voice sounding strained and loud although he had spoken scarcely above a whisper. "You stand clear so that if anything gives, Bill, you won't be caught."

The elder miner would have protested, but already he was slowly and cautionsly climbing the ladder. Step by step he ascended, holding the light above his head to discover the place where the shaft had given way, and then Bill, standing anxiously below, heard a harsh shout.

"I think the ladder will bear your weight as well as mine. Come up here."

The big man climbed steadily upward until he stood directly beneath the younger man's feet. He ventured an exclamation that was almost an oath.

"Not the shaft at all," he said, an instant later. "It's just a bowlder so big that it has filled the whole opening. We're plugged and penned in here like rats in a trap!"

Dick took his little prospecting hammer and tapped the bowlder, at first gently ,then with firmer strokes, and looked down at his partner with a distressed face.

"Hear that?" he exclaimed, rather than questioned. "It's a big one, and solid. It sounds bad to me."

For a minute they waved their candles round the edge, inspecting the resting place of the rock that had imprisoned them. Everywhere it was set firmly. A fitted door could have been no more secure. They consulted, and at last Bill descended and stepped back into the entrance to the drift to avoid falling stone, while the younger man attacked the edge beneath the bowlder, inch by inch, trying to find some place where he could pick through to daylight. At last, his arm wearied and the point of his prospecting hammer dulled, he rested.

"Come down, Dick, and I'll take a spell," Bill called up from below, and he obeyed.

The big miner, without comment, climbed up, and again the vault-like space was filled with the persistent picking of steel on stone. For a half-hour it continued, and then, slowly, Bill descended. He sat down at the foot of the shaft, wiped the sweat from his face, thrust his candle-stick in a crevice and rolled a cigarette before he said anything, and then only as Dick started to the foot of the ladder.

"It's no use," he said. "We're holed up all right. I picked clear around the lower edge and there isn't a place where she isn't resting on solid rock. Nothing but dynamite could ever move that stone. Unless we can find some other way out we're——"

He paused and Dick added the finishing word, "Gone!"

"Exactly! No one knows we're here. No one comes to the mine. We're in the old works which I don't suppose a man has been inside of in five or ten years, and the map shows that it doesn't connect with the other ones. Answer—the finish!"

Dick pulled the worn and badly drawn plans from his pocket and then lighted his own candle, indulging in the extravagance of two that he might study the faint and smudged penciled lines.

"Here, Bill," he said, pointing at the drawing. "These two side drifts each end in what are now sump holes. We've got to watch out for them. That makes it safe for us to take the main drift and see where it leads. The two end drifts evidently ran but a few feet and were then abandoned. So, if these plans are any good, they, too, are safe, if we can get into them."

The elder miner peered at the plans and studied them. He stood up and blew out his candle. He thrust his hands into his pockets.

"I've got three candles left," he said, "and I can't just exactly say why I put that many in unless the Lord gave me a hunch we'd need 'em. How many you got!"

"One in my pocket, and this."

"Then we'd better move fast, eh?"

(Continued in next issue)

Home Makers' Conference

This Department is Edited by Miss Alice Kinney, New Franklin, Mo.

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THE FARM HOME BEAUTIFUL

Mrs. Belle Van Dorn Harbert, President of the International Congress of Farm Women, Manzanola, Colorado.

[Mrs. Harbert has had all the experiences of a farm woman on a far Western home and in her travels abroad she spent many weeks among the humble Belgians, staying in their thrifty homes and studying their daily lives as compared with the life of the average farm woman in America; these same homes have been made desolate by the fearful ravages of war.—A. K.]

Go where you may and you will find a large percentage of the farm mothers and daughters dissatisfied—not because they are overworked or mistreated—but just simply because they are lonesome, and their souls hunger for more beautiful surroundings, and for love and companionship, for the happiness that comes from fellowship, for recognition in society and for more modern conveniences in the farm home.

Supply these and all is changed, their shoulders straighten, their eyes brighten, and the corners of their mouths turn up, mother's step becomes more elastic, she sings the songs of yesterday, and her work is glorified before her eyes. The daughters, too, instead of planning a life behind some counter in the city, or at the typewriter, sees the happiness in the open fields and the pure free air of the country.

These things do not depend upon wealth as counted in dollars and cents, for wealth does not consist of the things which we possess, but the things which we enjoy. The poorest home in the world is one with money and nothing else.

Is it not time then, that we "Consider the lilies of the field?" and think of what God has done to make the earth man's dwelling place and how the little things in nature have been worked out with such infinite pains? How each little flower, like each little thought, invariably produces its own kind and how discontent and dissatisfaction are born and nurtured around the unkempt and inconvenient dwelling place?

We have spent too much thought in making a living and too little on living. I know the cornfield has a substantial look because its products pay for the farm but the flower garden has a refining look that makes the farm worth paying for.

There is a Divine relationship between humanity and beauty that cannot be explained until we know why the rose is sweet and the dewdrop pure or the prismic colors of the rainbow pleasing to our senses. We can not tell why we go into ecstasy over the color of a Colorado sunset or the majesty of the mountain peak but we do know that they who miss the joy and exultation over the manifest beauty of nature are poor indeed. Behold the beauty of the landscape, every part of which is necessary to effect a perfect whole; the white clouds floating in the clear blue sky, the haze, the mist, the black and threatening clouds that furnish a magnificent background for the rainbow—all are phenomena of beauty necessary to develop the highest type of animate life which is man. If we do not take them into account and profit by their lessons we miss the refinement and the perfect development they bring, and the process of evolution and unfoldment stops so far as we are concerned until we do catch their meaning and make it a part of our ideal selves.

If we surround ourselves and our families with beauty, pure and unadulterated, if we learn to love it, live it, then our brains by some secret process which man has not yet discovered, links our material bodies to the beautiful and it manifests itself in the very warp and woof of our animate existence. If God has taken such infinite pains to beautify by His handiwork, is it not worth while for us to consider its worth and to cultivate it in our personality, in our surroundings, in our very souls?

Will we let the gilded saloons, the beautiful parks, the gay ballrooms of the city rob us of our boys and girls because they are starved for companionship and love and beauty and modern surroundings in the farm home? No, a thousand times no!

We can make our homes so beautiful, and our surroundings so pleasant and agreeable, and farm life so attractive and restful that we will have the world at our gates begging entrance, because of the peace, contentment, refinement, culture and hospitality of the rural homes.

The reason the call to the farm has not been answered and the march from the farm to the city is increasing to an alarming extent is because the world reads the value we put upon our farm homes by the beauty, comfort and convenience with which we surround them. The forlorn picture of the old farmer and his poor hard-working wife has become fixed upon the minds of the people and will not be changed until we have posed for a new picture and sent in the proof.

NOTES ON CANNING

(Continued from previous issues)

Wind Fall Apples.—By canning the wind fall apples an enormous waste may be eliminated. When they are canned they may be used for salads, dumplings and various other dishes giving the same results as the fresh fruits. To can whole, remove blemishes, cut out core; place in cheese cloth sack and dip in boiling water 5 minutes. Plunge in cold water. Pack in sterile jar and cover with a thin syrup. Place lids on loosely and sterilize in boiler for 45 minutes or until apple appears tender. Apples may be pealed, cored and sliced and canned in the same manner as when canned whole.

Pears.—Pears should be well ripened before they are preserved. Those not ripened may be kept for several weeks if wrapped in tissue paper and stored in a cool dry place; this makes it possible to extend the time of canning and spread the work over a longer time. Pears are one of the standard everywhere, and because of their high food value and other qualities, should appeal to the housewife. The small sugar pears are best for preserves and Bartlett pears for canning.

Wash thoroughly, peel and halve them, remove the cores and drop fruit at once into cold water to prevent discoloration. When the peeling is finished, pack the halves as closely as possible into the jar. Place lid on loosely and place in boiler and steam until tender, which is usually about an hour, with solid fruit. Remove jar, place on sterile rubber, fill to overflowing with boiling syrup and seal.

Note—The syrup may be added before the fruit is steamed.

Quinces.—Quinces may be canned in the same way as pears but the time of cooking in jar must be lengthened until fruit is thoroughly cooked. Quince is a more firm fruit and requires a longer time for cooking.

Canned Grapes.—Pick firm grapes from the bunches. Wash them carefully and pack them as closely as possible in a sterile jar with rubber in place, without crushing. Fill with thin boiling syrup. Place the lid on loosely and steam in boiler until grapes are heated through, which will take from twenty to thirty minutes.

Fruit Juices

The canning of fruit juice in many cases is very profitable. When berries and small fruits are too ripe for successful canning otherwise, the juice may be extracted and preserved by canning and used to great advantage in the preparation of sauces, desserts and beverages. An iced fruit juice makes a delicious and refreshing drink during warm weather.

Grapes.—Grapes are at their best when fully ripened, though for jelly, they should be picked slightly under ripe, and for green grape jelly, pick just as they have begun to turn color. Grapes are widely grown and stand transportation so well that they should form one of the staples in the store of canned goods. Their food value is high among fruit.

Grape Juice.—Use only well ripened grapes. Wash them thoroughly and crush them. Heat the crushed grapes for about five minutes, but do not let them come quite to the boiling point. Then drain through jelly bag without applying pressure. Set juice aside for twenty-four hours. At the end of this time drain the juice from the sediment. Add small amount of sugar and boil the juice twenty minutes to sterilize it; put it in a sterile jar and seal it at once.

Note.—Other fruit juices may be canned in the same manner.

Addie D. Root,
Extension Service Department,
University of Missouri.

Recipe for Canning Corn

Sweet corn should be canned the same day that it is picked. After removing the husks and silk, blanch the corn (before cutting from the cob) in boiling water from 5 to 15 minutes. Blanching is done by placing the corn in a wire basket or cheesecloth and plunging into hot water, or better still by steaming the corn. Blanching will make the texture more firm. Next plunge the corn quickly into cold water. Then cut the corn from the cob and pack tightly in jars until full. Add a level teaspoonful of salt to each quart and sufficient hot water to fill all crevices. Then put on the rubbers and tops and partially tighten the tops. Place the jars in a large wash boiler or kettle containing a false bottom. The water should come over the tops of the jars. Boil three hours. The false bottom may consist of wooden slats or any suitable material which will prevent the jars from coming in direct contact with the heated metal. After boiling, allow the water to cool partially, remove from the bath, tighten the lids, and invert to cool. If the wash boiler method is not used, boil 90 minutes in a water-seal oufit, 60 minutes under five pounds of steam or 35 minutes under 20 pounds of steam.—Department of Home Economics, University of Nebraska.

BETTER SCHOOLS FOR FARM BOYS AND GIRLS

Is it fair to compel our boys and girls of the farm to attend a school taught by an inferior teacher, provided with poor equipment when we know that in a few years these same boys and girls will be meeting in a business and social way men and women whose educational training was obtained in the best schools money could provide? But this is exactly what we are doing in most of our country districts. We are doing this because we think it is the best we can do under the circumstances. But if one district can do better why can not others do better? If one state can do better why can not we, under about the same conditions, do better?

The state of Indiana is very similar to Missouri in her natural resources. It is in the same latitude and inhabited by about the same kind of people, but there is a difference in the schools. Last year forty per cent of the boys and girls of Indiana attended consolidated schools. In a recent address before the American Bankers' Convention, Professor G. I. Christie of the Indiana Agricultural College, discussed the consolidated school in a very able manner and we reproduce here an abstract of the address:

"Down in the city of New York we can go into the slum districts and find the Poles and Hunyacks, and all the other varieties that have simply been imported to this country. We don't have any hope of them taking charge of this government anywhere in the near future. We find schools there costing $100,000, $200,000, $300,000, with all the fine equipment that money can buy, with teachers at the highest salaries, with the best training that can be given to educators. We go then out into the great state of Indiana and into this great state of Illinois, into Wisconsin and Michigan and all the other great states, and what do we find? We find boys and girls from the great blooded stock of this country tramping down the muddy road into that little, barren, two by four, four-walled schoolroom that has neither pictures nor paint; no plaster, no shrubs, no books, no laboratories of any kind. They are taught by a girl from 16 to 18 years of age, just coming out of school, with no training, bent down with a multiplicity of duties, and then we find that in that boy and girl the hope of America lies. What is that hope going to be? What do we hope to realize if we are going to send our boys and girls from the farms into such institutions? We are proud as American citizens to say that we are workin for equal advantages for all children, for all people. I want to ask you if it is true in your state that the boy and the girl of the farm in

Watermelon time in Southeast Missouri. Watermelons are shipped from this section by train loads. What other state can show such a diversity of products as Missouri?

that school which they attend six or eight months in the year have equal advantages with the boy and the girl of the cities? On the average I don't believe they have.

The One-Room School Must Go

"Down in Indiana the little one-room school is fast disappearing. Last year 40 per cent of the Indiana farm boys and girls attended the larger consolidated schools. Our people believe in consolidation. In 1910 we had 446 consolidated schools. In 1914 that number had grown to 665, so that last year we took care of 40 per cent of all the farm boys and girls in these larger institutions. Now I want to ask if we have a consolidated school that is built of good material in a good locality, in which we place the agricultural laboratory and the domestic science laboratory, a school that is able to pay a salary of $1200 to $1500 to a high class well-trained teacher of agriculture, to another of domestic science, to another in manual training, and to other teachers of equal ability for the other subjects, all under a superintendent who is well trained under a high class supervisor—I want to ask you if the boys and girls in a school like this don't have advantages that are far above the ones that are given to the boys and girls who are forced to the little one-room school that is unsightly, unsanitary, unequipped and with a teacher untrained and loaded down so she can't give attention and time to the duties and to the teachings that boy and girl should receive? I think you will all agree that notwithstanding the great hip and hurrah that is raised for it, the one-room school in the average community is not meeting the needs of that community, and we need to do something today. We can do something.

Now, what are consolidated schools doing? In the first place they permit of better teachers. The trouble with the schools in the country is this: they are short-termed. We hire teachers to come out from town and to stay in the community from Monday morning at 9 o'clock until 4 o'clock Friday afternoon, and then disappear. They stay in that community from the first of October until the first of April, and then they disappear to some summer resort, or some university, or to get into some other institution. They are gone. If the country schools, if country agriculture, if home life influenced by the schools is to go forward, then the teacher must be a resident of that community and live in that community and work in that community twelve months in the year. Our consolidated schools are providing for this very thing. In Indiana this year the state is joining with the local communities and paying a part of the salary of agricultural teachers, and home economics teachers, and keeping them right in that community from the time school closes in the spring until it opens in the fall. Then under the direction of Purdue and the State Department of Public Instruction, these men and these women are going into the homes. We are not buying land and conducting work down at the school, but we are handling those boys and girls, growing corn and feeding pigs, and raising chickens and baking bread and canning fruit, and doing other work right at home with the mothers and fathers. Instead of telling them how to do it during the winter time, and saying to them: "Go home and do it during the summer, while I go to a summer resort, or go off to the college," that teacher is called upon to visit the different boys and girls at least once every ten days, and spend time enough with them to get notes on their work, so as to know exactly what they are doing. Then that teacher is in a position in the fall to give those boys and girls a grading on their school work for the work they have done in that laboratory in the home on the farm.

One of the great troubles has come in the schools because the teacher hired from town, educated in higher institutions away from the fathers and mothers, has not been in sympathy with the agricultural and the home life of that community. It has worked something like this. A boy six years of age is turned into school where he is going to spend the best days of his life. He comes down there that first morning in September and sits on that high seat they give him. He dangles his feet all morning long until he is tired out. He takes a book and leafs it over and looks at the pictures. He takes his pad and his pencil and he scribbles on it as well as he can. All at once he becomes tired and puts up his hand and says: "Teacher, I want to tell you about that little colt I have got at home," or about the "pet calf, or baby chickens that mother has got." What does teacher say? "No, we don't talk about those things in school. You are down here to learn reading and writing and we don't talk about those other things." The boy is shut up right there. Some time later he gets interested in books and then we find him at home, later on in years. They are gathered around the supper table, and the boy begins to tell father about a spelling match they had in school, and how somebody tripped over a word and had to go down to the foot, or how they had an algebraic problem, and this boy tried it and failed and then that boy, and then the teacher got up to the board and she failed. She went wrong, and, oh, what fun! Then what does father say? "We don't have time for those details. When you fellows come home you don't think about my business at all. Don't you know the calves haven't been fed? The hogs haven't been taken care of. There is a load of corn to be unloaded, and I want to get ready to go to town. I wish when you fellows are here you would think a little bit about my business." Right there we have established one of the greatest barriers that ever existed between two institutions, the school and the home. If the schools are to mean to the home in agriculture what they should mean, we must break down that barrier and we must bring the people and the teacher together.

So when we hire teachers we hire them for twelve months. They go into the homes during those summer months, and study the life of that country, the life of that mother, and the work of that father, and you and I go into the school in the fall with a deeper appreciation of the needs of that community. Surely the application of the lessons that are to be learned will mean more to that boy and girl and that community life than they will should we spend the summer in some faraway summer resort.

These are the things that we are working for. These are the things that consolidation will bring, and these are the things that are going to bring this change from the little one-room non-developed school, to the larger institution where we can get the trained teacher, where we can get the equipment, where we can get the life we should have. Then that larger school will go farther in the development. It will alow us there a community center where we can have and hold our farmers' institutes, our corn shows, our domestic science demonstrations, our club meetings, and all of those things, and that life is the one that we need. Money alone will not keep the boys on the farm. It is shown it will take them away. Railroads have been built, commercial enterprises of one kind and another have sprung up. They have held out the almighty dollar and have said to the young man on the farm: "Come into our line because we can offer you more money, more luxury of life, and you will have a better time." I want to say, they are going from the farm and they are going mighty fast. I known that to be true. We had some young men come from the farm into Purdue to take engineering, and not long ago I was down in Southern Indiana, and an old farmer came up to me and he asked me if I knew a certain boy. I said, "I don't know that I do, but what course is he taking up there?" The old man stopped a minute and scratched his head, and said: "Well, I just don't know what course he is taking, but he is taking that one where he gets $150 a month when he gets through." That is what he came to college for, not to get a degree, but to get knowledge of a given kind which would enable him to go into railroad work and get a high salary as had been pictured to him by some man who had been influencing him along that line. Those are the things that we have got to counteract. You can talk about blue sky, you can talk to me about the open country, you can talk about men being their own boss, but I want to tell you unless you can show the boy that he can make dollar for dollar on the farm with any other business on earth, you can't keep him there. We have got to show him that.

Then after we have done that, we have got to show him that living in the country is just as fine and just as high and just as enticing as is the life in town. Domestic science in the schools, and these other movements, these clubs, that great rural factor, the church, all combined with the school, are surely going to give us that life. It is going to help men who are trained on the farm to farm intelligently, get us greater production, furnish us a food supply so necessary for this rapidly increasing population of this country, and now for other countries, and then work with these other institutions that will give country life and make country life better than any other, and there we will be able to place on the soil out in the open country a citizen that the banker-farmer and all other classes and organizations will be mighty proud of.

The "Garden Spot" of Missouri

This Is a Designation Richly Deserved by the "Drainage District" of Southeast Missouri

Here is where farmers produce 40 bushels of wheat and 100 bushels of corn per acre, and the reason of it is that it is impossible to conceive of a soil more rich than ours. Never has Southeast Missouri presented a picture of greater opulence than this year. Everywhere the eye is greeted by great piles of wheat straw and jungles of corn. Truly this is a "Land of Plenty"—a land where Corn, Wheat, Alfalfa, Cotton, Watermelons, etc., flourish as nowhere else in the Mississippi Valley. What's the use of farming on worn-out land when you can get hold of a farm down here that will produce as much in one year as your worn-out farm will in four? We have a lot of fine farms for sale in the Malden District and every one of them will double in value during the next five years. This district is as healthy as you can find anywhere and you will have good schools and good neighbors. Write and tell us what size of farm you want to buy when we will give you the full particulars. Write to any Malden Bank about our honesty.

The Malden Real Estate Co.

Malden Mo.

STATE NORMAL SCHOOL, KIRKSVILLE

In the past twelve months, the Normal School at Kirksville enrolled more than 1700. The average attendance was 750. The summer term attendance was 1035. In spite of droughts and excessive rainfall, all records were broken.

In the twelve months, 337 graduated: Those securing the 120-semester-hour diploma with bachelor's degree numbered 28; the 90-hour displomas, 65; the 60-hour diploma, 42; the elementary certificate, 175; the special rural state certificate, 27.

The fall quarter opens Tuesday, September 7, with a faculty of more than fifty high-grade experts and with improved facilities for teaching all subjects of possible interest to ambitious young Missourians who may desire to teach in the public schools.

Room and board will be as low as the lowet and as good as the best. Faculty, president, and students extend warm welcome to new students who quickly catch the step and feel at home in the atmosphere of this one of the greatest of Missouri's institutions.

For bulletin and explanations, address
John R. Kirk, President.

Miss Grace West of McCredie, Mo.

The above is a good likeness of Miss Grace West of McCredie, Mo., who is one of the young women who recently won free round trip Railroad and Pullman ticket to the great Panama Exposition. Recently she wrote us the following letter:

"I am herewith inclosing my last bunch of subscriptions to your good paper and I am now ready for my trip to the Fair—or rather I will be as soon as your next bunch of girls are ready to go. Getting the necessary number of subscriptions was more pleasure than work for it is easy to get farmers to subscribe for a fine paper like The Missouri Farmer—and once my friends found out that I was working for this great "free trip" they were more anxious to help me than ever. Your offer is so fine and generous that it seems to me some girl in every community in Missouri would go out and win it—and any girl can easily do it in a couple of weeks' time. I have always wanted to see California and the Rocky Mountains but I never thought I would have an opportunity to do it so easily. Now I will see not only the "Golden West" but the great Exposition besides. I do hope a lot of other girls will take advantage of this splendid opportunity."

As Miss West says, this is indeed a "splendid opportunity" and there is a chance for some bright girl in every community to win this great free trip. A couple of weeks' work will do it—and you can join a party of our "Panama Girls" and thus make the trip together with much more safety than you could go alone. If you are interested, write us for the full particulars today. The Missouri Farmer,

Columbia, Mo.

Live Stock Notes

R. P. ROYCE, Fieldman

COMING SALES

SPOTTED POLAND CHINAS

H. T. Dickerson, Jameson, Mo., Oct. 6.
Andrews Stock Farm, Lawson, Mo., Oct.14.

POLAND CHINAS

J. F. Richards & Son, Bevier, Mo., Sept. 8.
Halleck Bland, Centralia, Mo., Sept. 16.
N. R. Riggs, Lawson, Mo., Oct. 7.
Ed. Cook, Pattonsburg, Mo., Oct. 7.
L. L. Freeman, Kearney, Mo., Oct. 15.
J. B. Gurthet, Pattonsburg, Mo., Oct. 29.

New London, Mo., Aug. 7, '15.
The Missouri Farmer,
Columbia, Mo.

Gentlemen: I herewith send the picture of Mollie Fair, from which you will make cut for my ad in The Missouri Farmer.

I must say that I think Mr. Royce made a great selection for me when he bought Silver King. I am intensely interested and proud of this boar.

I will certainly have some herd boars in the bunch of pigs that I have coming on. They certainly have the backs, hams and plenty of stretch and spots.

Very respectfully,
B. B. Megown.

A Great Offering of Poland Chinas

J. F. Richards & Son, Bevier, Mo., will open the 1915 sale season with an offering of Poland China bred gilts and boars of 42 centimeter caliber.

The sale will consist of fifty head and will include 22 head of boars and 28 head of bred gilts and as a whole will comprise as high class offering as will be sold in Missouri this fall. In fact, breeders and farmers who are in the market for Poland Chinas that are right in every way can not afford to miss this sale and will in no way be disappointed with the character of hogs cataloged.

To begin with the "Pen-Yr-Hyl" herd has stood in the first rank since its establishment a number of years ago. From the very first Mr. Richards, who is a very critical judge of livestock, selected only foundation stock that was outstanding. The brood sows and herd boars that have found a place in this herd were selected from the leading herds of the breed. Size was, of course, insisted on, but size alone never caused Mr. Richards to buy a single hog—it took more than scale to gain a place in this herd. Quality along with size was the standard used and only when these two essentials were found combined, and backed up with bloodlines that would stand an acid test would Mr. Richards buy. As a result of this policy a collection of Poland Chinas of the very highest order was assembled, and today no breeder that the writer is familiar with can show more size and quality than will be found in this herd. Perhaps the success of this firm depends very largely upon the herd boar Pawnee Price 172137. This boar is regarded by the writer as one of the most valuable sires of the state. He is a son of Big Price, one of the best sons of the great Pawnee Lad. Big Price was a son of Anna Price II, one of the most famous sows of the breed, and a sow who figures in as many high class pedigrees as any other sow. The dam of Pawnee Price was Lady Chief Price, a granddaughter of Long Wonder.

Pawnee Price is not the big rangy type so often encountered, whose sole excuse of being used is their ability to pull down the scales. Picture a large boar—an extremely large boar, with a wonderful head and ear, smooth laid shoulders, a wide, strong, nicely arched back, carrying the width from front to rear to perfection, deep, smooth sides, wide, deep hams, great bone and feet, and—quality, and you have a fairly accurate picture of this boar.

The junior herd boar is Wonder R. 213297 by Big Wonder R. by Big Wonder, and is out of Jane Fawr, one of the valued herd sows by Big Wonder by Longfellow Jr. The second dam is by Chief Price 4th, one of the stars of the breed. Wonder R. was selected by Mr. Richards only after he was convinced that he was a worthy boar to use on Pawnee Price gilts, and the wisdom of this selection is borne out in the character of offspring that will be found in the sale.

These two boars are the sires of most of the offering, and the gilts are bred to one or the other of them for September and October farrow.

Space borbids detailed comment on the entire offering but we will mention a few. Three April yearling gilts by Pawnee Price, out of the good sow A Wonder Girl, by Fessenmyer's A Wonder, are real attractions. Two July gilts by Pawnee Price, out of Queen Bevier by Expansion Wonder, have exceptional size—one in particular has great stretch and bone. Seven gilts and two boars by Wonder R. and out of Wonder Giantess II by Great Wonder by A Wonder represent one of the top fall litters that will be sent through any sale. A fall boar by Long Expansion and out of Leading Lady will look mighty good to any one wanting a top boar with size and quality.

A great deal more could be written about this superior offering but lack of space prevents. In conclusion, bear in mind that this sale consists of an offering that will please any one. No sale will offer a more desirable lot. The gilts are all showing down with pig. Among the boars are a number of herd boar prospects. The entire lot will be offered in excellent condition. The catalogs are ready to mail and will be sent to all who write. We recommend this sale to our readers. R. P. Royce will represent this paper and bids entrusted to him will be handled honorably.

Bland's Poland China Sale

On Thursday, September 8, Halleck Bland will hold his first public sale of Poland Chinas from his well known Long Branch herd. Mr. Bland has been before the buying public in the capacity of a breeder of pure bred hogs for fifteen years, and because of the merit of his stock and his reliable business methods, he has succeeded in building up a large trade., Heretofore he has sold all his hogs at private treaty, but this year he has decided to invite breeders and farmers to bid on his stock in a public sale. It is the ambition of every man who engages in the pure bred live stock business to sooner or later hold a sale—many attempt to hold an auction before they really are ready. Mr. Bland has not made this mistake. He has been getting ready for several years and the lot he has cataloged consists of a highly desirable offspring. Fifty head are listed for sale and includes nine bred sows, six spring yearlings, five fall gilts, sitxeen spring gilts and sixteen spring boars. All but one tried sow have been bred by Mr. Bland

Pawnee Price,, senior herd boar in J. F. Richards & Son's herd. Pawnee Price is the sire of some great gilts in the sale.

CLYDESDALE HORSES
JACKS and JENNETS
Clydesdale Stallions, Mares and Colts, with quality and breeding for sale at lowest prices. We also breed Jacks and Jennets and sell them as low as the lowest.
HIGHVIEW FARM F. L. CROSBY, Prop., Mexico, Mo.

DUROC JERSEYS

Select Col. II Litter mate to Illinois Champion 1912

WHITE'S DUROCS
Choice spring pigs by a champion and out of well bred sows! Stretchy, big bone, well grown. A few bred sows.
A WHITE, Jr. Box 422 PALMYRA, MO

Crimson Col. I Am Junior Champion American Royal 1912

ADENHILL DUROCS--SPRING PIGS
Spring pigs sired by Col. Wonder II out of sows carrying as good blood as the breed affords. Get my prices before you buy.
R. L. HILL - - - - - Adenhill Farm, Columbia, Missouri

CHOICE DUROC SPRING PIGS
Sired by COL. WONDER 2nd. Prize winner at Missouri State Fair 1913.
Will show again 1915 at State Fair and at the Panama Exposition, San Francisco, 1915. Others sired by Beauty's Col. and I Am Col. Enough. Dams carrying blood lines of Col. Gano, Col. Wonder, Crimson Wonder Again, Col. Chief, Beauty's Model Top, and B. & C's Col. II. The big type, big bone kind.
The purchaser satisfied or money refunded.
W. H. & GEO. E. THOMSON - - - - - - Columbia, Missouri

DUROC JERSEY SPRING BOARS AND GILTS
Large type, heavy bone, lots of quality. Ninety spring pigs ready to ship last of June. Two May yearling boars, good ones at bargain prices. I always guarantee satisfaction. A. C. BROCKMAN, Centralia, Mo., Route 2

DUROCS and SHORTHORNS
Immune bred gilts and tried sows $20 to $50; also some choice serviceable boars and spring pigs. A pair of good bulls 16 months old at reasonable prices and well bred. Will sell any of above stock worth the money. Write and tell me what you want to buy. Stock sold in 61 counties in Missouri. I believe I can please you.
J. E. WELLER, - - - - - - - - FAUCETT, MO.

75 DUROC SPRING BOARS & GILTS
Seventy-five (75) good boars and gilts. Rich breeding, and plenty of size and bone. Pairs, trios or more. Priced to sell.
J. C. Garrard & Son McBaine, Mo.

Champion Col. Wonder Durocs
A few yearling boars and bred gilts. Booking orders for spring pigs either sex. Col. Wonder sires my champions—he will sire champions for you. Write or come.
CHAS. L. TAYLOR - - OLEAN, MO.

150 Duroc Boars and Gilts
February, March and April boars and gilts sired by Golden Tat, Bob's Col. Wonder, Col. Wonder and Professor's Col. Stretch, size, bone and quality. Priced for quick sale. Write or come.
J. E. McPherson, Columbia, Mo.

DUROC BOARS and BRED GILTS
I am offering a strong lot of Duroc Jersey boars and bred gilts. The big kind with quality. Bred for September and October litters.
J. C. BIGGS, - - Hume, Mo.

A. NO. 1 DUROC SPRING BOARS
I am offering a few extra choice spring boars sired by ILLUSTRATOR and out of TATTLETALE 39th, junior champion International 1913. A few by CRIMSON CHIEF AGAIN. Write or come.
W. C. WATSON - - - - - - - - - - - - - - NEW LONDON, MO.

POLAND CHINAS

RIGG'S POLAND CHINA SALE OCT. 7
A great lot of February and March boars and gilts representing the get of JUMBO ORR 178083 and LONG SUPERIOR. The greatest lot I ever offered. Watch this paper for further announcement. Get my catalog.
N. R. RIGGS - - - - - - - - - - - - - - - - - - LAWSON, MISSOURI

SPOTTED POLAND CHINA BOARS
The big boned, thrifty kind. We have a number of boars now ready for service. A choice lot for only $25 each f. o. b. Rocheport.
HALL & RAPP - - - - - - - Rocheport, Mo.

MEGOWN'S SPOTTED POLANDS
No matured stock for sale but booking orders for pigs to be shipped later. Have length, bone, size and big spots. Sired by two of the biggest boars in the State for their age.
B. B. MEGOWN - - - - - - New London, Missouri

Faulkner's Famous Spotted Polands
We are not the originator, but the preserver of the Old, Original, Big-Boned SPOTTED POLANDS. Spring pigs now ready to ship. Pairs or trios not akin. A few good fall boars ready for service. Write your wants.
AUGUST 11, MIDSUMMER SALE.
Ask for Catalog.
H. L. FAULKNER, Box R, Jamesport, Mo

Lockridge's Giant Poland Chinas
In my recent sale gilts bred to my great young boar THE GIANT 72083 averaged $57. THE GIANT is conceded to be one of the greatest boars of the breed. You will want some of his blood. Booking orders for spring pigs. Write at once.
WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

POLAND CHINAS AND SHORTHORNS
Bred sows and yearling gilts bred for May farrow. Extra good fall boars and gilts. Several choice young bulls and heifers.
Satisfaction Guaranteed
H. S. WILLIAMSON, R 6 Centralia, Mo

BAKER'S REAL BIG-TYPE POLANDS
Our winnings at the State Fair proves that we "have the goods." Spring boars and gilts of excellent breeding and individuality at very reasonable prices. Also a number of fall boars; big, stretchy fellows.
W. A. BAKER & SONS - - - - - - - BUTLER, MISSOURI

THOMAS E. DEEM
AUCTIONEER

Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased.
Dependable service at a reasonable charge. Address, Cameron, Mo.

Harry W. Graham
AUCTIONEER
PURE BRED LIVE STOCK
Seventeen years experience with America's best breeders.
Chillicothe, Missouri

W. D. ROSS
Auctioneer
Pure bred live stock. Sales made anywhere on reasonable terms. Write for dates.
Otterville Missouri

CHESTER WHITES

RAUSCHER'S CHESTER WHITES!
One of the Oldest Herds in the West
A few choice spring gilts bred for early farrow. Several richly bred big spring boars. A fine lot of fall pigs. Size, quality, and bone. Prices reasonable and every pig guaranteed.
H. Rauscher & Son, Kahoka, Mo.

Maple Grove O. I. C's
Over 100 spring pigs from 2 to 3 months old at the following prices: Choice of litter, $12; litter average, $10; fall gilts, $15. Bred gilts $20 to $25. Bred sows, $30 to $35. Prize winning blood and the most popular strains. Each individual guaranteed to give satisfaction.
F. J. GREINER, BILLINGS, MO.

100 Prize-Winning O.I.C's
Our herd is headed by grand champion and champion boars of 1914 shows. Sows of equal merit. All backed by long line of prize winners. Early pigs, singles, pairs or more not akin, at rock bottom prices. We can please you. Write or come.
S. D. & B. H. FROST,
Box H Kingston, Mo.

Shorthorn Bulls and Heifers
PEABODY FARM now offers 12 choice young bulls and 20 heifers. Good individuals; reds and roans. Priced to sell. Also 20 open BERKSHIRE gilts. Get our prices.
June K. King & Son Marshall, Mo.

GALLOWAY CATTLE
Young stock for sale at all times. Herd established 25 years.
J. & W. R. CLELLAND,
New Hampton, Mo.

Dooley's Spotted Polands
Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pairs and trios no relation. Also registry furnished. Send check with first letter.
EDGAR DOOLEY, ETTERVILLE, MO.

Linhardt's Polands
Choice spring boars and gilts. Fall boars and gilts. All sired by Giant Mammoth, Governor Hadley and Mammoth Wonder. Satisfaction is guaranteed. Have shipped to 23 states.
H. O. LINHARDT, LOHMAN, MO.

and are sired by Kink David 719465, Leader 201105 by Grand Leader, and by See Wonder 229589 by Pritchett's A. Wonder.

Just a word regarding these boars. Ask any man in touch with Poland China interests in Missouri to name the ten best boars and most of them will unhesitatingly count King David in the list. King David is a boar of great scale, with extreme bone, and a world of quality. Today, at the age of five years, he is as smooth as most young boars. He is by the great old Long King, a boar that contributed so much to the improvement and popularity of the big type Poland China. It might be of interest to know that just a few dayss before his death Mr. Pfander wrote Mr. Bland for a price on this boar. Pigs sired by King David show exceptional quality and size.

Leader is one of the best sons Grand Leader ever sired and he has given good account of himself in the Long Branch herd.

See Wonder is a two year old boar by A Wonder and out of Lady Big Bone. This young boar gives every promise of developing into a worthy successor of King David. The majority of the spring gilts are by this boar and are the kind discriminating buyers are looking for.

The sows that are bred, will farrow to the service of either King David or See Wonder. Five fall gilts will sell open as will the spring gilts. Gilts No. 1, 4 and 6 are by the son of Long King and are real attractions. Among the boars are several good herd boar prospects, especially one by King David out of Expansion Lady by A Wonder, and one by See Wonder out of Eva Long.

This sale is worthy of the consideration of our readers who are in the market for the good kind. The catalog will be mailed to all who write. R. P. Royce will represent this paper at the sale and will be glad to render any service to our readers. Write at once for catalog and mention The Missouri Farmer.

Choice Holstein Bull Calves

Elsewhere in this paper will be found the advertisement of The Missouri State Sanatorium, Mt. Vernon, Mo., in which they call attention to a number of choice bull calves from the institution's well known herd.

These young bulls are sired by Sir Missouri Josephine Chief 72328 and Wauseona Royalton Korndyke 117165 and are out of high producing dams. The herd is tuberculin tested.

For further information communicate with Wm. J. Salts, Steward, Missouri State Sanatorium, Mt. Vernon, Mo.

Megown's Spotted Polands

Last week the writer visited the herd of Spotted Poland Chinas owned by B. B. Megown, New London, Mo., and found the herd in excellent shape. The young boar Mr. Megown is using, Silver King, by Spotted King, has developed into an exceptionally good young boar. He promises to be a very large boar and present indications are that he will be very smooth. Silver King is put up on very pleasing lines, carries unusual width, is especially good in the hams and has great depth. He is nicely spotted himself and his pigs carry plenty of white.

Mr. Megown can furnish a nice lot of spring boars and gilts by Silver King and out of sows carrying the blood of Brandywine, Budwiser, Billy Sunday and other noted spotted boars.

Mention this paper when you write.

Taylor's Durocs

No better values are offered by any breeder than are advertised by Chas. L. Taylor, Olean, Mo. Mr. Taylor is offering bred sows, bred gilts, yearling boars and spring boars and gilts sired by Col. Wonder, grand champion at the Missouri State Fair in 1913 and sire of the grand champion sow at the same show last year. This herd is conceded to be one of the top collections of the breed and at the prices asked no breeder or farmer should be without some of the blood that has made this herd famous. No matter what you want, Mr. Taylor can fit you out from a spring pig to a complete show herd.

Riggs Poland China Sale Oct. 7th.

Your attention is directed to the new advertisement of N. R. Riggs, Lawson, Mo., announcing that his annual sale will be held at Crystal Springs Farm, Thursday, October 7.

Each year Mr. Riggs selects the top boars and gilts from his good herd and prepares them for public sale—and believe me, Mr. Riggs surely knows how to get the growth. Of course a great deal of credit belongs to Jumbo Orr, the herd boar, and to the remarkable good brood sows in the Crystal Spring herd, but no small amount of credit is due Mr. Riggs' ability as a feeder. He has made a study of this great question and no one can give him pointers on how to do it.

The offering this year will be up to the standard of former years and we suggest that you ask Mr. Riggs to put you on his mailing list.

Need a Duroc Herd Boar?

Beginning with this issue our readers will note the new advertisement of W. C. Watson, New London, Mo., calling attention to a number of desirable spring boars that are now ready for sale.

Mr. Watson is one of the progressive breeders of this state and he is building a herd that promises much. Mr. Watson has endeavored to select his foundation stock from the best and he has been willing to pay the price for the good ones. The young boars he is now offering are of February, March and April farrow. Two of them are certain herd boar prospects. They were farrowed in February and are out of the great sow Tattletale 39th, one of the best sows sold last winter, and are sired by Illustrator. How does that pedigree read?

Tattletale 39th was 1st in class; 1st in three herds, and junior champion at the Illinois State Fair in 1913; 1st in class; 1st in three herds; 1st in get of sire, and junior champion at the International Live Stock Show in 1913. Illustrator is too well known to need much comment. He is a champion himself and a sire of champions. Sows bred to him last winter averaged $175 in Dr. Still's sale. The balance of the boars are sired by Crimson Chief Again 119917, the boar Messrs. Watson and Keithley purchased about a year ago in H. S. Allen's sale. Write Mr. Watson for prices.

Look up the advertisement of J. C. Briggs, Hume, Mo., in which he offers good values in Duroc boars and bred gilts. Mr. Biggs advises us that these are the big kind and that he is pricing them very reasonable. Mention this paper.

Black and White Farm Holsteins

Attention is directed to the new advertisement elsewhere of The Black and White Farm herd of Holsteins. This herd is one of the good herds owned in Missouri, and a specialty is made of developing maximum producing cows. At the head of the herd stands the richly bred bull Dutchland Sir Hengerveld Rag Apple 99771 and the young bulls offered for sale are sired by him and are out of some of the very best producing cows in the herd. Herewith is a picture of one of the good cows. This cow, Alice Pietertje Belle Pauline 2nd, is a daughter of Brookside Hengerveld Paul 2nd, a bull with seven A. R. O. daughters. We can recommend this herd to our readers. Write Mr. E. M. Holbrook, Baden Station, Route 30, for prices and any other information.

One of the good cows in the Black and White Farm herd of Holsteins owned by E. M. Holbrook, Baden Station, Mo. This farm offers a number of good young bulls.

JERSEY CATTLE

JERSEY CATTLE
Bulls ready for service. They are sired by the Owls Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.
Wm. H. Bruns & Son, Concordia, Mo.

Jersey Cows
I want to sell 20 head of registered cows and heifers that are either fresh or soon will be. Also four young bulls.
J. B. SMITH Platte City, Mo.

Sunset "Correct Type" Jerseys
Two magnificent heifers, one to freshen soon, and one in the winter, that I will offer at very attractive prices. Also a splendid young bull ready for light service. Write us before buying elswhere. All are the famous Blue Belle-Rosebays.
Albert S. Ennis, The Ennis Stock Farm,
Horine Station, Mo.
(Just south of St. Louis)

HOLSTEIN CATTLE

HOLSTEIN BULLS
DUTCHLAND SIR HENGERVELD
RAG APPLE 99771
A few choice bull calves out of heavy producing dams sired by the above famous bull for sale.
BLACK AND WHITE FARM
Baden Station, Mo.
Tel. Colfax 1812 R. R. 30

IN MISSOURI
Eight bulls, 2 to 8 months, $100 to $175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.
S. W. COOKE & SON, MAYSVILLE, MO

Holstein Bull Calves
Registered sons of Sir Missouri Josephine Chief 72328 and Wauseona Royalton Korndyke 117165 from high producing cows. All stock tuberculin tested. For prices write Wm. J. Salts, Steward.
MISSOURI STATE SANATORIUM,
Mt. Vernon, Mo.

HOLSTEINS
Young bulls and heifers from A. R. O. cows. Sired by Sir Korndyke Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.
M. E. Moore & Co., Cameron, Mo.

ANGUS CATTLE

ChoiceAberdeen-Angus
Established 30 years. 100 head in herd. We are offering good useful Bulls, and Heifers of excellent individual merit and breeding. Prices reasonable. Our customers make them popular.
D. L. Sutherland & Sons Windsor, Mo

Aberdeen-Angus
I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.
J. D. Blackwell Fayette, Mo.

ANGUS CATTLE
HERD FOUNDED 1904
Seven early calves—3 BULLS and 4 HEIFERS, sired by Dean's Eric 139686. Every one the right kind, and priced to sell.
V. E. LAWRENCE, SALISBURY, MO.

Angus Bargains
Registered bulls and heifers. The market topping kind. Leading families represented. Priced worth the money and satisfaction guaranteed.
Also Poland China Hogs
J. M. JONES, R. F. D. 3, EVERTON, MO

OTHER BREEDS

RED POLLED CATTLE
HERD ESTABLISHED 16 YEARS
Young stock for sale at all times.
Young bulls for sale sired by Logan 13500. The duel purpose kind.
M. L. Snyder - Polo, Mo.

Richards & Son's Superior Poland China Sale

At Pen-Yr-Hyl Farm, Bevier, Mo., Wednesday, Sept. 8

FIFTY HEAD---28 Bred Sows and Gilts, 22 Boars, All Good

THE GILTS: We have selected for the sale the most attractive and useful lot of gilts we have ever put through a sale ring. Every one is an outstanding good brood sow prospect, They have unusual size, heavy bone, and as much quality as we have ever seen. Several of them are counted by critical judges to be as good as will be sold this year. Every one is of our own breeding and represents the best blood that we could buy. One tried sow, three April yearlings, two July yearlings and twenty-three September gilts. They are either sired by or bred to our herd boars:

Pawnee Price 172137

Is our ideal of a big type Poland China boar, in every sense of the word. As an individual his equal will be hard to find. He is sired by BIG PRICE by PAWNEE LAD. The dam of Big Price was the great sow, Anna Price II. His dam was Lady Chief Price by Miller's Chief Price by Long Wonder. No better bred boar can be found. As a breeder he has met our highest hope. Come and see for yourself. A sow by him or bred to him will strengthen any herd.

Wonder R. 213297

By Big Wonder R, by Big Wonder, and out of Jane Fawr by Big Wonder is our junior herd boar. Many of the very choicest boars and gilts are sired by this great young boar. Wonder R. has every essential of a great boar and we know that buyers will like his get. Wonder R. sires extreme size and quality—that is why he is in our herd.

THE BOARS: We are cataloging 22 boars, 7 are September yearlings, 15 are of January, February and March farrow. Included in the lot are several attractive herd boar prospects, Buyers in search of the right kind need look no farther—big stretchy, heavy boned, high backed, nice headed and with quality. A good boar is half a herd—a poor one is more than half, We offer you the good kind.

We extend a hearty invitation to all who may be interested to attend our sale and become acquainted with the kind of Poland Chinas we are producing. The future never looked brighter for the man who raises the profitable kind of hogs. Catalogs will be mailed to all who write. Please mention this paper,

J. F. RICHARDS & SON, Bevier, Mo.

W. B. DUNCAN, THOS. E. DEEM, Auctioneers. R. P. ROYCE, Fieldman

Garrard & Son's Durocs

Brown Garrard, junior member of the firm of J. C. Garrard & Son, McBaine, Mo., reports that their spring boars and gilts have done well this summer and that they are now ready to ship February pigs of either sex, sired by Champagne and Mr. Columbia, the two herd boars in service. Champagne is by Whiskey and Faith, and Mr. Columbia is by Firestone.

Messrs. Garrard are producing good useful Durocs that they sell at moderate prices.

Sunset Jerseys

The Ennis Farm, Horine Station, Mo., offers two excellent heifers, one to freshen soon and one in the winter. Special prices are being made on these two heifers and a young bull old enough for light service. The Sunset herd ranks high and many of our readers can testify to the quality of Jerseys produced. Mention this paper.

Durocs and Shorthorns

J. E. Weller, Faucett, Mo., is advertising choice Duroc boars and gilts of spring farrow sired by his herd boar, E. Pluribus Unium. Mr. Weller has been engaged in the Duroc business a number of years and has built up a herd that he is mighty proud of. A number of good gilts and sows have been bred for fall farrow and should be very attractive to those of our readers who are in the market for this class of stuff.

Mr. Weller advises us that he has two extra good useful young Shorthorn bulls that are well bred that can be bought worth the money.

Crosby's Clydesdales and Jacks

F. L. Crosby, Mexico, Mo., is offering exceptional values in Clydesdale stallions, mares and colts. The Highview stud is the outstanding good collection of Clydesdales in Missouri and for several years past has been very prominent at the State Fair. There never was a time when the outlook for good draft horses was brighter than at the present time. Mr. Crosby also has a number of high class jacks for sale at prices that should prove interesting to any of our readers who are in the market. Write Mr. Crosby for particulars and arrange to see his exhibit at the State Fair.

From now on Missouri farmers must produce a better class of heavy horses if they expect to attract the good buyers. The little farm chunk is not wanted anywhere. Only the big kind with quality can compete with the motor truck and farm tractor and producers need have no worry that these will be supplanted by any mechanical power.

Baker & Son's Polands

W. A. Baker & Son, Butler, Mo., who advertise Poland Chinas in this paper, write that their show herd is coming along in great shape and that they will have out a strong exhibit. Messrs. Baker are producing the kind that meet with ready appreciation from careful buyers. Watch for their herd at the fall fairs. In the meantime if in need of a strong young boar we would suggest that you write Messrs. Baker at once. Mention this paper.

Spring Grove O. I. C's

S. D. & B. H. Frost, Kingston, Mo., can furnish a cracking good lot of fall and spring boars at prices that will be hard to duplicate. The Spring Grove herd is one of the oldest and best collections of the breed. Mention this paper.

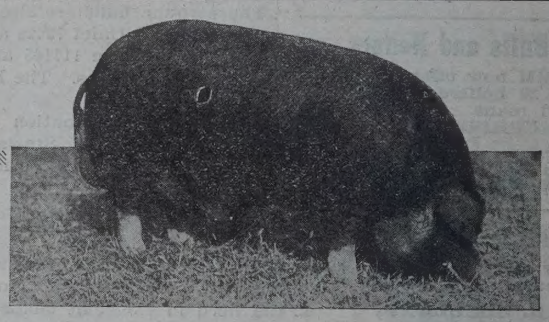
Shorthorn Bulls and Heifers

Our readers are referred to the advertisement of June K. King & Sons, Marshall, Mo. ,in which this well known firm offer a few extra good young Shorthorn bulls and heifers. Messrs. King have long been counted among Missouri's constructive breeders of Shorthorn cattle and Berkshire swine.

Any of our readers who are in the market for either Shorthorns or Berkshires will be serving their own interest if they investigate the Peabody herds before making their purchases. Mention this paper when writing.

Angus Bulls

D. L. Sutherland & Sons, Windsor, Mo., advise us that they have for sale an unusually strong lot of young Angus bulls. These youngsters are well bred, representing several of the most popular families of the breed, and have been grown under good farm conditions, and their future usefulness is assured. Our readers will find Messrs. Sutherland very satisfactory gentlemen to deal with. Kindly mention The Missouri Farmer when you write.



POLAND CHINA SALE

Centralia, Mo., Thursday, Sept. 16

FIFTY HEAD OF THE GOOD KIND

This is my first public sale and I have selected the kind that I feel justified in asking the public to bid on Included in the offering are 9 TRIED SOWS 6 SPRING YEARLING GILTS, 5 FALL GILTS, 16 SPRING GILTS and 16 SPRING BOARS.

The entire lot represents my best efforts as a breeder, they are sired by KING DAVID 170565—the best living son of LONG KING; LEADER 201105 by GRAND LEADER, and by SEE WONDER the best son of PRITCHETT'S A WONDER I ever saw.

The tried sows and yearlings sell bred to KING DAVID and SEE WONDER.

Sale will be held at Fair Grounds near town.

Catalogs will be mailed to all who ask for one.

HALLECK BLAND, Centralia, MO.

P. M. GROSS, Auctioneer R. P. ROYCE, Fieldman

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE

MISSOURI FARMER

COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE
AND THE MISSOURI EXPERIMENTAL STATION

Be Kind To Mother

How is the World treating you and yours anyway, my friend? Are you putting thought behind the things you do in order that you may utilize to the fullest both your hands and the finer talents with which Nature has endowed you? Are you permitting the harshness of the struggle to crush out of your heart all the kindly impulses and sentiments —rendering your life merely a cold and barren thing? I know only too well that the struggle is full of trials and disappointments—and yet if we only will we can put a pile of happiness into it after all. There is an old hymn which has for its chief refrain, "Let the blessed sunshine in"—and it is a sentiment which will lighten the day's toil it matters not how bleak the clouds may look. There are many beautiful flowers that grow by the wayside if we will only look for them. There is rich melody in the cry of the lark and the call of the quail if our ears are only attuned to hear it—and for the shadows of today there will be world's of sunshine in the tomorrows yet unborn and for the failures of the hour there will be successes in plenty if we only have the patience to await their coming. In the inexorable law of averages—if we faithfully do our part—the victories always overbalance the failures —so why put needless lines of worry into our faces and useless gray hairs in our heads—and most pitiful of all, why turn our hearts into things of stone which chill our own souls and render unhappy those with whom we come in daily contact?

"The incessant rains have spoiled your harvests" you say, "and last year's pitiless sun withered them up?" Yes, I know it's hard—but if the little bunch that gathers around your supper table are well in mind and body, is there not a mighty lot to be thankful for? And anyway, maybe during the next two or three years we will more than make up for our losses. So let's forget the things that couldn't be helped. Let's make the best of it and thank the good God above that at least health—the finest blessing in this World—has been granted to you and yours. Let's make closer and better chums of the children than ever before. Let's entwine their heart strings around ours while they are still young in order that they will cling more closely to us in the years to come. Let's make home a place where gladness and laughter shut out the disappointments that come with the day's toil—home, the joy of which should never be measured in dollars, bushels or pounds.

And above all else, let's have a care for the health and happiness of Mother—"Mother," in whose kindly heart and face there is more that is tender and sweet and beautiful than in any other being or thing this world has ever known. When, in the long ago you wooed and won her you promised to "protect and cherish her to the end"—and in the stern realities of these latter days, remember that vow and the fervor with which you made it years ago. Remember that while the wavy hair of her girlhood and the rosy cheeks may have given away to streaks of gray and lines of care—that, after all, she is the same old Sweetheart—only grown a little bit older and that now, as then, her heart will thrill at little acts of tenderness and affection which mean more to every true woman than the riches of ten thousand Golcondas or all the jewels in Christendom. The thing that is driving the roses and laughter out of the sweet faces of thousands of wives and mothers is the hunger for kindness—those little daily tender attentions from husband and children which put joy into a woman's life, it matters not how hard and harsh the struggle may be otherwise. Make her daily toil as easy as possible by saving her unnecessary steps and drudgery. Remember her birthdays and your "anniversary." Plan little surprises of joy for her now and then and when she asks for a dollar or two for herself give it willingly—for the home in which "Mother" is happy is a home which will stand secure against the storms of life, it matters not how hard they may beat against it.

—By the Author of After Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

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PUBLISHER

THE LAND OF THE GRAPE AND THE PEACH

Friday and Saturday, August 6 and 7, as a representative of the Missouri State Board of Agriculture, I attended the Fourth Annual Grape Carnival put on by the Southwest Missouri and the Northwest Arkansas Fruit Growers' Association, and a more enjoyable time I never had. The exhibit of horticultural products was a credit to their loudest claims and a testimonial far more convincing than well drafted platitudes, skillful paintings or pretentious representations on parchment.

When you studied the well arranged and tastefully installed grape exhibits of some twenty varieties, including the small and the large in size, the red, white and black in color, your memory, unbidden, swept back over the pages of Ancient, Medieval and Modern history, both sacred and profane, and you thought of the bunch of this magnificent and historic fruit that required the combined strength of both Caleb and Joshua, aided by a strong pole, to lug out of the Promised Land into the camp of the ancient Israelites. You thought of the good judgment and keen power of selection on the part of old Father Aesop in using the grape in writing his valuable little book of fables.

You thought of the Great Teacher and the many times He referred to this fruit, and the vine that bears it, and the industry that was one of the leading occupations of the children of men, when He was here on earth. Some of the most beautiful metaphors and apt similes of the greatest agricultural and religious significance were drawn from the vine and its fruits by Him who knew the art of teaching better than ever known by mortal man. Their grape juice exhibit was such that would have gladdened the eye of a W. J. Bryan or any other champion of an innocent, non-intoxicating beverage.

I urged them with all of the force I could command, to build a grape juice plant, that they might be able to convert every bunch, pound or ton of their grapes into a commercial product that could be kept indefinitely, as compared to the highly perishable grape itself. This juice could be kept and marketed at a time when the price was right and thus bring into that part of Missouri and Arkansas a golden stream of revenue that otherwise would not be seen or heard of. I tried to point out to them that this could be done by the application of the crystalized principles of genuine and unfettered co-operation. Co-operation, that great touch-stone of success that has enabled a collection of individuals by pooling their mutual interest to accomplish Herculean tasks with a shout. Without co-operation the efforts of the individual, acting separately and alone, would be as puerile and as hopeless as the proverbial case of the ignoramous that tried to lift himself over the fence by his boot straps.

The peaches on exhibition were as fine as the grapes, and the display of the garden and the farm were such as to justify me in exhorting them to not rely upon any one crop, but to diversify even though their soil and their climatic conditions were admirably suited to horticultural pursuits. The exhibits of corn grown on upland and on the low land, the alfalfa grown on upland and on low land, the medium red mammoth clover grown on upland and low land, all these were such as to enable them to keep a few good dairy cows, a flock of chickens and enough hogs for their own meat; all these good wholesome things to provide a veritable rock in a weary land to shelter in a time of a storm. At a time when insect pests, a hail storm, a blighting frost, or some unforeseen force, or power, would render the fruit of the tree and vine a total failure.

I had the opportunity and the great pleasure of once more seeing the small grain of the county of Jasper and adjoining counties tucked away from rain and dew and sunshine, in the most beautiful and symmetrically built grain stacks that it has ever been my lot to see, except, in this part of our Missouri state.

While their wheat is dry and the grade improving, farmers in other parts of the state where I have been are trying to wring or torture a separation of grain and straw to their loss in dollars and cents and much vexation of mind and spirit. Just how long the farmers in some parts of Missouri will grow these valuable grains on high priced land, with high priced labor, throw the bundles together in loose, flabby shocks, to twist down take water and rot before the thresher comes to their rescue, this court knoweth not. W. D. McKee.

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SWEET CLOVER OR ALFALFA

A reader from Montgomery County wants to know if sweet clover is as profitable a crop to grow as alfalfa and what we think about it for his section. Briefly answered we would say that where alfalfa can be successfully grown that it is to be preferred but sweet clover will grow under conditions not favorable to alfalfa. I am satisfied that you can grow sweet clover most anywhere in Montgomery County, while on your level prairie lands and the white oak lands you can not grow alfalfa without considerable previous preparation and some little expense for drainage, lime and manure.

Sweet clover grows rapidly, has a deep growing, large tap root and is one of the very best crops we can grow on poor land to build it up and put it in condition for alfalfa or other crops. Sweet clover is not perennial like alfalfa but is seeded one year in spring or late summer and the next year will produce a hay crop and a seed crop and then must be re-seeded or plowed up. Some men claim to keep a permanent stand by seeding the ground two years in succession. In this way there is a new crop coming on every spring along with the old and a perpetual stand maintained. Where it is allowed to grow in pastures and along road sides there is enough seed dropping off every year to seed the ground and keep up the stand.

Sweet clover likes a firm seed bed and for that reason it seems to do very well sown on rye in the spring and the rye pastured off. It may also be sown with a light seeding of oats on fall plowing or on corn land without plowing, merely disking the corn stubble.

While some farmers claim that stock will eat sweet clover readily from the start our own experience has been that they must be forced to eat it until they acquire a taste for it and after that there is no trouble. It is used for both hay and pasturage and makes a good quality of hay, but the sweet clover has so much water that it is rather harder to cure than most other hay crops.

We know of no other crop that is better for green manuring because of both the rank top growth and very large and deep root. Joe Wing says that in the limestone soils of Kentucky, Alabama and Mississippi sweetstone clover is doing wonders and after it is grown a few years then bluegrass takes hold readily.

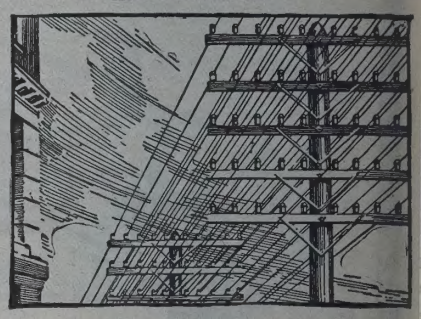
One difficulty has been in getting a stand. There is such a large percentage of hard seeds in most of the seed that only a poor stand is obtained the first year. A machine has been invented that will scratch these hard shelled seeds and when that is done the seed will germinate as well as clover or alfalfa. So in buying seed it will be well to ask for the treated seed. There is no doubt that sweet clover deserves a more extended place than it now has on Missouri farms.

Hidden Factors of Service

Records kept like this are practically useless for the management of a business. Efficiency is impossible and funds for improvement cannot be obtained.

Records, statistics and accounts kept like this are available for a complete knowledge of the cost and efficiency of each department of the business.

Such methods result in a telephone line which can give only poor service.



The result of such records is a telephone line like this, which gives good service.

The subscriber knows the difference! He demands a well-informed, intelligent business management.

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What Kind of Lime?

A reader from Illinois, Mr. P. Hostetter, writes to inquire as to the relative value of quick lime, hydrated lime and ground limestone for sweetening the soil.

The reply is by Professor M. F. Miller, department of soils, University of Missouri:

As to the advisability of using quick lime instead of ground limestone for alfalfa I will say, that it all depends upon the relative cost of the two when their sweetening power is considered. To be exact, 1120 pounds of burned lime when made from very pure limestone is equal to 2000 pounds of the same limestone ground to a very fine powder. If the ground limestone is not finely pulverized, however, and one wishes immediate results, 1120 pounds of quick lime might well be equivalent to three or four tons of ground limestone. Of course in applying this quick lime it must be slaked with water, after which it assumes the form of the hydrate of lime. In that form about 1500 pounds is equivalent to a ton of ground limestone.

In order that lime of any kind may sweeten the soil it must be thoroly mixed with it so that no part of the surface four or five inches of soil is free from these fine particles of lime. Lime is not readily soluble and does not distribute through the soil naturally, hence this need for thorough mixing. Of course if three or four tons of coarsely ground limestone were applied the effect of this would last through a much longer time than would that from the smaller amount of quick lime.

Considering the fineness to which limestone is now being ground I think it can be safely said that it would be very much cheaper to apply at $1 per ton than the hydrated lime at $12.50. Five dollars an acre or $2.50 a ton for a two ton application is a fair price for ground limestone applied. I am of the opinion that you would get better results from a dollar invested in the ground limestone than in hydrated lime with this comparative price, provided the ground limestone were ground to the customary fineness, that is, such that 80 or 90 per cent will pass a 20-mesh sieve. Of course where one is putting out only a small amount of alfalfa and does not wish to order a large amount of ground limestone and where he could get the hydrated lime at $12.50 per ton in broken lots, he might prefer this even at the higher price.

It is now time that alfalfa should be sown that it may have time to get a good root hold before winter. No one should make the mistake however of trying to get a stand of alfalfa on fresh plowed ground on land where a heavy growth of weeds has been plowed down. Alfalfa land should be thoroughly packed and for that reason the ground should be plowed and worked down some time before sowing.

The Missouri Farmer

VOLUME VII SEPTEMBER 1, 1915 NUMBER 17

Why Not Make Missouri a Great Dairy State?

Geo. B. Ellis, Managing Editor

A few weeks ago we gave an account in the columns of The Missouri Farmer of the sale of sixteen dairy cows by a DeKalb county farmer for $6500 or a little more than $400 a head. This small herd of sixteen cows brought enough cash to pay for a good 80 acre farm at $80 an acre. In what other way could a young farmer so easily pay for a farm or provide for the education of his children or for any of the pleasures of a refined home as he could do by bending all his thought and energies to the production of high class dairy cows? The illustration above is an exceptional sale and shows only the possibilities in the production of dairy stock at the present time but if we take the good plain dairy cow—the one any intelligent farmer can produce in the first or second generation of a herd—we will find that these good plain dairy cows, producing around three hundred pounds of butter fat a year will sell for enough a head to more than buy an acre of good farm land. Quite recently one of the readers of The Missouri Farmer refused $125 a head for some high grade good producing Holstein cows. Even at these prices it appears to the writer that any young man with good health and a determination to win can own a farm in a few years if he will pin his faith and tie up his prospects to the dairy cow.

Six Jerseys Produce $1031.10

A Missouri farmer recently writing to Hoard's Dairyman says that he started with a herd of six registered Jerseys, two cows and four heifers only three years ago and for the year beginning April 1, 1914, and ending March 31, 1915, he received from this small herd a gross income of $1031.10 and a net income after feed and pasture was paid for $553.10. And so it matters not whether we take the Holsteins or the Jerseys or whether we produce milk cows or milk products the man who takes up dairying in an intelligent way stands a good show to win.

It would not be wise for every farmer in Missouri to go into the business of breeding dairy cattle or into the production of dairy products but our natural advantages are such that there is room for thousands of highly specialized dairy farms in this state and the men who see this opportunity now will be on the ground floor and in a position to reap a harvest when the general awakening does come.

No farmer need be afraid of the future stability of the dairy industry. The United States is comparatively a very new country yet. While in Europe much land may be found that has been in continuous cultivation for more than a thousand years, we have not much land in this country that has been in cultivation for a hundred years. But in this country new and undeveloped as it is the dairy products of the United States amount to something more than $800,000,000 annually. The only farm crop we have that is worth more than our yearly dairy product is corn and yet with this large production we have not kept pace with the demand and millions of pounds of dairy products are imported and the amount imported is increasing rapidly. In 1912 there was brought into this country dairy products to the amount of $10,029,853. In two years, that is for the year 1914, the importations had increased more than fifty per cent or to a total of $15,403,143. The bulk of our dairy imports come from Italy, Switzerland and France and mostly from the first two. Our city population is growing so much faster than the rural population that the demand for milk, butter and cheese is in no danger of being oversupplied for at least a great many years. Furthermore, the high prices for meats has caused a greater reliance on dairy products for the food supply of cities and this condition will continue to increase in favor of dairy products as the country grows older.

Poor Cows Cause Failure

The reason some men have failed to make a success of the dairy business is that they have started with poor cows. There are hundreds of cows kept on the farms of this country and milked, housed and fed for a yearly product of 150 pounds of butter fat. No man is going to make a success of dairying who can not bring his cows up to at least double that amount. In the case of the Missouri farmer previously referred to in this article, he made an average of 7,221 pounds of milk and 372 pounds of butter fat a year from his herd. A few years ago a groceryman in Southwest Missouri started into the dairy business with a bunch of Jersey cows and in a very short time brought the herd up to an average of 400 pounds of butter fat a year. In order to do this the man who starts in the dairy business must realize two fundamental things. That a good herd of cows is the result of selection, breeding and care. No matter how much care is bestowed on a herd or how much intelligence is used in feeding a balanced ration a large production is impossible unless you have the right kind of cows. As the result of a cow census taken in several states it was found that on farms where the dairy-type cows were kept there was an average annual net profit of $17.98 a head, while about an equal number of herds not of dairy type returned a profit of only $2.03 a head. These figures were made up from investigations of several hundred herds taken just as they were found in typical farm communities in Iowa, Wisconsin, Indiana, Ohio, New York, Pennsylvania, Connecticut, Vermont, Minnesota, Michigan, New Hampshire, Massachusetts and Illinois.

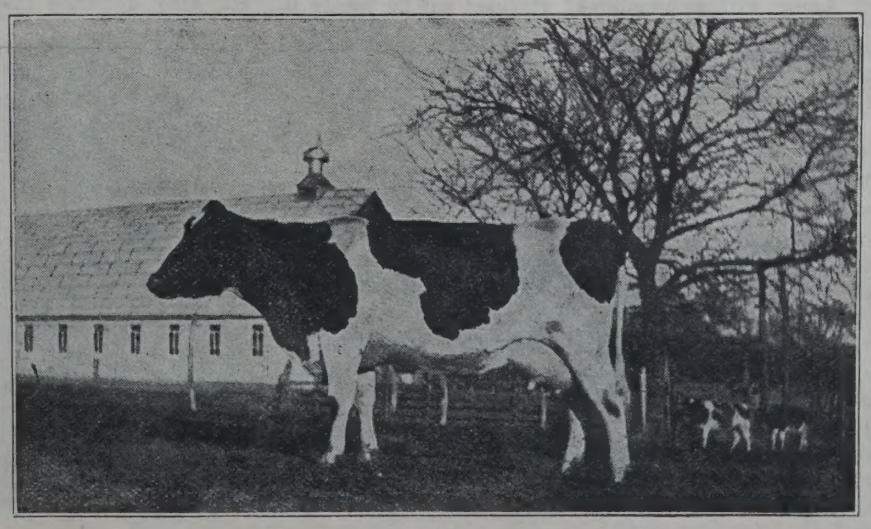
Select a Good Bull

The first step for the farmer who has made up his mind to establish himself in the dairy business is to start with the right kind of cows. For the man who is without much working capital it may be necessary to start with whatever cows are already on the farm or as may be picked up in the neighborhood but the very day the dairy is started the weeding out process should begin by keeping a separate record of each cow's product and as often as it is found that a cow is not paying she should be sent to market and a better cow put in her place. This may seem to be a slow process but a big change can be made in any herd in two or three years. Equally important with this weeding out process is to start at once to improve the herd by using a pure bred bull from a line of high producing cows. In selecting a bull do not take one unless his dam and grand-dams were capable of producing 300 pounds of butter fat in a year. This is the minimum standard but as the herd is improved and the young heifers come along to improve the average the wise dairyman will raise the standard for the bull to 350 and later to 400 pounds. In buying a bull pay more attention to the record of his immediate ancestors than to anything else. Good authorities agree that a good bull should increase the average production of his progeny of 1000 pounds of milk and 40 pounds of butter fat per cow per year above that of their dams. The Ohio Station reports one Holstein bull used on the station herd that increased the average production of his seven daughters 1,299 pounds of milk and 40 pounds of butter fat a year above that of their dams. "Forty pounds of fat per year for 6 years (average producing period) by each of 7 cows would be 1,680 pounds of fat; 1,680 pounds of fat at 30 cents a pound equals $504. This animal cost $100 when a calf." A Jersey bull used at the same station decreased the average production of his 11 daughters over 700 pounds of milk and over 45 pounds of butter fat per cow below their dams. This bull caused a loss of $891. The difference in money value of these two bulls, the first improving the herd by $504 and the other losing by $891 is $1395. Had the first bull been bought at $500 he would have paid his own cost in the betterment of the first seven of his heifer calves, while the second bull would have been very costly as a gift.

Stick to One Breed

"In improving by 'grading,' it is very important that successive sires be of the same breed. By using this method, a few generations will give animals which, so far as appearance and production are concerned, cannot be distinguished from pure-bred animals. Four generations make them fifteen-sixteenths pure. So far as production is concerned, a grade herd carefully selected and bred to good bulls of one breed is preferable to the average purebred herd without selection. Indiscriminate crossing, or the use of bulls from different breeds, gives very uncertain results. It is a serious mistake to think that by mating animals of one breed with animals of another breed the desirable characteristics of each may be retained. The chances are just as great that the undesirable characteristics will be retained."

Aside from the fact that either line of the dairy business, that is producing dairy cattle or dairy products, can be made to pay as well as any other line of farming, indirectly the question of keeping up the fertility of our farms should be the deciding point with thousands of upland farmers in Missouri. When the average wheat yield of the state is hardly fifteen bushels per acre there must be many farms producing less than ten bushels. And with an average yield of less than thirty bushels of corn there must be many farms producing no more than twenty bushels. Any farmer producing less than the average yield for the



Sixteen cows like above from a Missouri Holstein herd recently sold for $6500. There is no surer way to pay for a good farm home than to produce good cows.

state had better quit farming on his own account and work as a hired man. The average yield of wheat and corn will just about pay the farmer current wages for hired men. Any well managed dairy farm will show a yearly product of farm crops much above the average. As an example of the improvement in crop production brought about by dairying we mention the Hosmer farm in Webster county. Twenty years ago this farm had been so run down by grain farming that five or six bushels of wheat and fifteen or eighteen bushels of corn was about all that could be expected from the average crop. By keeping cows and selling butter, buying some feed and growing clover with grain crops and carefully applying the manure the production of the farm has been brought up to twenty-five and thirty bushels of wheat. In favorable seasons eighty and one hundred bushels of corn have been produced. But with this concrete example of what dairy farming will do for the soil there are hundreds of farmers going right along seemingly content with the yields the Hosmer farm made twenty years ago.

The state board of agriculture reports another farm in the Ozark country, that of N. P. Jacobsen, near Seymour in the southern part of Webster county, that shows the effect of good dairy practice on farm fertility. Mr. Jacobsen raises sixty bushels of oats to the acre, is not satisfied with less than thirty bushels of wheat and sixty bushels of corn. He is able to do this because he has a silo and keeps twelve cows and some other stock on a forty-acre farm. Dairying and fertile farms travel side by side. Compare the big yield of crops in Denmark, Holland and Switzerland, the dairy countries of Europe, with Russia, the great grain county. Russia shows the lowest grain yield of any country in Europe while all the other countries, rich in the number of dairy cows, are among the highest producing countries of the world and maintain a very condensed population in a highly efficient manner. If we take for illustration the dairy districts of our own country we find the farms are better improved, they have better roads and better schools than the districts devoted to grain farming. What better evidence do we want to prove to us that dairy farming will prove a great improvement over the present system of general farming practiced on so many of our farms in Missouri?

A Boy Who Made Good

In 1909 a young man from Lawrence County who was taking a special dairy course in the State University, was called home to take charge of the farm on account of sickness of the father, according to a statement made by P. M. Brandt. An average dairy herd of Jersey and Shorthorn cows, headed by a grade Jersey bull was in use on the farm. The young man took home with him three things which gave him better success than his father had. These three things were, a pure-bred Jersey bull, a pair of milk scales and a Babcock milk tester. At the end of the first year the scales and tester showed an average of 180 pounds of butter for each cow. Three years later the average had been raised to 300 pounds average. Cows with poor records were sold from time to time, eight were sold the first six months and better cows bought to fill their place. The bull was used with the best cows and in a few years a high class herd that will produce double the yield of the former herd will be the result.

FARM TRACTOR DEMONSTRATION

The question mark which the farmer originally placed before oil-burning tractors is growing dim. The tractor for all farm work is now a reality, and many farmers are buying tractors with which to equip their farms with power.

This sums up the most elemental tractor lesson taught at Fremont, Nebraska, by the Third Annual National Power Farming Demonstration, which came to a close Saturday, August 14. For one whole week the little city of Fremont was one of the busiest places in the great Platte-Elkhorn Valley. Special trains poured hundreds of visitors into the town, and streams of automobiles ran into the city constantly from every side. Thousands of farmers made pilgrimage daily to the colony of tents pitched on the plain some two miles from the paved streets of Fremont. Out of these tents every day there rambled an army of oil tractors to tear up the soil of some farm in the vicinity with deep rooting gangs.

Developments of the week show that although the farmers came like they were on a holiday, they were in a buying frame of mind. In this there is a difference from the previous demonstrations. Three years ago, when the national demonstration was originated at Fremont, the farmers came to see the tractors out of curiosity. Last year they looked with more interest than wonder, and this year orders for machines were many.

On the first day of the demonstration this year, one large company improvised a chart out of a window curtain, hung it in its tent, and wrote across the top "Names of purchasers; watch the list grow."

There was a tremor of uncertainty even in that camp, for the writing was small and the distance to the bottom of the curtain looked untraversable. But before the day was over two or three names announced that the buying had begun, and as the week rolled on and interest grew more intense, a new curtain had to be added, and yet a third, to hold the names. The final sales of this company alone stood well over eighty, and the list was composed largely of farmers. There were a few dealers among the number who, seeing the interest which farmers were taking, decided to buy a tractor for their show room to start things in their territory.

These sales are but a small part of the effect of the demonstration.

"Those buyers," said one experienced salesman, "are scattered all over this section of the Platte Valley country. Each man will get his tractor home, and many of his neighbors will get interested and have to have one just like it, like they are, you know, with automobiles. Harvest will not compare for busy season with what we will be up against in getting all these people fitted up with tractors."

The farmers were in a buying frame of mind, but that does not mean they were not determined to get the most for their money. During the plowing tests joined in by the tractors of thirty odd companies, the farmers were on hand with measuring canes, scattering all over the field, following the tractors up and down, measuring the depth of the plowing. Those tractors were most favored that turned the deepest furrows. As one farmer said, "We do not necessarily want to plow over six inches, but we do want to know that we have the power. The ground may get hard and there will be hills. We have got to have the power."

This throng of men absorbed in the work of these new farm power engines were not by any means all prosperous owners of large farms. Every type of farmer was represented. There were men who were evidently landlords with residence in town and tenants in the country. There were horny handed farmers, many of them owners of small tracts and some even tenants. There were patriarchs with flowing beards taking this farm power innovation very much as a matter of course. There were many farmers' wives, some of them speaking some North European accent, and all of them getting at facts of tractor farming for themselves.

The great majority of the sales were of the little tractors suited to the small farm, and with the power to pull two or three bottoms, or a disk harrow and a peg-tooth, or one binder or two mowers, or a manure spreader, or to run an ensilage cutter, a shredder, or a small thresher. It was the owners of small farms who bought most of the tractors at Fremont, and who will buy the most tractors today and tomorrow. This is because there are more small farms than large ones, and a tractor has now been developed which is admirably suited to the small farm with its large number of jobs demanding power.

The manufacturers are learning something from such demonstrations as that held at Fremont. They are learning that it is not enough to make a small tractor and ask a small price for it. Some assurance must be given the farmer that he can get some service along with his tractor, and that he will not find himself in a worse power dilemma than ever when, upon a break-down in the busiest season, he finds that he has to wait an indeterminate period to get a repair part. The farmer wants to know that there are plenty of dealers with repairs right in his home territory where he can get emergency help quickly when he wants it. He also demands that there be plenty of the employes of the company selling the tractor in his locality, so that he can get expert assistance in case he has initial trouble in learning the cardinal principles of tractor operation.

There have been more than one hundred manufacturers in this country who have undertaken to build farm tractors. Many of them have supplied examples for the successful manufacturers to avoid, and there are now few companies compared to the number starting in the business who are offering oil-burning tractors to the farmers. These are learning that they cannot mount a kerosene engine on three or four wheels, charge an insignificant price for it, and make a business success. The wise farmer measures the depth of the furrow, looks for complicated mechanisms which will get out of fix, wonders if the company is going to be in existence next year to sell him repairs, calculates the time it will take to ship repairs from the sales point nearest his farm, and does a lot more figuring that means trouble for the freak manufacturer who counts on building up a big business on a little merit. The farmer is in a tractor buying mood because he believes there are some companies that understand he is more concerned with quality than with price, and that he wants to buy service as well as tractor when he writes his check.

Geo. F. Whitsett.

This cut shows a number of tractors in the demonstration. A good deep furrow and smooth even plowing recommends the tractor to good farmers.

HOW TO GET RID OF HOG CHOLERA

J. W. Connaway, D. V. S., M. D., Veterinary Department, College of Agriculture and Experiment Station, University of Missouri.

[This article is a continuation of the articles in previous issues and will be continued until the whole subject of hog cholera control is thoroughly discussed. We suggest that every swine raiser who reads The Missouri Farmer should file away all these papers containing this article and they will then have the most valuable treatise on hog cholera that has been published.—Editor.]

Food and Water

For the maintenance of health in all animals the food and water supply should be of good quality and free from contamination with disease producing organisms.

The water supply was discussed to some extent under the section "streams" and "ponds" as disease carriers. Surface water if kept free from pollution is not objectionable, in fact often preferable to the deep-well water of certain sections. But the deep-well water is not so liable to become polluted with cholera germs, and if free from objectionable mineral substances, as salt, sulphur and excess of lime, is much to be preferred on account of the smaller danger of carrying cholera infection.

The food supply is rarely a carrier of cholera infection. But corn that is hauled in a wagon box that was used a short time previously to haul "sick and exposed" hogs to the shipping station, will certainly become contaminated with hog cholera virus and give the disease to hogs that eat of it unless the wagon box has been properly disinfected. Waste food in corn fields that have been partially hogged down may be contaminated with hog cholera virus if some of the hogs that were first turned on the fields were infected with the disease. Other hogs turned into the fields later may contract cholera if not previously vaccinated. Sick hogs should not be allowed to run in the fields where corn has been cut and shocked as their feeding and bedding about the corn shocks is liable to infect the corn and fodder and transmit the disease to other hogs.

The question is often asked: "Is

ankage' ever a carrier of hog cholera ıfection, since many cholera in-ected hogs are 'tanked' at the packing ouses?" There is but little danger of ansmitting cholera by feeding tank-ge. The tankage is subjected to a igh degree of heat and germs of all inds are destroyed. And if it is sub-equently handled in a manner to pre-ent it from becoming contaminated ith the germs of hog cholera there no danger in feeding it. Special are should be taken by the men who ack and handle the tankage to avoid arrying cholera infection into the ınkage storage room of the packing ouses. The men assigned to this par-cular work should not handle chol-ra carcasses, they should not go from cholera infected pen into the storage oom without first changing their hoes. Proper precautions in these espects will prevent the tankage from ecoming infected after it comes from he tanks.

Quality of the Food: Hogs are some-imes fed on immature, moulded or orm-eaten corn that is rejected as ood for horses and cattle. But hogs o fed will not thrive as well as when ed on corn of good quality. Such food s liable to contain, or form, poisonous roducts that cause irritation of the igestive tract, and disturbance of di-estion. Diarrhoea may result. The oor quality of the food is thus liable o render the hogs less resistant to holera, if they should become ex-osed to the virus of that disease. This also applies to the feeding of ıew corn if fed in excess. The starch n new corn is not fully ripened and s softer and more fermentable than in ld corn, that is well cured and hard-ened, hence it is more liable to cause igestive disturbances and a lessened esistance to cholera. New corn never reates cholera, but it can easily pro-iuce conditions in the hogs that ren-ler the animal more susceptible to the disease when exposed to it. Care should be taken to not crowd the new corn too rapidly to a full feed but to mix with it old corn and proper pro-tein supplements.

Balanced Rations: Hogs are fed for profit and the farmer desires to get the greatest profit possible out of the feed that goes into the hog. That is, he desires that as much of the food as is utilizable shall be converted into permanent tissue, flesh, fat and bone, and that none or but little of the nu-tritious elements of the food shall pass through and be lost with the indigest-ible waste products or lost in other ways. But in the matter of feeding the best results cnanot be attained with-out some knowledge of the "science of feeding." Many farmers have studied these matters and are profiting by them. And it is true that many farmers know how to put a large number of pounds on their hogs in a short period of time without knowing anything about "balanced ration," and by following a fixed plan of their own. But in the case of these it frequently happens that in getting their good gains in a short time they have not done it in the most economical way and have lost some of the profits that could have been saved. It is well, therefore, for every feeder to study the matter of "balanced rations", for this is the key to profitable feeding. It is not my purpose, however, to go into the details of this subject and to give specific formulae for rations of the various mixtures of food stuffs that should be fed to the breeding herd, the growing shoats and the fat-tening hogs. That phase of the work belongs to the Animal Nutrition De-partment. But it is proper to men-tion in this connection that the natural resistance to cholera is greatest in an animal whose physiological functions are kept at their best, and proper feeding is one of the essentials. Some mention of the principles of feeding is therefore pertinent and this I shall present in the simplest and most ele-mentary way.

The food stuffs upon which the ani-mal subsists must necessarily as a whole contain the same chemical sub-stances found in the animal body. The animal body requires three kinds of food substances: (1) Protein (or ni-trogenous materials) for the building up of the muscles and other active tissues. (2) Energy and heat produc-ing foods, as fats, occuring in the oils, and carbohydrates in the starches and sugars. (3) Inorganic foods (water and mineral salts). The animal body simply appropriates as much of the available chemical substances in the foods as it for the time being needs, or is able to store up for future use. The excess of these chemical sub-stances in the food eaten is eliminated from the body. And it not infrequently happens that this excess of food ma-terial that cannot be used by the ani-mal and is eliminated as so much waste material is in fact high priced food elements which the feeder is los-ing because he does not understand the physiological needs of the animal. To illustrate this matter roughly: Let us suppose that a lot of fattening hogs on full feed were left for a week in charge of a simple minded conscien-tious lad who knew nothing about feeding but was told the quantity of corn to give but misunderstood the in-struction and gave them daily twice as much as they could possibly eat. The result is easily seen, a gross waste of corn trampled and soiled in the mud and manure of the feed lot. But the same thing happens in a less degree and in a different way when hogs are fed on an unbalanced ration all the feed they will clean up. The feeder thinks that because the pigs eat up all the food given and they are taking on weight, the ration given meets the proper needs of the animals, while in fact they may be wasting con-siderable food for the owner and wast-ing some of their own enegry in the labor of eating, digesting, absorbing and trying to transform into body substance an excess of one class of food material in securing enough of another class and expending further energy in eliminating from the body the excess of this good but unusuable food material. This physiological mis-treatment of the hogs is not good for the owner's pocket-book, nor is it good for the health of the hogs. Certain organs of the body are overworked and the animal becomes less resistant to cholera. An example of this is sometimes seen in hogs that are fed exclusively on corn—a highly carbo-naceous, starchy food, a fat and heat producer. Corn contains some nitro-genous or proteid substances but not in sufficient quantity to properly bal-ance the ration. Hence a greater quantity must be eaten in order to supply the proper quantity of protein. And the result seems to be that the vital tissues are lacking in tone and resistance because of unbalanced nu-trition. The tissues are over-fat and flabby and the death loss in such herds is usually large when infected with cholera.

If a proper amount of protein is added to the ration in the form of tankage or oil meal, soy beans, alfalfa, etc., less corn will be required, the expense of fattening will be less and the animals will be more healthy and vigorous.

In our "Anti-hog-cholera club" work an animal husbandry instructor is a member of the team and to him falls the duty of teaching the club members what foods to select and in what pro-portions to mix them. The rations would vary according to the cost of the materials, yet proportioned so as to meet as nearly as possible the physological requirements of the ani-mal. I give herewith three rations that were recommended for dry lot feeding: "Mixture No. 1—Corn 5 to 6 parts and oil meal 1 part. Mixture No. 2—Corn 8 to 10 parts, middlings 2 parts and tankage 1 part. Mixture No. 3—Corn 10 to 12 parts and tank-age 1 part."

"Clover and alfalfa hay may be fed in racks to brood sows. Hogs on green forage need less of the supplements than when in dry lots."

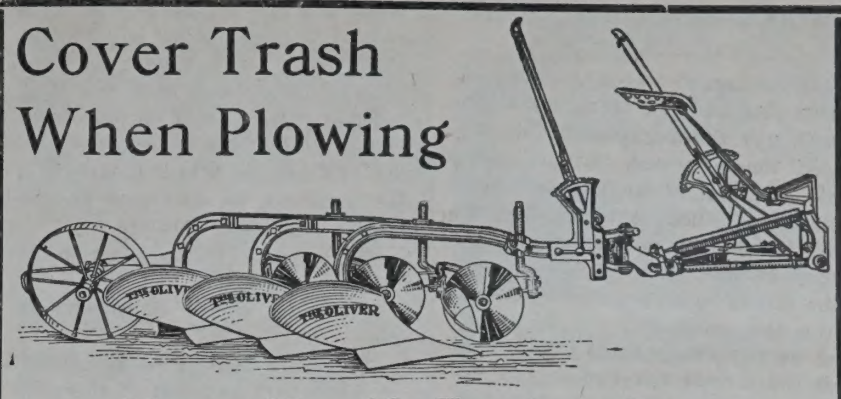
Hogs are more healthy if they are provided with a proper amount of green food. Succulent food aids in keeping the bowels in good condition and prevents the constipation or clog-ging of the bowels that irritates and inflames the mucous membranes and thus gives rise to conditions favorable for contracting cholera. The follow-ing is recommended in regard to for-age crops from the points of view both of health and economical feeding: Pasture crops: "Use pasture crops to save grain; rye and wheat are good winter pasture, alfalfa is probably the best hog forage when it can be grown successfully." Alfalfa it should be re-membered is rich in protein food. Clover should not be overlooked as a forage food for hogs.

Exercise in connection with proper feeding is essential for the mainte-nance of health and vigor in hogs and this is especially important in the breeding herd. The sows and growing pigs should be made to work for their living. Pasture crops should there-fore be provided. In addition to the other forage crops a rape patch will provide an abundance of nutritious succulent food during the summer and fall, and will give the hogs exercise in gathering it. The "Dwarf Essex" variety of rape should be sown. Many farmers have been disappointed in trying to grow rape for hog pasture on account of sowing the "bird rape" instead of the Dwarf Essex. The lat-ter provides a luxuriant foliage, and continues good until the hard killing frosts while the "bird rape" runs up a spindling stalk and goes to seed. The practice of "hogging down" corn gives the fattening hogs healthful exercise, and is an economical way of gathering the crop and spreading the manure on the corn fields. Hogs kept out on the fields are not so liable to become ex-posed to cholera as those crowded to-gether in feed lots. And the slight loss of feed from "hogging down" the crop is more than saved in the ex-pense of gathering and feeding the crop—to say nothing of the increased fertility of the soil gained by this method of feeding. Care should be ex-ercised when first turning hogs in a field of corn. They should have a pre-liminary feeding of old corn and a proper amount of protein supplement to prevent them from gorging them-selves and starting digestive troubles. The herd should have a supplemental feed of tankage, oil meal or shipstuff while hogging down the corn to bal-ance the corn ration. Some farmers plant soy beans with the corn and this helps to balance the ration and saves labor in feeding. (Write to the Ani-mal Husbandry Department or to the Agricultural Extension Service for fuller information in regard to rations, forage crops for hogs and feeding methods).

(Continued in next issue)

Missouri farmers lose more money every year from hog cholera than the total appropriations of our state gov-ernment and this loss can all be saved by following Dr. Connaway's advice.—Editor.

Cover Trash When Plowing



Oliver No. 63 Engine Gang

You are having more trouble covering trash this year than you have for a decade. You know the importance of having all green vegetation and trash on the bottom of the furrow. The growth of your fall crops depends on how well you cover trash.

We have a trash coverer which covers rank growths on your stubble. The Oliver No. 62 engine gang has it. This simple engine plow does better work than you can do with horses and has all adjust-ments operated by the man on the engine. In all plowing demonstra-tions given this year the Oliver No. 62 Gang did work that was in a class by itself.

We want to tell you about this plow and show you why it will cover your trash better than any other plow.

ASK ANY OLIVER DEALER ABOUT IT.

WRITE US FOR FULL PARTICULARS.

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THE GARDNER LAND BANK LAW

While in former issues of THE MISSOURI FARMER the Managing Editor has already thoroughly and ably discussed the proposed Gardner Land Bank Law, yet of such transcending importance is this act—the greatest ever passed by a Legislature in the history of this state in the interest of the farmer—that perhaps a renewal of the discussion may not be out of place at this time. From time out of mind the farmer has had to pay excessive interest rates and that, too, upon the soundest and best collateral in the World. Not only have the interest rates within themselves been exhorbitant—leaving little opportunity for a margin of profit in the operations for which the money was used—but the short periods for which the farmer has been able to borrow and the embarrassment and annoyance attending the frequent renewal of these short time loans has hardly made the "game worth the candle." The American farm game is no longer a two by four affair. It is the great fundamental industry of the Nation, involving the production of billions of dollars worth of new wealth every year—and the time has come when, if American Agriculture is to make the most of its opportunities and if it is to become the great bulwark of the Country's future prosperity and well-being that it deserves to be, the farmer must be rescued from borrowing facilities which place him in a class little removed from those whose misfortunes drive them to a pawn shop. With collateral based upon his land, he surely has a right to expect to borrow under as favorable conditions as any other class or interest—and so too, it should be made possible for him to extend the duration of his loan over a period of years sufficiently long to enable him to develop his farm into a money-making enterprise—a thing which is impossible under a hand to mouth borrowing system which ignores the years of time necessary to building up his soil, live stock and other farming equipment.

Will Help Young Farmers

As matters stand, at least in a majority of cases, the farmers who are well to do today derived their wealth from increased land values rather than from the profits they made out of growing crops and live stock—and while such farmers may manage to get along with comparative comfort under existing conditions, yet to the young farmer with little capital save muscle and determination the prospect of owning a good farm of his own, at the present prices of farm lands, look dreary and disheartening—and it is to such men, as well as the average farmer who is struggling along under a heavy mortgage upon which he is paying an excessive rate of interest that the proposed Land Bank Law offers a new hope and a brighter prospect in the years to come.

In a nut shell, the new law provides for the creation of an institution which is to be known as the **"Missouri Land Bank"** which shall become a part of the State Banking Department and be under the management of the State Bank Commissioner at Jefferson City. This bank shall have the power to make loans direct to the farmers of this state, on promissory notes, secured by deeds of trust in the nature of mortgages on farm lands, of amounts not in excess of 50% of the appraised value of the land—pledged to run for periods of not less than five years nor more than 25 years. No loan shall be less than for the sum of $250 nor for a greater sum than $10,000—preference being given to the smaller loans. Loans will be made only to applicants who offer first liens on perfect titles and in no case shall the loan be used for speculative purposes. To this end it is stipulated that these funds can be used only for the following purposes:

1. To increase the production of the land mortgaged.
2. To make useful improvements thereon.
3. To pay off liens or incumbrances, or to make part payment of the purchase price where the borrower is paying part of the purchase money.
4. Twenty-five per cent of the amount borrowed may be used for the purchase of livestock and machinery.

A Million Dollars Capital

The act provides that the General Assembly shall appropriate one million dollars as working capital for the said Missouri Land Bank and that the first $500,000 shall be loaned to farmers at 4.3%. In addition to this, the State is authorized to collect one-half of one per cent from the borrower to pay the expenses of conducting the bank, etc. Against the notes of the borrowers the bank will be authorized to sell and issue debenture bonds and these bonds will recite on their face the fact that they are secured by notes for the amounts thereof, secured by deed of trust on farm lands in the State of Missouri to the amount of twice their face value. In other words, the Land Bank will, from time to time, offer a series of these debenture bonds for sale to the investing public and inasmuch as the bonds will be secured by land worth double the face value—and since these bonds will be exempt from state, county and municipal taxes of any kind it can readily be seen that they will at once become a most desirable and sought after investment in the money markets of the Country.

While the loans will run for from five to twenty-five years, the borrower has the right to pay all or any part of his loan at any interest period after the first five years. Thus, suppose a farmer borrowed $1000 on the amortization plan: If he sought to pay it off within five years, it would require an annual payment of $224; in ten years, an annual payment of $124; in 15 years an annual payment of $91; in 20 years, an annual payment of $75; in 25 years, an annual payment of $65. If the bank finds that it has not needed all of the one-half of one per cent interest charged borrowers to pay the losses and expenses of the bank, then it shall have the discretionary power to refund any proportionate surplus to all borrowers whose loans have run for a period of at least ten years—thus exacting from borrowers only such an amount as is necessary to keep the institution upon a self-sustaining basis.

On a Sound Basis

In short, the Land Bank Law means that henceforth farm credits will be assembled and placed upon a sound basis the same as city or government bonds, and will therefore command the lowest current interest rates.

These, in brief, are the provisions of the new law and that its enactment is of tremendous importance to the farmers of Missouri there is little question. Before it can become a law, however, a Constitutional Amendment will have to be submitted and receive the approval of a majority of the voters of the state at the next general election in 1916.

In the near future, the petitions for the necessary Constitutional Amendment will have been prepared and the moment they are ready announcement of the fact will be made in our columns and THE MISSOURI FARMER will then be glad to send copies of the blank petitions to any farmer who will agree to circulate them for signatures in his community. It goes without saying that every farmer in the state should sign one of these petitions—not that such a large number are legally necessary but if for no other reason, for the moral effect it will have upon the voters in the towns and cities.

Farmers Get Busy

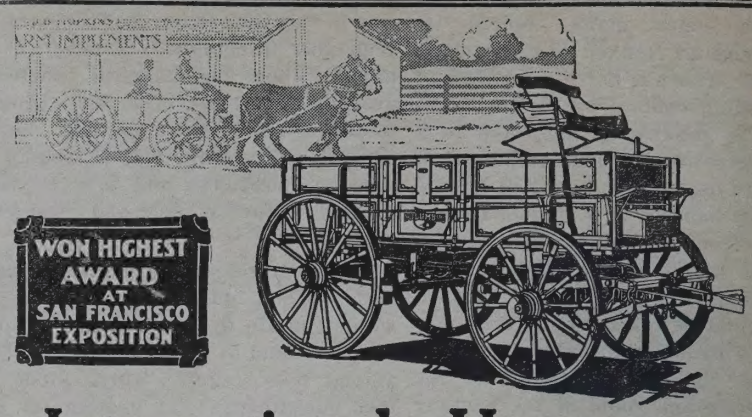
In the campaign of 1912 when a group of agitators sought to fasten the iniquitous Single Tax upon the land owners of this state, THE MISSOURI FARMER was the first publication of any consequence to raise its voice against this dangerous propaganda which would have weighed like a "mill stone" upon the necks of the farmers of Missouri—and even as it led the fight against that heresy, so today it wishes to impress upon its friends that the Land Bank Bill means more to them than any other piece of legislation ever written upon our statute books and that no legitimate effort should be spared to guarantee a safe majority for the necessary constitutional amendment at the forthcoming election. Naturally, the first step that should be taken is to line up the farmers themselves solidly for the measure—and to this end, we suggest the organization of a "Land Bank Club" in just as nearly as possible every school district in the state and to those of our readers who are willing to lead out in forming such an organization within their districts we suggest to write to us at once when we will gladly render them every assistance possible. If you wish extra copies of this issue for the benefit of your neighbors who are not now receiving the paper, let us know, when we will supply you as long as our surplus copies last.

Should Organize Now

We do not at this time look for any organized opposition to the Land Bank Bill but certainly the issue involved is of such overwhelming importance to the farmers of this state that they cannot afford to take any chances—and safety lies only in thorough, state-wide organization. No one knows at this time what other amendments may be submitted and there is always the danger of some "red flag" proposal which will move thousands of voters in blindly voting against all amendments in the hope of killing the one to which they are chiefly opposed. If, therefore, somebody asks you to sign a petition for some kind of an amendment, be on your guard—and unless it is of genuine public importance and unless you are certain that you understand the motive behind it it will be better to have nothing to do with it.

Once farmers themselves have been thoroughly organized the educational campaign must be carried into the towns and cities—for one man's vote counts just as much as anothers. When business men and laboring men come to fully understand the proposed measure thousands of them will favor it heartily for it is to the interest of all our people that the farmer shall have the broadest possible opportunity in working out his destiny. But for the present let us see to it that the farmers of just as nearly as possible every school district in the that are thoroughly aroused to the importance of this measure and we want every reader of THE MISSOURI FARMER to know that he is at liberty to call upon us for assistance to this end.

William Hirth.



International Harvester Wagons—Weber—Columbus

WHEN your old wagon is just about gone and you're thinking of buying a new one, sit down and do a little figuring. What kind of service has that wagon given you? How many delays have you had because of accident and breakdowns? Could you always get repairs easily? How long has it lasted? You have to add all unnecessary expense to the price you paid at first, to find out what your wagon really cost you.

When you have these figures you will see at once the advantage of buying a **Columbus** or **Weber** wagon. They give you steady service, with no delays. You can get repairs any day you need them. The folding endgate and link end rods make them easy to load and unload. The fifth wheel—an exclusive feature on these wagons—adds years to their life.

When you are ready to buy a new wagon and want the one that costs the least per year of service, drop us a line. We will direct you to the nearest **Columbus** or **Weber** wagon dealer and give you information that will make it easy for you to buy one of the best wagons you ever owned.

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WE WANT YOUR HELP

THE MISSOURI FARMER is offering to pay the expenses of some ambitious farmer boy through the "Farmers' Short Course" at the Agricultural College this winter—and we want the

interest and help of every reader of the paper in this good enterprise. The "Short Course" lasts for seven weeks. The first course begins in November and the second one in January—and boys will have the choice of attending whichever term they prefer. This means seven weeks instruction in Missouri's great Agricultural College in Soil Fertility, Live Stock Feeding, Breeding and Diseases, Seed Selection, Seed-bed Preparation, Dairying, Horticulture and the other great fundamentals of Agriculture—a training which your boy will be able to put into mighty profitable practice on your farm next year. Again, mingling with 3000 of the brightest boys and girls from all over Missouri for seven weeks will do any boy a lot of good. Any bright boy can win this prize with his spare time during the next 30 days. If there isn't a boy in your family who would appreciate this opportunity, please mention it to some bright boy in your neighborhood and have him write us for full particulars at once.

HOW HE LOOKS AT THINGS

The following letter from Mr. C. H. Jackson, one of our good readers at La Plata, has some good suggestions in it. Along with his letter Mr. Jackson sends a group of kodak pictures which show a well kept farm with lots of fine live stock—the kind of a farm which shows thought and thrift and no doubt happiness in the family circle.

Editor The Missouri Farmer:

Often as I have read your paper I have thought of writing you a letter—and then again I wonder whether anything I could say would prove of interest to your readers. I can see that the man who writes the articles on the first page isn't in favor of a big Army and Navy and I want to heartily approve this sentiment. So too, we want to keep out of this awful foreign war. Let us attend to our own business and sell them our surplus wheat, pork and beef, so we can help to keep body and soul together for those who haven't as yet been killed on fields of battle. We need to think of how to farm and manufacture better rather than of war. We have too many idle men in the Country who ought to be at work—too many boys in our towns who hang around pool halls, which are places of iniquity that have ruined thousands of young men. Too many men standing around on street corners wearing a "biled" shirt, chewing tobacco and telling nasty stories while their wives eke out a miserable existence—and yet when we farmers need a man in the harvest field or behind the plow these street loafers turn up their noses at us. Some of these fellows who want war might organize these fellows into an army for it really wouldn't hurt much if a lot of them never came back home again. Missouri is so rich in agricultural, mining and other possibilities that no able bodied man should have an excuse to be idle. What we need is more thrift and education—and whether you like him or not, no man has done more in recent years to "jolt things up" in wholesome fashion than has our old friend William J. Bryan. When he found that he couldn't agree with the President he got out and gave him a chance to put another man in his place and I honor him for it. This has been a hard season on us farmers around La Plata—entirely too much rain just as it was too dry the two years before. And yet we must make the best of it for it doesn't do any good to grumble. I am sending a dollar to renew your good paper because I think it should have a place in the home of every good farmer in Missouri. With best wishes,

C. H. Jackson, La Plata, Mo.

A MODERN COUNTRY CHURCH

On August 15 the farmers who live in the vicinity of Ashland Church in Howard County, Missouri, dedicated a new structure which is a splendid monument to the progressive spirit of these good people and which deserves emulation in many other Missouri communities. To Mrs. Pearle Henderson Pipes we are indebted for the following description of the new edifice: "This splendid new structure will long stand as a monument to the enterprise and zeal of the people of Ashland community. It is a handsome brown brick building with stone trimmings and would do credit to many town congregations. It has a fine auditorium, a choir loft so arranged that a pipe organ can be installed later, a pastor's study, baptistry, toilet rooms, cloak room, rest and Sunday school rooms—and in the basement a commodious kitchen, dining room and heating plant. It is lighted by gas and equipped with a waterworks system—and as an evidence of the progressiveness of the farmers of this community, the big dining room will be utilized for high school purposes."

Why will not hundreds of other fine Missouri farming communities follow this example and build a country church in their midst which will be a real power for good? Not only is Ashland Church in position to become a powerful influence in a spiritual sense but here is a building so equipped that it can become the center of all wholesome community interest. Here the farmers in the surrounding territory may gather with their families not only to hear a good sermon but also for pure enjoyment and recreation. Here the young folks may have their rendezvous of fun and entertainment and here in this comfortable dining room in the winter time the farmers may come together to talk over their different problems and listen to agricultural lecturers. Truly the farmers of this community are on the right track and those who follow in their footsteps will find farm life more interesting and have less difficulty in keeping the young folks content with rural conditions.

LYON'S PRACTICAL FARM PAPERS

Our chautauqua audience of more than 1000 persons was highly pleased with Dr. Luckey's lecture on tuberculosis and the interest in it was so great that not a single person left while the doctor was speaking.

Silo building is on here now, and one firm says that they have thirty silos under contract.

Our son, Wayne, of Hickman Mills, Mo., is at home, and says that he is going to put up a 14-30 yellow pine flooring silo, as soon as he gets home, or about Sept. 1. He says that he only has a two-year lease of the farm he is on, or he would build a standard silo, but that the cheap flooring silo will, if well put up and cared for, last seven to ten years.

At this date, August 20, we are having cold wet weather, too cold in fact for corn to do its best, but our corn is all early enough to make a good crop and mature before frost.

Tobacco has made a wonderful growth in the past two weeks, and a week of warm weather will see early tobacco going into the barns, my own crop being in this class.

There is very little breaking for wheat being done this year, the intention being to sow the main part of the crop in standing corn, or in corn stubble after the crop is cut and shocked.

Farmers are complaining about the fact of not being able to get a fertilizer containing more than one or two per cent of potash, and many of them will not buy any at all. I consider this to be a great mistake, and will use a 10-2 at the rate of 125 pounds per acre, unless I am able to pull through a prospective deal for a ton or two of 3-24 dissolved bone that I have in view. In that case I will mix the 10-2 and 3-24 half and half, and use at the rate of 125 pounds per acre.

If I could get nothing but a 12 or 14 per cent acid phosphate I would use that at the same rate or possibly a little higher, as I have had excellent results from a plain acid phosphate.

Early potatoes are all dug and under cover. We planted two bushels of Early Ohio and after using from them from early June to late August 65 bushels of very large potatoes were gathered.

The apple crop is immense and the quality fine. Many people have hundreds of bushels of fine fall apples with no sale for them, and would make them into vinegar but for a fool law we have that prohibits the sale of any except inspected vinegar, and a farmer is not going to bother about having a barrel or so of vinegar inspected, so that only enough for home use will be made.

The Sudan grass is ripening its seed, just about 70 days from date of seeding, and I like the appearance of the plant better than any of the sorghum or millet I have seen.

I hope that every reader of The Missouri Farmer will try a pound or two of the seed next spring, as I think the seed will sell cheap—10-15 cents per pound—and I feel sure that it will prove a valuable crop in many places. Still it can never take the place of alfalfa, clover, soy beans or cowpeas.

C. D. Lyon.

Clover With Rye

I notice in your farm journal of June 15, on page 12, an article headed "Rye for Winter Pasture." It states that Mr. Gartin has not had a clover failure on his rotation field since starting the work. It states that this last fall he sowed clover in with his rye. I would like for you to give me this information: At what time did he sow the rye and was the clover sown in with the rye? Yours truly,

L. F. Leyhe, Saline County.

The plan in handling rye for winter pasture on the Gartin farm is to follow oats with the rye. As soon as the oats are off, the ground is plowed and rye is seeded. This makes early seeding of the rye and hence under normal conditions good fall pasture. As soon as the rye has made a good start, the clover is sown and lightly harrowed in. This will probably make clover sowing come around the latter part of August or fore part of September. Last winter was quite a severe winter and the clover came through in excellent shape this spring. I have not seen it since.

The rotation used on this farm is corn and soybeans the first year, the second year oats, the third year rye, and the fourth year, clover.

D. H. Doane.

Please look at the yellow label on your paper and if the time is out $1 will renew for three years.

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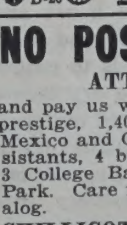

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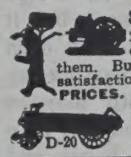

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THE MISSOURI FARMER

Devoted to Better Farming, Better Farm Homes and Better Citizenship.

Vol. VII September 1, 1915 No. 17

William Hirth - - - Publisher
Geo. B. Ellis - - Managing Editor

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THE ROADS

Not for a great many years have we had a season in Missouri that so thoroughly tested the quality of the work done on the roads as this season has done. If we allow the roads to go into the winter season rough and full of holes and ruts we are in for a siege of impassible roads next spring. No road should be torn up with plow and grader at this time of year because there is not time for the road bed to pack before freezing weather, but if the drag is used often to fill up the ruts and holes and give the water a chance to run off into the side ditches rather than soak into the road bed we will have very much better roads during the winter. It has been raining so frequently this summer that it may seem like a lot of time wasted to drag the roads after every rain or wet spell but the road that is kept up with the drag now will be so much better all winter and will take less work next year that the extra labor now will pay big. It matters not whether a farmer owns a jolt wagon or an automobile he will get full value received for dragging the road he travels frequently—the road beside his own farm.

LOOK OUT FOR NEXT YEAR'S SEED CORN

A number of light frosts have already been reported in some of the northern Corn Belt states and with the excessive amount of moisture in the ground it is not unreasonable to expect killing frosts on or before the average date which is about October 15 for central Missouri. Much of the corn is late this year, in fact the earliest will be very slow in maturing and drying out so it will be safe from injury from an early freeze. This condition makes it important that every corn raiser look out for next year's seed corn as soon as the first corn is mature enough to gather. Corn for seed ought to be fully ripe and dry before it is gathered, but if there is any danger of freezing corn that is well past the roasting-ear stage but still full of sap may be gathered from the field and put in a warm garret room in the house and it will dry out and make good seed. The thing to look out for is to gather the seed and put it in the dry before it has a chance to be injured by freezing. After corn is thoroughly dry it takes very hard freezing to injure, but before it dries out it takes very little freezing to destroy its vitality.

Another caution we would make is that the green corn when gathered from the field should never be put into sacks or boxes or even piled on the floor. Corn thus stored unless very dry will mold and the germination will be greatly injured. When seed corn is gathered from the field it should be placed in some of the various kinds of seed corn racks or else tied up in strings of ten to twelve ears and swung to a nail in the overhead loft and the ears should be so placed or tied that no ear touches another.

No corn grower can raise a good crop without good seed and the time to be sure of good seed is before the first freeze comes this fall.

STATE FAIR DAIRY SHOW

The state dairy commissioner, E. G. Bennett, is making a commendable effort to get out a fine exhibit of dairy cows at the Missouri State Fair to be held at Sedalia, September 25 to October 2. Breeders of dairy cattle, creameries and all others interested in the development of the resources of Missouri should earnestly co-operate with our state dairy department to make this dairy show a success. Commissioner Bennett very forcibly says:

"The high prices that have been paid for desirable dairy cattle within the past two years, should arouse the interest of every farmer in Missouri—they prove conclusively that it is worth while to improve the breeding of the dairy herd, and it also proves the importance of giving cows authenticated tests of merit. Highly producing cows that are well bred, bring prices beyond their productive worth, because of their value as breeding animals. Offspring from such cows bring high prices because they come from cows that have proven their worth. The blood of highly productive dairy cattle is always in demand, and always will be. Therefore, in buying young stock, it is well to know they come from ancestry having authenticated or official records. Better breeding, better care, and more feed, will increase the production of our average cow at very little increased cost. Dairy products are much higher than they were twelve or fifteen years ago. True, most everything that has to do with the keeping of cows has increased in price also—but not to the extent that dairy products have, and we cannot hope for them to go much higher. The one hope for making more money in milking cows seems to be in an increased production—and when we consider the average cow produces less than 150 pounds of butterfat per year, while the champion cow produced 1176 pounds of butterfat in a year, materially increasing the produce of the average cow seems well within the range of possibilities. Believing that a practical demonstration, showing that some cows pay their owners a profit, while other are kept at a loss, would prove instructive and interesting, the State Dairy Department will have a demonstrating herd on exhibition at the State Fair; strict account will be kept of the feed consumed and of the milk produced each day of the Fair, and the loss or gain shown, with instructive comments by competent persons."

The creameries of Missouri are showing a commendable interest in the development of dairy stock by authorizing the announcement that they will give five hundred dollars cash to be contested for in a 7-day butterfat contest.

Every day during the Fair there will be conducted in the big dairy tent a dairymen's meeting to be addressed by such well-known speakers as Professors Eckles and Brandt of the agricultural college, Messrs. Lewis, Jordan, Wright, Luckey, McKee and Mayes of the board of agriculture, besides other authorities of reputation.

Meetings will be held during the week of the State Dairy Association, Southwest Jersey Cattle Breeders' Association, State Holstein-Friesian Breeders' Association, State Creamerymen's Association and a meeting of cream buyers. If you are interest in any branch of the dairy business, better attend these State Fair meetings.

ARE WE HELPING YOU?

The other day one of our subscription solicitors wrote in and said: "Ordinarily I have very little trouble in renewing the subscriptions of farmers who have been reading the paper for a year or two. The moment I make my mission known the most of them say, "Certainly I want to keep on getting The Missouri Farmer. I wouldn't do without it for several times the price because it's clean, strong and reliable and because it is the only **real** Missouri farm paper in the state." In varying degrees these are the sentiments these men express—and I think we can safely say that in most neighborhoods we have the really thinking, progressive farmers on our list. At least this is true wherever I have canvassed so far. Once in a while, however, I strike a farmer who tells me that he "hasn't got time to read farm papers"—and as a rule it does little good to argue with farmers of this kind for you soon realize that, no matter how good a paper might be, they have never formed the habit of careful reading and thinking"—and we believe that this solicitor, although unconsciously perhaps, has stated the line which separates the farmer who is seriously trying to better his condition from the one who is just drifting along aimlessly in the old rut.

We are glad, however, that we have so many of the first class of farmers on our list—those who, while they may be in humble circumstances today, are trying to win—who are fighting to pay off the last dollar of the mortgage and who, in the not distant future, hope to be able to live in a better farm home with big red barns and better flocks and herds filling the barnyard, feed lots and pastures—for this is the type of farmer upon whom a more efficient American Agriculture and a higher rural citizenship must depend in the years to come. It is to this class of farmers that The Missouri Farmer is striving to be of genuine service—for no farm paper, however ably edited, can help the farmer who refuses to read and think. To such farmers we are trying to give infomation which will help them solve the many difficult problems they are facing in their every-day farming operations—information which will give them more to show for their sweat and toil at the end of the year. Surely in this great commonwealth there is room for one **real** Missouri farm paper which is owned and edited within the state by men whose heart and soul is in the thing they are striving to accomplish and who understand intimately the problems with which Missouri farmers have to deal! In order to do this successfully, however, we need good friends in every school district. The paper is still young and merely the promise of what we hope to make it during the next two or three years. What we need above all else is friends who will help us build up the great and splendid publication we have in mind—men who think enough of the paper to go to those of their neighbors who are not now receiving it and ask them to give them 50c for a year's trial subscription. To this end, we are going to make a **personal** appeal to every **real** friend of the paper to make a serious effort to send us a half dozen new subscriptions during the next 30 days. If you are willing to give us this help, drop me a postal card when I will send you some sample copies and leaflets explaining the Land Bank Bill—and I will also send you a little remembrance for the half dozen subscriptions which I am sure you will prize very highly.

William Hirth, Publisher,
THE MISSOURI FARMER.

FREE TEXT BOOKS FOR PUBLIC SCHOOLS

This is close to the date for several thousand schools to open their doors and begin their year's work and we wonder how many children will enter school the first day without the necessary books. We have a law in this state that permits districts to furnish free text books but only a very small percentage of the districts have made this progressive step in education. The same spirit which once opposed the free public school now opposes free text books because they are just constitutionally opposed to the state doing anything for the individual that the individual can do for himself although the state might do it ever so much better.

A circuit judge of one of the districts of North Missouri is quoted as saying before a meeting of a county school board the other day that:

"When you ask the Government to do something for the citizen that he ought to do for himself, and be proud of the opportunity, you create an enfeebled citizenship.

"The men who fought and won the Revolution asked no odds of any man, but relied solely upon their good right arms to wrest this country from tyranny. All they sought of the Government was the right to life, liberty and the pursuit of happiness. They did not ask alms; they would have refused them."

This spirit exhibits both prejudice and ignorance. Prejudice, because the maintenance of the school itself is no more paternalistic than furnishing the books. Ignorance, because any one who has investigated the benefits of free text books knows that the schools are much more efficient and particularly is this true in congested districts where there are more poor children. It is the poor child who needs a school training more than the well-to-do and the statistics show that there is a larger and more regular attendance where free books are furnished.

Ignorance dies hard, but it will die just the same under our free public schools and free text books. Last year 130,541 pupils were furnished free books out of a total of 706,364 enrolled in the schools and if all the districts had furnished free books there would doubtless have been several thousand more in school. Who would withhold the small sum of 87 cents, the cost of books for a child, and have it grow up in ignorance?

BUCKSHOT BY THE PROFESSOR

If I lived in Galveston, Texas, I'd live somewhere else.

I hate to see enough rain wasted in one year to insure good crops for twenty.

I don't own an automobile because I haven't got the nerve to "honk" at my banker—and if I didn't "honk" at him I might run over him.

You still find a lot of old timers who know a whole lot more about raising a patch of mint than they do about raising a patch of alfalfa.

Anyway I think we are going to have an honest state capitol building in this state—and talking of new capitol buildings, that will be "going some."

I've been having a touch of rheumatism and I don't know whether its due to the wet weather or the fact that Congress will soon be in session again.

I wish there was some way to harness up the power that is wasted in "chawin' terbacker" and "whittlin'" dry goods boxes. I'd have that Keokuk power dam skinned a mile.

Referring to the recent recipe I gave for killing fleas, a fellow wrote in the other day and said, "Referrin' to the proper way fer to kill a flea, I think that Professer feller is a fule."

There are a pile of men in this world who laugh and shout and are hail-fellow well met with their friends—and mean and sour and snarling to their wives and children at home.

Whenever I look out of the window at the lowering clouds I think of the conditions which prevail over in the red fields of Belgium, France and Poland—and then I am thankful that I live in a land of peace even if it does rain an inch and three-quarters every day.

I sometimes think the Church would be more powerful for good if so many preachers didn't keep their ears glued to the grass roots—listening for a "call" to where the grass is just a little bit greener. Dollars and the "old-time religion" never did mix up together very well.

If I had my way about it I'd put every pool hall in the Country out of business because they are places in which thousands of boys are started on a path that leads to crime and ruin.

About the only thing that I've seen—it seems to me for weeks—that bore any resemblance to sunshine or moonlight were the noses of some of my old friends who belong to the "Personal Liberty League."

Say Neighbor, what are you getting out of life anyway? Are you putting thought and real effort behind your work? Are you really trying to get ahead? Are you trying to do your tasks a little more thoroughly today than yesterday? Do you regard life as a real opportunity—or are you just drifting with the current in an aimless fashion? If so, wake up! Resolve that for the remaining days which God gives you you will give to Him, to your loved ones and to society the best that's in you—and then when the great clock strikes your neighbors will have to admit that your community is better off for your having lived in it. Life, my friend, is opporunity.

The Missouri Farmer has an easy plan by which some bright farmer boy from every community may attend the "Farmers' Short Course" at Missouri's great Agricultural College this winter. By utilizing his spare time during the next two months any ambitious farmer boy can easily win this splendid prize which means that his board and lodging will be paid and his text books furnished free during this fine seven weeks course. If there isn't a boy in your family who cares to take advantage of this opportunity, why not mention it to some other deserving boy in your neighborhood?

A YOUNG FARMER LOOKING AHEAD

No young man can afford to overlook the value of good training if he hopes to succeed on the farm. A well regulated farm is a pretty good place to get most of that training but it is impossible to get all of it there. Any way a boy may get more valuable information that he can use on the farm by attending the seven weeks short course in the agricultural college than he would get in as many years on one isolated farm. There is so much to know about farming and live stock production now-a-days that it is a pretty good plan to supplement all we can get from the home farm and from reading good books and the best farm papers with a course in the agricultural college.

The Missouri Farmer is making this possible for any intelligent farm boy who recognizes the need for more knowledge to use on the farm. As an example of the intelligent way in which this question is viewed by many young farmers we publish the following letter from a young farmer from Shelby county:

The Missouri Farmer: I have just read about the chance for farmer boys in your paper and am answering at once. I am very anxious to get an education and to specialize in agriculture.

I am a farmer boy and would not have answered the article except that you stated you wanted the spare time I have.

This is a busy season for me just now finishing harvesting and a great deal of plowing to do, but I am interested in your proposition. Please send me information as to how I may earn my way through the short course. I graduated from Clarence High School last spring and have been helping my father on the farm since. I expect to follow in my father's footsteps on the farm, but want to be prepared to do so. E. D. Muhleman.

A CHANGE RESPECTING OUR ROAD SYSTEM

Dear Editor: No proposition is of greater importance than that of good roads. Not only is this true as to the farmer but men of all professions. People living in towns as well as in rural districts should be interested in having good roads.

But the question is how are we to solve the road proposition? After all that has been said it remains as yet for some plan to be devised to have good roads. The present road system is a practical failure. It is impossible to make something out of nothing. The main thing is that land owners along the public highways agree to give enough land to widen the roads from 40 to 60 feet as the road engineer might determine. It requires greater width for roads in a broken country than it does in a level country. Under the present system many of the roads are so narrow, especially in the broken districts there is not room enough for autos and other private conveyances to pass each other. But the greatest difficulty is on many of the roads great ditches are washed on either side and the roads so narrow it is actually dangerous to pass over them. The road proposition may be discussed until 'doom's day' and it will amount to nothing more than hot air if land owners are not willing to give enough land to widen these narrow roads and thus enable road workers to fill those ditches. It is absolutely impossible to grade roads where there is no dirt to grade. The question is, will the people recommend legislation to widen the roads? In my judgment this should be the paramount issue.

The next important thing is, there should be road engineers to permanently establish the width of roads and to supervise culverts, etc. If the people agree to these changes it will be an easy matter to adjust other things pertaining to good roads. What sayeth others? C. C. Turner.

Browns Station, Mo.

Editorial Comment: The above letter from Judge Turner of Boone County, who has for many years been one of the foremost advocates for better roads, emphasizes the absolute necessity for public opinion to be back of any law on the statute book. The present road law was written with a view of giving a good engineer to every county who could plan and supervise the building of culverts and bridges and furnish advice in the laying out of roads, etc. We have seen miles of roads, such as are described by Judge Turner, too narrow in places for two vehicles to pass in safety and along the fence row a strip of briars and bushes covering a rod or more in width and the landowner too close to give a few feet of ground to widen the road.

Any community in this state can have good roads if the people are practically unanimous for the improvement and we will not have good roads until they are. This is a live subject and we would like to have our readers write us their views on what is needed in their respective neighborhoods to bring about better roads. A discussion of this subject by the farmers ought to result in a better sentiment and better roads also. Let us hear from you and we will publish your suggestions for the benefit of others who may not yet be so enthusiastic about it as you are.

THE GRANGE

What is the Grange? What does it stand for? Actually, we are sometimes asked these questions! Why is it that people who are well read upon the doings of our country do not know of the Grange? Is it because the farmer has less interest in the former than any other class of people? Oh, no! But some have said "the farmers are still sleeping and not being ready to wake up we must let them sleep a little longer."

But listen, ye sleepers, the Grange is moving on, rapidly moving, and if you wish to be left in the rear, why sleep on!

More granges are being organized all the time and splendid work being done with a promise of more and better work and better farms and happier homes by the organized farmer.

As a useful fraternal organization the Grange can well lay claim to superiority. Most organizations of this kind limit their activities to the things that benefit their members, but the Grange aims not only to do these things but to promote the agricultural interests of the country besides. While primarily the granges themselves may gain through better farming conditions, the product of the soil is the basis of all wealth and prosperity so it is essential to all that the land be made productive; the only means at hand to do this is the farmer. It can be truly said, "Take care of the farms and the cities will take care of themselves.

Some splendid field meetings are being held throughout the summer months. These public meetings besides affording much pleasure to the members enable the grange to give the outsider in each district an insight into the principles and work of the farmers' official organization of the country. And the large gatherings at each meeting attest to the growing interest.

And as a compliment to the Grange it is true that no matter how dire the predictions of the Sleepers may be, the Grange keeps moving right along just the same. So farmers, be a live wire, wake up, get together, organize, co-operate and let your motto be: "Something for the good of our community this year." It is worth the try.

State Grange Secretary.

Boys and Girls Winning Prizes

Boys and girls won $70 in the judging and sewing contests held by the first agricultural demonstration school from the University of Missouri during the Knox County Fair at Knox City, Missouri, August 10 to 13. A 20x40 foot tent filled with all kinds of exhibit material well displayed in uniform cases with three men to conduct the contests and give lectures and demonstrations composed a school that was an out standing feature of interest at the fair.

Judging contests for the boys in corn and livestock were conducted by Mr. L. L. Childers and Mr. S. T. Simpson. Each contest was preceded by a practice exercise which instructed the boys as to what was expected in the contests. The boys were prompt in reporting and showed a keen interest in all the work. They were also free to express that they felt they had learned a great deal. The prizes awarded were $2.50 for 1st, $2. for 2nd, $1.50 for 3rd and $1 for 4th place. The two boys who scored the highest number of points in both contests were awarded $10 each for a trip to Columbia Farmers' Week.

The girls had contests in patching and buttonhole making. These contests were conducted by T. W. Reavis and an assistant. The girls had a practice before each contest and the work displayed by them showed many of them to be real artists with a needle. They reported for their contests promptly and seemed to enjoy the work thoroughly. The prizes were the same as for the boys including the two trips to Columbia.

The exhibit in the tent comprised the most complete and best arranged material ever sent out from the University. Hundrdes of people found time to view the exhibit.

Lectures on alfalfa and hog cholera were delivered to the men while the women were interested in home canning demonstrations. The men in charge were asked numberless questions which showed the people were interested in the work.

F. E. Longmire, County Agent,
U. S. Dept. of Agriculture.

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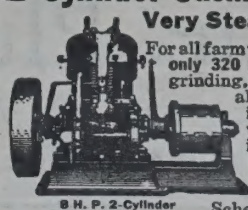

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(6)

Going to "Frisco?"

The Missouri Farmer is offering to send any bright farmer girl to the great Panama Exposition at San Francisco—that is, for a small number of new subscriptions to the paper which she can easily get in two or three weeks' time in any good farming community we will pay her round trip Railroad and Pullman fare. Already quite a number of girls have won this fine trip. We want to send a whole Pullman car full sometime in October. In this way, where a lot of fine girls go together their parents will know they are safe—for they will go and come in the same car and will stay together while in San Francisco. Think of what a fine chance this is to see the "Golden West" with its snow-capped mountains, the "Wonderland" of California and the great Exposition which is conceded to be the greatest show of its kind ever held in the World. We will be able to accommodate 40 girls in the big Pullman car which we expect to send in October—and two weeks hustling will enable any girl to win. There is no time to lose and those who want to win this splendid free trip should get in touch with us as once. With your round trip Railroad and Pullman fare paid, a few dollars will pay the balance of your expenses—and we even provide a way by which you can do this before you start. So write us today if you want to go.

Beautiful Photograph Free!

If you will send us two new yearly subscriptions to The Missouri Farmer at 50c each and a photograph of some loved member of your family we will send you free for your trouble a beautiful enlarged picture 13x17 inches in size. This is not cheap work but a picture of the very highest excellence and one which would cost you several dollars if you attempted to buy it in any other way. Just ask a couple of you neighbors to give you 50c each for a year's subscription and send us the photograph. We will guarantee to surprise you with the beautiful enlarged picture you will receive for your trouble. We wouldn't offer anything that wasn't first class.

The Missouri Farmer.

The Plunderer

By ROY NORTON

Author of "The Garden of Fate"

(Continued from last issue)

They took a desperate chance on foul air and plunged down the drift, pausing only now and then when they came to the first side drifts to make sure of their course. They were informed by the plans that they had barely three hundred feet to explore, yet they had gone even farther than that before they came to a halt, a threatening one, for directly ahead of them the timbering had given way, the shaft caved, and there seemed at first no opening through the debris.

"Well, this looks pretty tough!" exclaimed Bill, stooping down and examining the face of the barrier.

His companion lighted his own candle and together they went over the face of the obstruction.

"It looks to me as if we could open her up a little if we can shift this timber here and use it as a lever," he said, pointing to one projecting near the roof.

"May bring the whole mountain down, but it's our only chance," agreed Bill. "Here she goes. Stand back. No use in both of us getting it."

He caught the end of the timber in his heavy hands, planted his feet firmly on the floor and heaved. The big timber creaked, but did not give. Again he planted himself and this time his great shoulders seemed to twist and writhe until the muscles cracked and then, with a crash, the barrier gave way. He sprang back with amazing quickness and they ran back up the drift for twenty or thirty feet while the mass again readjusted itself and settled slowly into position. A cloud of dust bellowed toward them, half-choking them with its gritty fineness, and then, in a minute, the air had cleared. They went cautiously forward.

"Well, we got some farther, anyhow, unless she comes down while we're working through. We've got a hole to crawl into, and that's something," the big miner asserted.

Before he could say anything more Dick had crowded him to one side and was entering the aperture. He had prevented his partner from taking the first perilous chance. Painfully he made his way, while the man behind listened with terrified apprehension; for none knew better than he the risk of that progress.

"All right, but be careful," a voice came to him faintly from the distance. "She's bad, but the air over here seems good. It's a close shave."

The big miner dropped down and began crawling through beneath the tons of balanced rock, which might give at any instant. Larger than his younger companion, he found it more difficult for his great shoulders persisted in brushing at all times, and now and then he was compelled to squeeze himself through a narrow place that for a moment threatened to be impossible. Once a timber above him gave a little and a rock crowded down until only by exerting his whole force could be sustain it while he scraped his hips through from under it. Then as it descended between his legs he found one of them pinioned. He shut his teeth desperately to avoid shouting, and twisted sidewise, and back, to and fro, at the imminent danger of disloging everything above him. He heard an anxious voice calling outside and replied that he was coming and was all right. He rested for an instant to regain breath, then made a desperate forward effort to find that his foot alone caught him. Again he rolled from side to side, and again he rested.

"Bill! Bill! For God's sake, what has happened?" he heard an agonized call from ahead.

"I'm all right, boy," he called back patiently. "Just keep away from the hole so I can get air. I'm—I'm just findin' some places a little tight."

His reply did not seem to allay the solicitude of his companion, who called again, "Can I help you in any way?"

"Only by keeping clear. I'll makefeet," Dick assented, finding that it another try. Stand clear so if she comes down you won't be caught. If she does come—well—good-bye, Dick!"

As he spoke the final word he made another fiercely desperate effort from his new position. There was a ripping, searing pain along the length of his foot which he disregarded in that supreme attempt and suddenly he seemed to slide forward while back of him came a crunching, grinding noise as the disturbed rock which had pinioned him settled down into place. He crawled desperately forward. A light flared in his eyes and he felt strong hands thrust under his arm pits and was jerked bodily out to the floor of the drift. They fell together and the candle, falling with them, was extinguished. They were overwhelmed, as they lay there in the darkness, gasping by a terrific crashing impact as if the whole mountain had given way and at their very feet huge rocks thundered down. They crawled farther along on hands and knees and the falling rock seemed to pursue them malignantly. For an age it seemed as if the whole drift would give way as each set of timbers came to the strain and failed to hold. Then again all was still.

Strangling, sweating, spent, they got to the side wall and raised themselves up, gasping for fresh air. Their senses wavered and swooned in that half-suffocation and slowly they comprehended that they were still alive and that the dust was settling. "Are you all right?" they called to each other in acute unison, their voices betraying a great apprehension, and then, reassured for the instant, they sagged weakly against the walls and each reached out to find the other. Their hands met and clasped fervently and, again in unison, they said, "Thank God!"

A match spluttered dimly through the dark and dust-clogged air, a candle slowly took flame and they looked at each other. Bill was leaning against the wall, weakly, and trying to recover his strength. A tattered trousers leg clung above his bared leg and foot where he had wrenched himself loose from the rock, and torn his boot away in so doing. Along the length of the white flesh was a flaring line of red, where the point of rock had cut deeply when he made that last desperate struggle to escape. He dropped to the floor and clutched his wound with his hands while Dick, almost with a moan, thrust his candlestock into a timber and savagely tore his shirt off and rent it into strips. He stooped over and with hasty skill bandaged the wound.

"It's not bad, I hope," he said, "but it does hurt, doesn't it, old partner?"

"That's nothin'," bravely drawled the giant, striving to force a grin to his pain-drawn lips. "Don't worry now, boy! Think what might have happened if I'd been there a minute or two longer, or if I couldn't have got loose at all!"

In their thankfulness for the last escape they had almost forgotten the fact that their situation was still almost hopeless, and that perhaps the speedy end would have been preferable to one more agonizing, more slow, to come. They got to their feet at last and hobbled forward, the big man resting half his weight on his friend's shoulder and making slow progress. Again they were centered on the faint hope that beyond was some sort of opening, because now they knew but too well that their retreat was effectually cut off. If there was no opening ahead they were doomed. They consulted the plan again and went forward. Abruptly they came to a halt, shutting their jaws hard. They had come to the end of the main drift and it was a blank wall of solid stone where the prospectors had finished!

"Well, old man, there's still the two side drifts to examine," said Bill with a plain attempt to appear hopeful that did not in the least deceive the other.

"Yes. That's back there about fifty feet," Dick assented, finding that it required an effort to steady his voice. "The other one is behind that barrier."

They looked at each other, reading the same thought. They had but one more chance and that was almost futile; for the plans indicated that the side drift extended but a score or so of yards and had then been abandoned. They felt their feet faltering when they turned into it, dreading the end, dreading the revelation that must tell them they were to die in this limited burrow in the hills. But courageously they tried to assume an air of confidence. They did not speak as they progressed, each dreading that instant when he would again face an inexorable barrier. They counted their steps as they went, to themselves. They came to the twentieth, twenty-first, twenty-second, and were peering fixedly ahead. Together they stopped and turned toward each other. Dimly in the faintly thrown light of the candle beams, they could see it, the dusky gray mass where hope had pictured a continuing blackness. The wall leered at them as they stood there panting, despairing, desperate as trapped animals. Their imaginations told them the end.

"Well, old man"—Bill's voice sounded with exceptional softness—"they didn't extend this drift any farther. All we can do now is to go up and sit down at the foot of it, and—wait!"

"But it won't take long, Bill," Dick replied. "The air, you know. It can't last forever."

They trudged forward for the few remaining yards and then, abruptly, the candle they were carrying gave a little flicker. This time they stopped in their tracks and shouted. Bill suddenly loosened his hold on the younger man's shoulder and began hopping forward, and the light threw huge, grotesque, strangely moving shadows on the wall ahead of them. Dick ran after him, crowding on his heels and shouting meaningless hopes. Abruptly they came to a right-angle drift, and then, but a few yards down it, they discovered an upraise, crude and uncared for, but climbing into the higher darkness, and down this there streamed fresh air.

It was such a one as prospectors make, having here and there a pole with cleats to serve as a ladder, then ascending at an incline which, though difficult, was not impossible ,and again reverting to rock footholds at the sides. Up this Dick boosted his partner, thrusting a shoulder beneath his haunches and straining upward with the exultation of reaction. They were saved! He knew it! The fresh air told that story to their experienced nostrils. Up, up, up they clambered for a long slanting distance and then fell out on the floor of another drift, at whose end was a shadowy light. Again they hobbled down a long length, ever approaching their goal. Bill stopped and leaned against the side wall and voiced his exultation.

"I know where we are," he exclaimed. "This is the blacksmiths' tunnel. They made that upraise following the ore, and that's why the mine was opened for the second time here. They didn't complete the plans because they knew the old work was useless. Dick, we've been through some pretty hard times together and had some narrow shaves; but I don't care for many more like that; Come on. Help me out. I want you to take a look and see if my head is any whiter than it was at nine o'clock this mornin' when we went into that other hole."

CHAPTER V

THE AGED ENGINEER

The sunlight was good to see again —good as only sunlight can be when men have not expected ever again to be enlivened by its glory. They were astonished at the shortness of the time of their imprisonment. They had lived years in dread thought, and but a few hours in reality. They had suffered for the spans of lives to find that the clock had imperturbably registered brief intervals. They had played the gamut of dread, terror, and anguish, to learn how trivial, after all, was the completed score.

"I think that will do," said Dick, with a sigh of relief, as he straightened up from bandaging Bill's leg. "The stitches probably hurt some, but aside from a day's stiffness I don't think you will ever know it happened."

"Won't eh?" rumbled the patient. "Sure, the leg's all right; but it ain't bruised limbs a man remembers. They heal. You can see the scars on a man's legs, but only the Lord Almighty can see those on his mind, and they're the only ones that last. Dick, now that it's all over, I ain't ashamed to tell you that there was quite a long spell down there underground when I thought over a heap of things I might have done different if I'd had a chance to do 'em over again. And, boy, I thought quite a little bit about you! It didn't seem right that a young fellow like you, with so much to live for, should be snuffed out down there in that black place, where the whole mountain acted as if it was chasin' us step by step, to wipe us off the slate."

He stood on his feet and limped across the room to his coat in an effort to recover himself, and Dick, more stirred than he cared to admit by the affection in his voice, tramped out to the little porch in front and pretended to whistle a tune, that proved tunless. He looked at the little valley around the shoulder of the mountain at the head of the ravine, which they had so carelessly invaded that morning, and shuddered. Inside he heard Bill moving around, and then after a time his steps advancing stiffly, and turned to see him coming out.

"I think," he said smiling, "that we're entitled to a rest for today. By tomorrow you'll be all right again, unless I'm mistaken. Let's put in the day looking over these old records."

Bill grinned whimsically and assented. He could keep quiet when he had to; but the day following found him again restlessly investigating anything that seemed worth the trouble and the afternoon saw him standing looking upward toward the same valley of dread.

"I've got over it a little," he said to the younger man, "and do you know I'm right curious to go over there and see how big that rock was that tumbled into the mouth of the old shaft. Want to come along?"

Dick had sustained that same curiosity, so together they made their way to the beginning of the previous day's disaster. They chilled when they saw how effectually they had been caught; for the boulder completely filled the entrance to the shaft and would have proved a hopeless trap had they tried to escape by burrowing around its edge. It rested, as they had discovered, on solid rock, and its course down the hillside was clearly marked.

"What gets me," said the veteran miner, "is what could have started it. I noticed it up there when we went in. It was sort of poised on that little ledge you see, and it didn't have to roll more than thirty feet."

He began to climb up the boulder's well-defined path, and suddenly called to his partner with hoarse shout, needlessly loud.

"Come up here," he said. "That boulder never started itself! Some one helped it. What do you think of that?"

Dick hastily climbed up to his side and looked. The rock around was bare of growth or covering, so that no footprints could be discerned; but a rock rested there that had plainly been used as a fulcrum. The surface beneath it was weather beaten and devoid of moisture, which indicated that it had lain there but a short time, probably only from the time of its mission on the preceding day. They found themselves standing up and staring around at the surrounding hills as if seeking sight of the man who had attempted to murder them.

"We'll find out about this!" Bill exclaimed. "Good thing we know enough to look."

He limped to the edge of the barren spot and began to circle around its edge, while Dick did likewise, following his example. They found a footprint at last and took the trail. It did not lead them far before they came to a path on top of the hill that was so well used that any attempt to follow it was useless; but, intent on seeing where it led, they walked along it as it led straight away toward the timber. Scarcely inside the cool shadows of the tamaracks they paused and looked at each other understandingly; for thrown carelessly into a clump of laurel was a long, freshly cut sapling, that had been used as a lever. They recovered it from its resting place and

inspected it. There was no doubt whatever that it had been the instrument of motion. Its scarred end, its length, and all, told that the man who had used it had carried it this far to discard it, believing his murderous work done.

"I noticed that rock, as I said before," declared Bill. "You noticed how round it was on one side? Well, a man could take this lever, and by teetering on it until he got it in motion, finally upset it. The chances were a hundred to one it would land in the mouth of the shaft. And it's a cinch, it seems to me, he wouldn't do that for fun."

Dick shook his head gravely.

"But who could it be?" he insisted. "Who is there that could want us out of the way badly enough to murder us? No one here knows or cares a continental about us! It seems incredible. It must have been sheer carelessness of some restless loafer who wanted to see the rock roll."

Yet they knew that the theory was scarcely tenable. They walked farther along the path and found that it was one used by workmen, evidently, leading at last down the steep mountain side and across to the Rattler. They surmised that it must be one made by the timber cutters for the mine, and learned, in later months, that the surmise was correct.

"It makes one thing certain," Bill declared that evening when, candidly discouraged, they sat on the little porch in front of the office they had made their home and discussed the day's findings. "And that is that until we get a force to work here, if we ever do, it ain't a right healthy place for us. Of course with a gang of men around there wouldn't be a ghost of a chance for any enemy to get us; but until then we'd better watch out all the time. I begin to believe that about everything that's happened to us here has been the work of somebody who ain't right fond of us. Wish we could catch him at it once!"

There was a grim undercurrent in his wish that left nothing to words. They remembered that in all the time since their arrival they had seen no other human being, the Rattler men had left them as severly alone as if they had been under quarantine.

In the stillness of twilight they heard the slow, soft padding of a man's feet laboriously climbing the hill, and listened intently at the unusual sound.

"Wonder who that is," speculated Bill, leaning forward and staring at the dim trail. "Looks like a dwarf from here. Some old man of the mountain coming up to drive us off!"

"Hello," hailed a shrill, quavering voice. "Be you the bosses?"

"We are," Dick shouted, in reply, "Come on up."

The visitor came halting up the slope, and they discerned that he was lame and carrying a roll of blankets. He paused before them, panting, and then dropped the roll from his back, and sat down on the edge of the porch with his head turned to face them. He was white headed and old, and seemed to have exhausted his surplus strength in his haste to reach them before darkness.

"I'm Bells Park," he said. "Bells Park, the engineer. Maybe you've heard of me? Eh? What? No? Well, I used to have the engines here at the Cross eight or ten years ago, and I've come to take 'em again. When do I go to work? They hates me around here. They drove me out once. I said I'd come back. I'm here. I'm a union man, but I tell 'em what I think of 'em, and it don't set well. When did you say I go to work?"

"I'm afraid you don't go," Dick answered regretfully.

The Cross, so far as he could conjecture, would never again ring with the sounds of throbbing engines. Already he was more than half convinced that he should write to Sloan and reject his kindly offer of support. "We've been here but a week, but it doesn't look promising to us."

"Well, then you're a pair of fools!" came the disrespectful and irascible retort. "They told me down in Goldpan that some miners had come to open the Cross up again. You're not miners. I've hoofed it all the way up here for nothing'."

The partners looked at each other, and grinned at the old man's tirade. He went on without noticing them, speaking of himself in the third person:

"I can stay here tonight somewhere, can't I? Bells Park is askin' it. Bells Park that used to be chief in the Con and Virginia, and once had his own cabin here—cabin that was a home till his wife went away on the long trip. She's asleep up there under the cross mark on the hill. Bells Park has come back because he wanted to be near where she was put away! She was the best woman that ever lived. I'm looking for my old job back. I can sleep here, can't I?"

His querulous question was more of a challenge than a request, and Dick hastened to assure him that he could unroll his blankets in a bunk in the rambling old structure that looomed dim, silent, and ghostly, on the hill beyond where they were seated. His pity and hospitality led him farther.

"Had your supper?" he asked.

Bells Park shook his head in negation.

"Then you can share with us," Dick said, getting to his feet and entering the cabin from which in a few moments came a rattle of fire being replenished, a coffee-pot being refilled, and the crisp, frying note of sizzling bacon and eggs.

"Who might that young feller be?" asked the engineer, glowering with sudden curiosity, after his long silence, into the face of the grizzled old prospector, who, in the interim, had sat quietly.

"Him? That's Dick Townsend, half-owner in the mine," Bill replied.

"Half owner? Cookin' for me? Why don't you do it? What right have you got sittin' here on your long haunches and lettin' a boss do the work? Hey? What are you?"

"I'm his superintendent," grinned Bill, appreciating the joke of being superintendent of a mine where no one worked.

"Oh!" said the engineer. And then, after a pause, as if readjusting all these conditions to meet his approval: "Say, he's all right, ain't he!"

"You bet your life!" came the emphatic response.

The applicant said no more until after he had gone into the cabin and eaten his fill, after which he insisted on clearing away the dishes, and then rejoined them in a less-tired mood. He squatted down on the edge of the porch, where they sat staring at the shadows of the glorious night, and appeared to be thoughtful for a time, while they were silently amused.

"You're thinkin' it's no good, are you?" he suddenly asked, brandishing his pipe at Dick. "Well, I said you were a fool. Take it kindly, young feller. I'm an old man, but I know. You've been good to me. I didn't come here to butt my nose in, but I know her better than you do. Say!" He pivoted on his hips, and tapped an emphatic forefinger on the warped planks beneath in punctuation. "There never was a set of owners shell-gamed like them that had the Croix d'Or! There never was a good property so badly handled. Two superintendents are retired and livin' on the money they stole from her. One millman's bought himself a hotel in Seattle with what he got away with. There was enough ore packed off in dinner-pails from the Bonanza Chute to heel half the men who tapped it. They were always lookin' for more of 'em. They passed through a lead of ore that would have paid expenses, on the six-hundred-foot level, and lagged it rather than hoist it out. I know! I've seen the cars come up out of the shaft with a man standin' on the hundred foot to slush 'em over with muddy sump water so the gold wouldn't show until the car men could swipe the stuff and dump it out of the tram to be picked up at night. It ain't the rich streaks that pays. It's the four-foot ledge that runs profit from two bits to a couple of dollars a ton. That's what showed on the six-hundred level. Get it?"

The partners by this time were leaning eagerly forward, half-inclined to believe all that had been told them, yet willing to discount the gabbling of the old man and find content. Until bedtime he went on, and they listened to him the next morning, when the slow dawn crept up, and decided to take the plunge. And so it was that Dick wrote a long statement of the findings to his backer in New York and told him that he was going to chance it and open the Croix d'Or again until he was satisfied, either that it would not pay to work, or would merit larger expenditure.

Once again the smoke belched from the hoisting house of the Cross, and the throb of the pumps came, hollow and clanking, from the shaft below. A stream of discolored water swirled into the creek from the waste pipes, and the rainbow trout, affrighted and disgusted, forsook its reaches and sought the pools of the river into which it emptied.

Slowly they gained on its depths, and each day the mark swam lower, and the newly oiled cage waited for its freshly stretched cable, one which had happened to be coiled in the storehouse. The compressor shivered and vibrated as the pistons drove clean, sweet air through the long-disused pipes, and at last the partners knew they could reach the anticipated six-hundred-foot level and form their own conclusions.

"Well, here goes," said Bill, grinning from under his sou'wester as they entered the cage with lamps in hand. "We'll see how she looks if the air pipes aren't broken."

They saw the slimy black sides of the shaft slip past them as Bells Park dropped them into the depths, and felt the cage slow down as he saw his pointer above the drum indicate the approach of the six-hundred-foot level. They stepped out cautionsly, whiffed the air, and knew that the pipes, which had been protected by the water, were intact, and that they had no need to fear foul air. The rusted rails, slime-covered, beneath their rubber boots, glowed a vivid red as they inspected the timbering above, and saw that the sparse stulls, caps, and columns were still holding their own, and that the heavy porphyritic formation would scarcely have given had the timbers rotted away. Dank, glistening walls and a tremulous waving blackness were ahead of them as they cautiously invaded the long-deserted precincts, scraping and striking here and there with their prospector's picks in search of the lost lead.

"About two hundred feet from the shaft, Bells said," Dick commented. "And this must be about the place where they cut through pay ore in search of another lobe of the Bonanza Chute. What thieves they were!"

He suddenly became aware that his companion was not with him, and whirled round. Back of him shone a tiny spark of flaring light, striving to illumine the solid blackness. He paused expectantly, and a voice came bellowing through the dark:

"Here it is. The old man's right, I think. This looks like ore to me."

Dick hastened back, and assisted while they broke away the looser pieces of green rock, glowing dully, and filled their sample sacks.

Three hours later they stood over the scales in the log assay-house above, and congratulated each other.

"It'll pay!" Dick declared gleefully. "Not much, but enough to justify going on with the work. I am glad I wrote Sloan that I should draw on him, and now we'll go ahead and hire a small gang to set the mill and the Cross in shape."

They were like boys when they crossed to the engine house and told the news to the hard-worked engineer, who chuckeled softly and asserted that he had "told them so."

"Now, the best way for you to get a gang around here," he said,' 'is to go down to Goldpan and tell 'The Lily' you want her to pass the word, or stick a sign up in her place saying what men, and how many, you want."

"Sounds like a nice name," Mathews commented.

"The Lily?" questioned Dick, anxious as to who this camp character could be.

"Sure," the engineer rasped, as if annoyed by their ignorance. "Ain't you never heard of her? Well, her right name, so they tell, is Lily Meredith. She owns the placed called the High Light. Everybody knows her. She's square, even if she does run a dance hall and rents a gamblin' joint. She don't stand for nothin' crooked. Lily don't. She pays her way, and asks no favors. Go down and tell her you want men. They all go there, some time or another."

He stooped over to inspect the fire under the small boiler he was working, and straightened up before he went on. Through the black coating on his face, he appeared thoughtful.

"Best time to see The Lily and get action is at night. All the day-shift men hang around the camp then, and, besides that, they've got a new batch of placer ground about a mile and a half over the other side, and lots of them fellers come over. Want to go today?"

The partners looked at each other, as if consulting, and then Dick said: "Yes. I think the sooner the better."

Bells Park pulled the visor of his greasy little cap lower over his eyes, and stepped to the door.

"Come out here onto the yard," he said, and they followed. "Go down to the Rattler, then bear off to the right. The trail starts in back of the last shanty on the right-hand side. You see that gap up yonder? Not the big one, but the narrow one." He pointed with a grimy hand. "Well, you go right through that and drop down, and you'll see the camp below you. It's a stiff climb, but the trail's good, and it's just about two miles over there. It's so plain you can make it home by moonlight."

Without further ceremony or advice, he returned into the boiler-room, and the partners, after but slight preparations, began their journey.

It was a stiff climb! The sun had set, and the long twilight was giving way to darkness when they came down the trail into the upper end of the camp. Some embryo artist was painfully overworking an accordion, while a dog rendered melancholy by the unmusical noise, occasionally accompanied him with prolonged howls. A belated ore trailer, with the front wagon creaking under the whine of the brakes and the chains of the six horses clanking, lurched down from a road on the far side of the long, straggling street, and passed them, the horses' heads hanging as if overwork had robbed them of all stable-going spirit of eagerness.

The steady, booming "clumpety-clump! clumpety-clump!" of a stamp-mill on a shoulder of a hill high above the camp, drowned the whir and chirp of night insects, and from the second story of a house they passed they heard the crude banging of a piano, and a woman's strident voice wailing, "She may have seen better da-a-ys," with a mighty effort to be pathetic.

"Seems right homelike! Don't it?" Bill grinned and chuckled. "That's one right nice thing about minin'. You can go from Dawson to Chiapas, and a camp's a camp! Always the same. I reckon if you went up the street far enough you'd find a Miner's Home Saloon, maybe a Northern Light or two, and you can bet on there bein' a First Class."

The High Light proved to be the most pretentious resort in Goldpan. For one thing it had plate-glas windows and a gorgeous sign painted thereon. Its double doors were wide, and at the front was a bar with a brass rail that, by its very brightness, told only too plainly that the evening's trade had not commenced. Two bartenders, one with a huge crest of hair waved back, and the other with his parted in the middle, plastered low and curled at the ends, betokened diverse taste in barbering. A Chinese was giving the last polish to a huge pile of glasses, thick and heavy.

On the other side of the room, behind a roulette wheel, a man who looked more like a country parson than a glambler sat reading a thumbed copy of Taine's "English Literature." Three faro layouts stretched themselves in a line as if watching for newcomers, and in the rear a man was lighting the coal-oil lamps of the dance hall. It was separated from the front part of the house by an iron rail, and had boxes completely around an upper tier and supported by log pillars beneath, and a tiny stage with a badly worn drop curtain.

(Continued in next issue)

We would be glad to have our women readers send us stories of neighborhood club work that we may publish on the "Home Makers" page. There are more than a hundred women's clubs organized among farm women and if every club would send but one report during the year we would have three or four reports in every issue. I am sure something of interest will happen in every club that will help other clubs if printed.

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Lord, give the mothers of the world
More love to do their part;
That love which reaches not alone
The children made by birth their own,
But every childish heart.
Wake in their souls true motherhood,
Which aims at universal good.
—Ella Wheeler Wilcox.

Lots of wet weather gives us plenty of time to think. Have all of our thoughts been devoted to self, or to others?

Have you made a resolution to help a homeless child? Let this month see that resolution become a deed.

The Missouri Farmer Family and What They Have Done to Help the Little Ones

Think of it, we are 50,000 strong. We are found in every county in Missouri and in many counties out of the state. Most of us live on farms that we own and have in addition to our property a substantial bank account. True, I realize that not all of us are so fortunately situated but this applies to a great many of the 50,000 readers of this paper. In order to show how deeply we have concerned ourselves with the wants and needs of little homeless children, I am going to give you a complete list, or at least a report received the latter part of July covering a statement of what we have done in answer to the call from these homeless children for some of the abundance that surrounds us. Mrs. Ziemendorff, writing from the Sheltering Arms Home, St. Joseph, Missouri, says:

"I received your letter and am sorry to say that we have not received any more donations since you were here, although we have the promise of a case of eggs from a Mr. ..... of Shelbyville, Mo. We have had quite a number of letters from friends in regard to taking some children, but many do not want to adopt them..... Here is the list of things we have received: One case of eggs from Mrs. Taylor and friends, Maryville, Mo., $5 from Mrs. Allen, Macon, Mo., $5 from a friend; five children have been placed in homes through The Missouri Farmer."

This is the month that school begins. Eggs are cheap and plentiful. Let us as school teachers make one sincere effort this month to have each child bring a few eggs that at least a half case may be accumulated and sent to this worthy home for homeless children at St. Joseph. For those of you who have not kept in touch with the work that we are trying to do for these little ones, I will say that at St. Joseph, there is an institution called the Sheltering Arms Home, supported entirely by donations from friends of the institution, that takes homeless children and keeps them until they can be put into good, christian homes. What we desire is to assist in finding country homes for these little ones. We realize that it is not possible for everyone to adopt a child but it is possible for each of us to do some part in helping toward the worthy work that Mr. and Mrs. Ziemendorff, who have charge of this home, are doing for these little friendless and homeless people. The reason that we are asking for eggs is, that eggs are comparatively plentiful in the country and that we can share this gift without feeling any very great strain, and it is a food that Mrs. Ziemendorff says they need most of all at the Home. The last case of eggs that was sent by a friend caused one little tot to exclaim, when told that a friend had sent the eggs, "Oh, my, I wish they'd send a bushel." We are not asking for a bushel this time, but just simply suggesting that each one contribute a few dozen, and where there are Homemakers' Clubs, women's clubs and boys' and girls' corn and tomato clubs, the few that each contributes will make up a case or two, at least a part of a case that can be sent according to the address given. You need not pay express if you do not wish to, simply send them collect. Be sure to mark your gifts carefully so that Mrs. Ziemendorff will know who sent them.

If you wish to know more about these children, write direct to Mr. W. A. Ziemendorff, Humane Officer, St. Joseph, Mo., and you can thus obtain full details.

The "Garden Spot" of Missouri

This Is a Designation Richly Deserved by the "Drainage District" of Southeast Missouri

Here is where farmers produce 40 bushels of wheat and 100 bushels of corn per acre, and the reason of it is that it is impossible to conceive of a soil more rich than ours. Never has Southeast Missouri presented a picture of greater opulence than this year. Everywhere the eye is greeted by great piles of wheat straw and jungles of corn. Truly this is a "Land of Plenty"—a land where Corn, Wheat, Alfalfa, Cotton, Watermelons, etc., flourish as nowhere else in the Mississippi Valley. What's the use of farming on worn-out land when you can get hold of a farm down here that will produce as much in one year as your worn-out farm will in four? We have a lot of fine farms for sale in the Malden District and every one of them will double in value during the next five years. This district is as healthy as you can find anywhere and you will have good schools and good neighbors. Write and tell us what size of farm you want to buy when we will give you the full particulars. Write to any Malden Bank about our honesty.

The Malden Real Estate Co.

Malden Mo.

QUESTIONS CONCERNING THE FEEDING OF LAMBS

A number of letters are coming in at this season of the year asking about lamb feeding. In an effort to answer these questions for others I am stating the questions and my answers to them.

1. Q. What do you mean by Farm Management lambs and the Farm Management system of feeding them?

A. The Farm Management system of feeding lambs is one that the Missouri Farm Management Association members have been following for the past four or five years with entire satisfaction, and a profit in every case where the plan has been followed completely. It consists of pasturing out of the corn fields a growth of cowpeas or soybeans and using at the end of the feeding period a patch of rape grown to finish the lambs on. A Farm Management lamb is one that has been described to the Farm Management Association and can be purchased on the Kansas City market when described in no other way than saying "Farm Management lambs." It means a lamb that will top the market when properly fed according to the system outlined.

2. Q. When should we purchase our feeding lambs?

A. The lambs can be purchased any time after the feed is ready, which is generally from the first of September on to the middle of October.

3. Q. Where can we purchase the lambs?

A. The lambs may be purchased on the Omaha, St. Joseph or Kansas City markets. Probably ninety per cent of them have come from Kansas City, the market that is most handy to the members of the Farm Management Association.

4. Q. How do we buy Farm Management lambs?

A. The Farm Management lambs may be purchased from any reliable commission firm on the markets mentioned. Most of them have been purchased by Clay, Robinson and Company who started the work for the association five years ago. It should be understood that I do not stand as recommending any firm to the exclusion of another. Purchase from the commission firm that you have most confidence in. I am simply outlining the plan that has been followed.

5. Q. What should our lambs cost us?

A. In years past they have cost less than seven cents a pound. This year they will probably cost eight cents or more. In addition to this there will be a charge for commission of $8 for a single deck and $12 for a double deck, dipping, weighing, freight, etc.

6. Q. How high can a person afford to go for feeders?

A. The more experienced feeders would not hesitate to buy lambs at five cents a pound if they knew they could sell them at six, but the same feeders hesitate to pay eight cents even though there is a probability of getting a very good market. It should be remembered that, other things being equal, there is as much profit in feeding a five-cent lamb that sells at six cents as there is in an eight-cent lamb that sells for eight and a quarter. In other words, the higher the feeder the less the needed margin to come out safe. Figure this out, counting the feeder weighing fifty pounds and the fat lamb weighing seventy pounds, a gain that may be expected under good conditions.

7. Q. How are the lambs put onto feed?

A. When the lambs are brought home from the shipping yards they should be put on short pasture and kept there for a day or so until their ravenous appetite is appeased. Then turn them into the corn field where the undergrowth mentioned is growing and leave them there for an hour or two the first day. Each day increase the length of time in the corn field until at the end of ten days to two weeks they should be on full feed and can then be left in the field.

8. Q. What should the lambs eat first?

A. Put the lambs on the poorest, most perishable feed first. Allow them to have better and better feed as the feeding period increases, ending up with the best or certainly that which is most apt to withstand an early frost if we should have it. This means that the rape is the last to be consumed. Start with the cowpeas, soybeans second and finish as mentioned.

9. Q. How long should they be on feed?

A. Sixty to ninety days will generally make a satisfactory feed. This depends, however, upon the number of lambs and the kind and amount of feed.

10. Q. How many lambs can be fed per acre?

A. A good growth of soybeans or cowpeas in the corn with enough rape to finish (the rape should be in proportion of about one-tenth as many acres as there is undergrowth in the corn) will fatten from six to eight lambs per acre of feed.

11. Q. Will crabgrass, foxtail, weeds and corn blades make a satisfactory feed?

A. No, the sheep will eat it but they will make no more gain on it than a steer. Everyone realizes that there is very little nutriment in this class of undergrowth and it should not be counted upon to play any important part in the feeding.

12. Q. Is there anything that can be used to substitute rape?

A. Any feed that has a high feeding value, that will withstand the frost or is available after freezing weather will take the place of rape, to a degree, at least. Such feeds as fairly well matured clover, in some cases alfalfa, will do fairly well. They are not as good as rape but will frequently be found satisfactory. In some cases good sweet silage has been used to finish up on. We have not had much experience on this feed and are not in a position to recommend it, although some of our farmer acquaintances speak of it very highly.

13. Q. Where and when should the lambs be sold?

A. The lambs should be sold at St. Louis or Chicago as these markets are higher than the western ones. If possible, they should go before Christmas as the Christmas market is generally low on mutton and there is not much demand for it.

14. Q. How much profit can one reasonably expect from a single deck of lambs—125 to 150 head?

A. Under ordinary conditions, and with a margin this year of from twenty-five cents to a dollar, the lambs should net from seventy-five cents to $1.50 a head. This will depend upon freight rates, rate of gain of lambs, loss, etc.

15. Q. What is an expected loss?

A. If you do not have more than a four per cent loss do not count it as unusual.

16. Q. What are the chief dangers to watch?

A. One is to see that the lambs do not go onto feed too rapidly. Watch carefully that they do not eat too much corn, as this is apt to bloat them. In the last two or three years the western lambs have had a disease or trouble called "big head" that has been very serious, as it has caused the loss of a large number of lambs. We know of no way to guard against this, and it can be counted but one of the risks of the business. However, when lambs begin to come down with "big head" a swelling of the head, ears and eyes can be noticed and the lambs walk with dropped ears and head, paying little attention to what is going on. These are the early symptoms that may be noticed at the yards or soon after getting home, if the lambs seem to have the disease.

Further information on this subject will be gladly given to those who are interested.

Home Makers' Conference

This Department is Edited by Miss Alice Kinney, New Franklin, Mo.

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TELL US WHAT YOU ARE DOING

My Dear Sister Home-Makers:

We would like to hear more from our clubs over the state, what you are doing and along what lines you are working.

Let us make use of this department and tell each other what we are accomplishing.

We would like to know some of the topics you are discussing in your meetings and by giving them to this department we can all receive the benefits besides the exchanging of ideas will truly help all.

At our last Pettis County Homemakers' meeting we had a paper on "Economy and Waste" by Mrs. M. D. Norton, one of our faithful and capable members. It was freely discussed and proved most helpful and interesting.

We are sending you the paper hoping your club may enjoy it also and we shall be pleased to have something from your club. [Every member of every woman's club in Missouri could get the best of all the clubs if the members would send it to this department.]

We shall be glad to again hear from the clubs who have written me of their work also from others with whom I have not come in touch. Let us get better acquainted.

Mrs. Harry Sneed,
Meadow Lawn Farm.

WASTE AND ECONOMY

We as a nation are the most extravagant in the world. It costs over two hundred million dollars a year to play golf and it is said that the food wasted in the United States would feed all of Europe.

The wastefulness of the average housewife does not come as a rule from wilful extravagance but rather from sheer lack of training in efficient household management.

False standards of living, with extravagance in dress, food and shelter are to blame for much of modern ills.

Families whose incomes do not warrant it ape the manners, amusements and furnishings of others, thus are often led into debt in order to maintain this fictitious mode of life.

It rests with the housewife for a simple, sincere standard of living; then with this standard fixed in mind, she can more satisfactorily expend wisely and successfully for the various items of the family needs.

The greatest waste on the farm is wasted energy among farm women.

You must realize that the woman who gives all her physical strength to the service of her family is not rendering the truest service.

Most of our farms have all modern labor-saving devices. Why should not the wife and daughter demand and continue to demand all possible aid in their heavy work; this would give them more time and strength for other duties.

Housework—the science of homemaking and motherhood—if followed out on an efficient plan can be the most glorious carreer open to any woman—one that will not degrade but which offers her peculiar talents their widest scope.

Homemakers take countless steps and motions in every task many of which are entirely avoidable; it is not because each household task is hard that so many women find themselves fatigued, but that their work is poorly planned—poorly planned work results in too much changing and hence too much wasted vitality.

"Motherliness" and "homeiness" in the past usually meant drudgery. True and better homemaking will come from a higher realization of the tremendous possibilities of the homemaker who uses scientific methods instead of rule of thumb.

If housework is drudgery for a woman, it is only because that woman refuses to accept the efficient method and improved equipment offered her on every hand.

Only eight per cent of the families of the United States keep domestic help. Think of the number of women doing all their own work. But more expert advice is being offered them than is being offered any manufacturer.

The finest specialists and experts are retained by magazines to tell women how to care for babies; prepare food; how to economize and how to make clothing. So subscribe for a good magazine on these lines and not only read the good ideas given in them but put them into practice.

This is the time of the year that affords farm women a few leisure moments. There is no such thing as clock-work in housekeeping on a farm for people with children, hungry men, young folks, chickens, dogs, cats and nature around.

If you want more leisure you have to win it out of the hours of your working day already full to the brim, and the first and last word on time saving is to cut out every unnecessary task.

I know you have to cook, wash and iron, bake and clean for the entire farm family with only what help the children can give, but if you put your mind on it you will be surprised how much of your labor will be spared and nobody be the worse off—in fact all the family will profit with you in your newly acquired hours for rest and recreation.

Take a few minutes every morning to see how often you can put two tasks into the time allotted for one by simplifying every move you make and strictly forbid yourself every useless drudgery.

Stop drying dishes; rinse them freely in scalding water and leave them on edge to dry. Stop starching your clothes; starch has gone out of style. Stop dressing the children in white; ginghams neatly made will last longer and are not always getting spotted. Stop ironing all underclothes, napkins and sheets; hang them carefully on the line and let the wind dry them. Stop using tableclothes. Stop washing over and over an endless array of old cleaning cloths. Stop so much hand sewing and sit down to your work whenever it is possible.

Get a floor mop for dry dusting; you can go over the whole house in less time than the old way took for one room.

As for furniture and ornaments, we in America seem to possess a mania for a profusion of furnishing and bric-a-brac. Whatever is not in actual use or are not things of real beauty, put away in the attic. A farm woman is worth more to the world than a caretaker of lumber.

Of course the washing is the biggest item of hard work for the farm woman and if she has to do it herself, she is often up before daylight to begin. Right here is the place for one of your most needed reforms.

After you have obtained all the conveniences you can get such as proper piping of water with proper drainage out, with set tubs if possible, give up the old-fashion way and back-breaking methods and make the clothes partly wash themselves.

One good way is by soaking them over night in naptha soap, but another way still better is to have a good washing machine with boiling water in which soap has been dissolved.

An hour saved out of every day foots up more than a month of working days every year and you can save more if you try?

Think of all the joy for yourself, not to mention all the good for your family and the community that could be crowded into such an aggregate of economized time.

The efficiency tool surrounds the housekeeper on every side, but it depends largely upon the housewife whether she needs it or not. She must consider whether it is a paying investment for her particular family. They can all be grouped under four heads: Fuel savers, step savers, labor savers and time savers.

The first great need for comfort in living is better construction in houses. Countless accidents happen because of steep stairways, doors opening the wrong way, windows and doors which are not well fitted and sharp corners where a curve could easily have been placed.

The kitchen especially has been neglected by the builder, the position of stove, sink and shelves are rarely convenient, and the height of the table, tubs and sink are not adjusted to the one who is to use them most.

The housewife should make it her aim to study all conditions inside the house to secure labor-saving devices and especially to train all members of the household in labor saving habits as well as into a general spirit of helfulness where working together it is necessary that the duties of each be defined and that all implements have well chosen places to which each is returned after using. It may save friction to label shelves and hooks as well as boxes and drawers.

For all processes which must be frequently repeated, especially those of cleaning like dishwashing, sweeping and laundry, there should be the best possible facilities. There is no economy in heavy brooms, cheap brushes or inferior cotton dish towels.

Too often women are drudges when a man slavishly accepts her work and sacrifice for her children who do not understand the work she puts forth in their behalf. If men will co-operate and assist women to bring about this new housekeeping certainly a greater companionship between them will be created.

Mrs. M. D. Norton,
Rt 4, Sedalia, Mo.

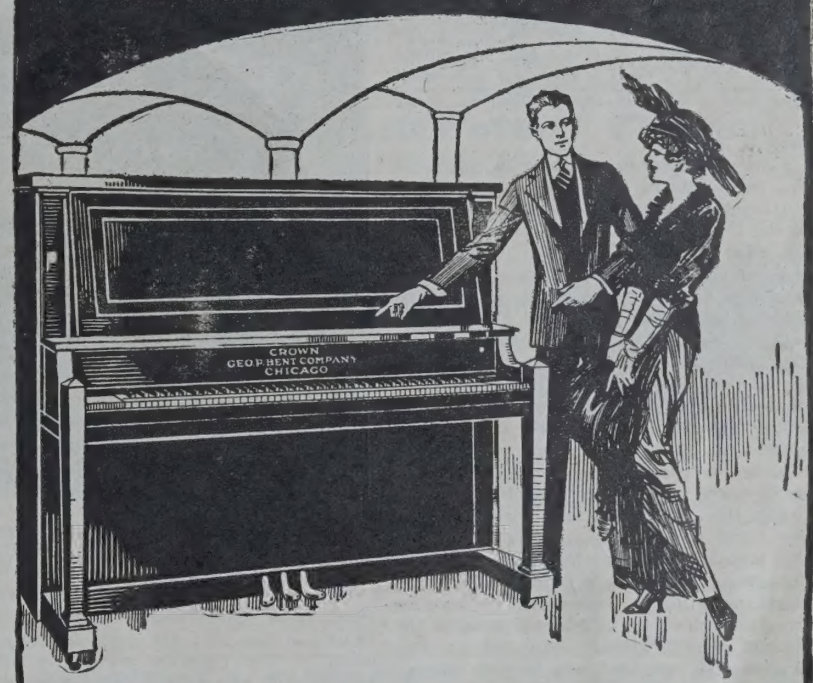
Help to create an apple eating crusade to promote the consumption of Missouri apples this fall. All housekeepers can fall in line by serving apples to their families in as many different ways as possible.

If you have any extra methods of cooking apples let us have them.

From an appreciative reader comes the following inquiry and we shall be pleased to hear from some of our experienced bread-makers who have either had similar trouble or understand the cause of this young woman's bread souring:

"During the last few weeks we have had trouble with our bread. It gets so sticky that when a knife is run through it the knife comes out sticky and white. The bread also smells badly. We have been cooking four loaves, medium size and the first two will be all right but the third will begin to get sticky and off in flavor."—V. M.

"The Quality Goes IN Before the Name Goes ON"



What To Look For In Buying A Piano

Remember a Piano is, first of all, a musical instrument, not merely a piece of furniture. It must have the musical qualities as well as beauty of design and finish. Decide first on Tone, Action and Durability—select design and finish afterward.

Crown Pianos

are built for lasting musical quality. Perfection of tone is the reason for every part, every bit of workmanship, every careful refinement in construction. The very purity and strength of tone show superior quality. It does not take a trained musician to appreciate the tone of the Crown Piano. All music lovers recognize its beauty.

The action transmits the touch of the fingers to the strings. It must respond accurately to every variation.

To show sensitiveness of action, try getting a soft tone by a very light touch with the "loud" pedal on; then loud crashes to show its strength and wide range of possibilities. Try quick repetitions on the same keys to test the elasticity. These tests show the superiority of the Crown action.

Don't buy the first piano you look at. The more you investigate the more you will appreciate the Crown.

Send for our booklets telling more about how to select a piano. They are FREE.

Geo. P. Bent Co.
Makers of Geo. P. Bent Grands, Crown Uprights, Concord Uprights, Crown Combinola and Concord Player-pianos
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Live Stock Notes

R. P. ROYCE, Fieldman

COMING SALES

SPOTTED POLAND CHINAS

H. T. Dickerson, Jameson, Mo., Oct. 6.
Andrews Stock Farm, Lawson, Mo., Oct. 14

POLAND CHINAS

J. F. Richards & Son, Bevier, Mo., Sept. 8.
Halleck Bland, Centralia, Mo., Sept. 16.
N. R. Riggs, Lawson, Mo., Oct. 7.
Ed. Cook, Pattonsburg, Mo., Oct. 7.
L. L. Freeman, Kearney, Mo., Oct. 15.
J. B. Gurthet, Pattonsburg, Mo., Oct. 29.

O. I. C. and CHESTER WHITE

J. H. Harvey, Maryville, Mo., Oct. 5.

ABERDEEN-ANGUS CATTLE

J. W. Austin, Carrollton, Mo., Oct. 5. M. A. Judy, West Lebanon, Ind., Sales Mgr.

Harvey's Annual O. I. C. and Chester White Sale

Elsewhere in this paper will be noticed the advertisement of J. H. Harvey, Maryville, Mo., in which he announces that on Tuesday, October 5, he will hold his annual sale of O. I. C. and Chester Whites.

Here is an offering that will appeal to our readers who are interested in securing choice individuals of proven merit. We make this statement because we are familiar with the kind that Mr. Harvey is producing. Mr. Harvey is one of the pioneer hog breeders of this state and his name is no doubt familiar to many of our readers—especially the older ones. Few men have stayed with the business through thick and thin as long as he, and naturally in all these years he has accumulated a very valuable knowledge of the business. It is no idle statement to say that his herd is stronger now than ever and that this year's offering is as good as any he has ever made, because such is the fact.

Sixty-five head are listed and represent the very tops of the 1915 farrow. They are sired by several of the greatest boars of the breed and are out of sows that are conceded to be among the really good ones of the Corn Belt. A number of litters are sired by the good young boar International Boy, the boar Mr. Harvey sold to head J. J. Wills herd at Platte City, Mo. As usual Barber Girl 42882 C. W. R. contributes a crack litter. Harvey's Perfection furnishes a capital litter among them are several outstanding boars and gilts. The good sow Peach Blossom is represented by some corking good boars and gilts sired by International Boy. Three litters out of good sows and sired by Demonstrator, one of the largest boars of the breed. Several herd boar prospects are in the litter of Highland Kind, a wonderfully good young sow, and sired by Wildwood Prince, the champion and grand champion at Des Moines last year and will furnish competition for the buyers.

Our readers need not have the slightest hesitancy to attend this sale as we assure them that they will be pleased with the offering throughout. The catalogs are ready to mail and will be sent to all who write mentioning this paper.

Important Angus Sale

J. W. Austin, Carrollton, Mo., claims Tuesday, October 5th, for a dispersion sale of his well known herd of Angus cattle. About 110 head will be listed, consisting of bulls, cows, and heifers of the most popular and fashionable families—Blackbirds, Pride of Aberdeen, Queen Mothers, Drumin Lucies and Nosegays.

The advertisement will appear in a later issue of The Missouri Farmer and further details concerning the offering will be announced. In the meantime we would suggest that you write for catalog. Please mention The Missouri Farmer when you write.

Report of Faulkner's Sale

The sale of Spotted Poland Chinas held by H. L. Faulkner, Jamesport, Mo., August 10th, resulted in an average slightly under $40. While this average is considerbly below Mr. Faulkner's usual sales, he expressed himself as fairly well pleased in view of the fact that the sale occurred at a time when farmers and breeders were extremely busy thrashing and haying. The few buyers who were there and those who were represented by mail bids secured excellent bargains, and can not help but feel well satisfied with their purchases. Mize & Linn, Clinton, Okla., secured the two highest priced sows when they paid $120 and $115 for Nos. 10 and 11. Col. P. M. Gross, Macon, Mo., did the selling and was assisted by Cols. Wells, Shephard, Nelson and others.

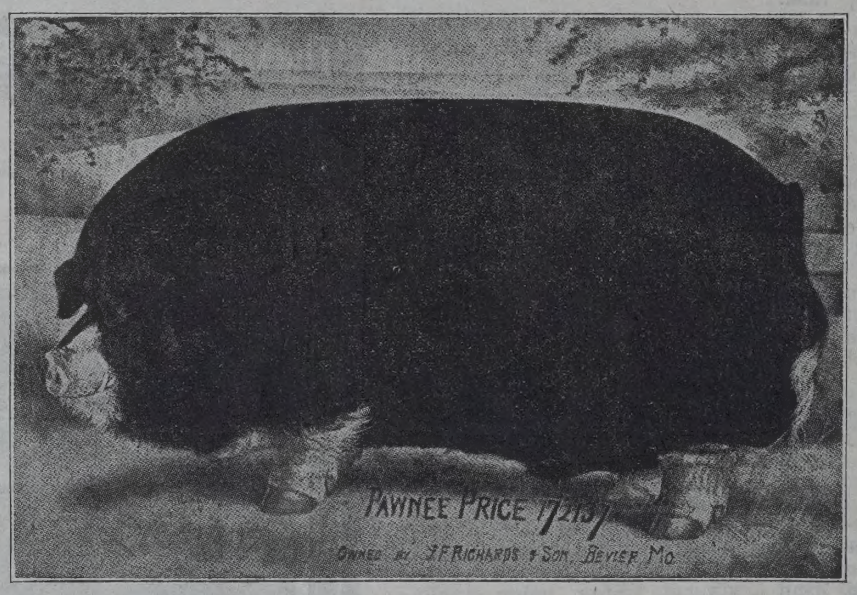
Last Call for Richards & Son's Great Poland China Sale

This is to remnid our readers that on Wednesday, September 8, J. F. Richards & Son, Bevier, Mo., will sell fifty head of very high class Poland China bred sows, gilts and boars.

The offering is strictly first class in every way and will afford a rare opportunity for breeders and farmers to secure Poland China breeding stock of the most approved type. If there is one feature of the offering that is more noticeable than others it is the degree of quality and size offered.

Messrs. Richards have selected and handled this offering with the view of attracting the most critical buyers and we can assure our readers that they will in no way be disappointed. Everything offered, save one tried sow, has been bred on the farm and the two herd boars, Pawnee Price and Wonder R. are largely represented in the offering. Few, if any herds can boast of two as good boars as Pawnee Price and Wonder R. Pawnee Price is a boar that looks better to you every time you see him—he has size, being in the thousand pound class, extreme smoothness, great width and depth, and throughout is put up on well nigh ideal lines. But far more important is his ability as a sire. We know of no boar that is siring more uniformly good pigs. Perhaps this is due to the fact that he comes from a long line of great sires and dams. Wonder R. is a younger boar of very much the same type and excellencies. Messrs. Richards are using him with very gratifying results on Pawnee Price gilts and many of the choicest things in the sale are sired by him. he proof of the pudding always is in the eating and we suggest that you attend this sale and see for yourself if what we have said is not borne out by the offering. The sows are all bred to one or the other of the above boars and will be sold carrying their own guarantees. Among the sows are several that are good enough to be top sows in any herd—many of the yearlings will weigh 450 pounds.

Among the boars cataloged will be found first class herd boar material. Remember this sale and plan to be on hand when this great offering is sold. We recommend this offering very highly to our readers and trust that many will take advantage of the opportunity. The catalogs are ready to mail and will be sent to all who apply. When writing please bear in mind that Messrs. Richards will appreciate having you mention this paper. R. P. Royce will represent this paper at the sale and will be glad to handle the business of our readers who are unable to attend.



Pawnee Price, J. F. Richards & Son's great boar. A sow bred to this boar will fit into any herd and make it stronger

Bridges Bros.' Strong Poland China Herd

Beginning with this issue a new Poland China herd is introduced to our readers. The herd in question is that Bridges Bros., Slater, Mo.

Here is a herd that promises much for the Poland interests of this state and from now on must be reckoned with when considering the good collections.

The development of this herd is interesting. For years the father of the four members of the firm was one of the most successful and progressive farmers of Saline county. The father realized the profit of pork production and made this his principal business. Always alert to learn new and successful methods of economical production he early learned the value of careful feeding and good blood. As his sons grew up they received the benefit of his wide knowledge of the business. Two of the boys attended the College of Agriculture and upon their return to the farm the father encouraged them to start a pure bred herd. The first selections they made were good ones and soon a nice trade was established among the neighbors. Gradually more sows were added to the herd and finally they felt justified in branching out in a more extensive way. Last winter Bridges Bros. were among the best buyers at the more prominent sales and the class of sows they selected were such as would insure their success from the start. or example, at W. E. Williams' sale at Silex several of the choicest sows became their property, likewise at H. B. Walter's sale they secured one of the best fall yearlings sold last winter; again, at U. S. Byrne's sale at Saxton they bought an outstanding daughter of Wedd's Long Kind and bred to Long Jumbo 2nd. These sows together with the sows already in the herd produced a high class lot of spring pigs from which the top boars are now offered for sale. One of the best litters the writer has seen anywhere is the Big Bob Wonder litter. The Long Jumbo 2d litter is also very high class. Several of the early litters by Longfellow Sampson and Cloverdale Hadley afford herd boar material. The spring pigs by Wonder Ex.—as good a son of Expansion Wonder as the writer knows of—are strong on size and quality. The crowning addition to the herd is the great boar King John. King John was purchased in the Mahan dispersion sale last winter and is one of the very best boars ever sired by Long Kings Equal. He is out of a Jumbo Prospect dam.

Bridges Bros. are reserving their gilts for a bred sow sale this winter and are only offering about twenty head of spring boars. These boars are the tops of the spring pigs. They have unusual size, plenty of bone ,and excellent quality and are being offered at very low prices.

Everything is immune and is sold on a broad guarantee of satisfaction. Write Messrs. Bridges if you want a boar bargain, and kindly mention this paper.

Holstein Bulls for Sale

Last week Wm. Zimmerman, junior member of the firm of M. E. Moore & Co., Cameron, Mo., was in Columbia attending the meeting of the newly organized Missouri Holstein Breeders Association and while here visited The Missouri Farmer office. Mr. Zimmerman informed us that they had recently made a large sale of Holstein cows and heifers from their herd to a Tulsa, Okla., firm, but added that they still had a number of choice young bulls for sale at prices he felt would sure move them. The Moore herd is the oldest herd in this state and for years has been regarded as a top collection in every way. Kindly mention The Missouri Farmer when you write.

Halleck Bland's Poland China Sale September 16

This is the last time that we can call the attention of our readers to Halleck Bland's Poland China sale to be held at the Fair Grounds, near Centralia, Thursday, eptember 16.

On this date Mr. Bland will offer fifty head of highly desirable bred sows and young boars from his well known Long Branch herd.

This herd has been established a number of years and has been handled in a

Bridges Bros.' Poland Chinas

There is a Reason why we can please Missouri Farmer readers who are needing a strictly big type Poland China spring boar. We have about twenty extra good ones sired by BIG BOB WONDER, LONG JUMBO 2nd, LONGFELLOW SAMPSON, WONDER EX., etc., and out of our carefully selected sows. Our herd boar iis

KING JOHN 72135

Long Kings Equal's greatest son. Everything immune. Prices reasonable.

BRIDGES BROS., Slater, Mo.

BAKER'S REAL BIG-TYPE POLANDS

Our winnings at the State Fair proves that we "have the goods." Spring boars and gilts of excellent breeding and individuality at very reasonable prices. Also a number of fall boars; big, stretchy kind.

W. A. Baker & Sons, Butler, Mo.

Linhardt's Polands

Choice spring boars and gilts. Fall boars and gilts. All sired by Giant Mammoth, Governor Hadley and Mammoth Wonder. Satisfaction is guaranteed. Have shipped to 23 states.

H. O. LINHARDT, LOHMAN, MO.

Dooley's Spotted Polands

Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pairs and trios no relation. Also registry furnished. Send check with first letter.

EDGAR DOOLEY, ETTERVILLE, MO.

CHESTER WHITES

RAUSCHER'S CHESTER WHITES!

Big, stretchy, heavy boned, March and April boars and gilts sired by Combination Giant, Mo. First and others. Pairs, trios or more. Prices reasonable and pigs must satisfy.

H. Rauscher & Son, Kahoka, Mo.

O.I.C.'s or Chester Whites

A few gilts bred for fall farrow to junior champion boar. Express prepaid on spring boars.

W. P. DOOLITTLE
WOODLAND, MARION CO., MO.

100 Prize-Winning O.I.C's

Our herd is headed by grand champion and champion boars of 1914 shows. Sows of equal merit. All backed by long line of prize winners. Early pigs, singles, pairs or more not akin, at rock bottom prices. We can please you. Write or come.

S. D. & B. H. FROST,
Box H Kingston, Mo.

Shorthorn Bulls and Heifers

PEABODY FARM now offers 12 choice young bulls and 20 heifers. Good individuals; reds and roans. Priced to sell. Also 20 open BERKSHIRE gilts. Get our prices.

June K. King & Son Marshall, Mo.

GALLOWAY CATTLE

Young stock for sale at all times. Herd established 25 years.

J. & W. R. CLELLAND,
New Hampton, Mo.

THOMAS E. DEEM
AUCTIONEER

Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased.

Dependable service at a reasonable charge. Address, Cameron, Mo.

Harry W. Graham
AUCTIONEER
PURE BRED LIVE STOCK

Seventeen years experience with America's best breeders.

Chillicothe, Missouri

W. D. ROSS
Auctioneer

Pure bred live stock. Sales made anywhere on reasonable terms. Write for dates.

Otterville Missouri

MOLASSES Best Feed for Pigs and Calves

St. Louis Molasses Co., Dept. MF.,
400 S. Broadway, St. Louis.

ANGUS CATTLE

ChoiceAberdeen-Angus

Established 30 years. 100 head in herd. We are offering good useful Bulls, and Heifers of excellent individual merit and breeding. Prices reasonable. Our customers make them popular.

D. L. Sutherland & Sons Windsor, Mo

Aberdeen-Angus

I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.

J. D. Blackwell Fayette, Mo.

ANGUS CATTLE

HERD FOUNDED 1904

Seven early calves—3 BULLS and 4 HEIFERS, sired by Dean's Eric 139686. Every one the right kind, and priced to sell.

V. E. LAWRENCE, SALISBURY, MO.

Angus Bargains

Registered bulls and heifers. The market topping kind. Leading families represented. Priced worth the money and satisfaction guaranteed.

Also Poland China Hogs

J. M. JONES, R. F. D. 3, EVERTON, MO

HOLSTEIN CATTLE

Holstein Bulls

DUTCHLAND SIR HENGERVELD RAG APPLE 99771

A few choice bull calves out of heavy producing dams sired by the above famous bull for sale.

BLACK AND WHITE FARM
Baden Station, Mo.
Tel. Colfax 1812 R. R. 30

IN MISSOURI

Eight bulls, 2 to 8 months, $100 to $175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.

S. W. COOKE & SON, MAYSVILLE, MO

Holstein Bull Calves

Registered sons of Sir Missouri Josephine Chief 72328 and Wauseona Royalton Korndyke 117165 from high producing cows. All stock tuberculin tested. For prices write Wm. J. Salts, Steward.

MISSOURI STATE SANATORIUM,
Mt. Vernon, Mo.

HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndyke Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

M. E. Moore & Co., Cameron, Mo.

JERSEY CATTLE

JERSEY CATTLE

Bulls ready for service. They are sired by the Owls Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

Jersey Cows

I want to sell 20 head of registered cows and heifers that are either fresh or soon will be. Also four young bulls.

J. B. SMITH Platte City, Mo.

Sunset "Correct Type" Jerseys

Two magnificent heifers, one to freshen soon, and one in the winter, that I will offer at very attractive prices. Also a splendid young bull ready for light service. Write us before buying elswhere. All are the famous Blue Belle-Rosebays.

Albert S. Ennis, The Ennis Stock Farm,
Horine Station, Mo.
(Just south of St. Louis)

RED POLLED

RED POLLED CATTLE

HERD ESTABLISHED 16 YEARS

Young stock for sale at all times.

Young bulls for sale sired by Logan 13500. The duel purpose kind.

M. L. Snyder - Polo, Mo.

sane and conservative manner that permitted it to improve each year. At the head of the herd stands King David, a boar that is concede by all to be high class in every respect. King David is one of the large boars of the breed that possess extreme smoothness and quality coupled with the ability to transmit these desireable qualities to his offspring. He is sired by the great Long King, a boar familiar to every breeder of Poland Chinas. Another boar in service in the herd is Leader, by Grand Leader, while still another very promising young boar is ee Wonder by A Wonder.

The offering this year will consist of nine tried sows, six spring yearlings, five fall gilts, sixteen spring gilts and about sixteen spring boars. The bred sows and spring yearlings sell bred for September and October farrow to either King David or See Wonder. The fall gilts sell open as do the spring gilts. Our readers who are looking for something goodwill do well to check Nos. 1, 4 and 6. The sixteen spring boars are a very uniform, useful lot and several of them are genuine outstanding prospects for herd boars.

This is Mr. Bland's first public sale and naturally he has selected with care and judgment the entire number that are cataloged.

Many of our readers are familiar with Mr. Bland's herd and to those who are not we will say that the Long Branch type of Polands are the well bred, big, quality kind. his sale is one we can urge our readers to attend. The catalogs are now ready to mail and may be had for the asking. Write at once for one and arrange to be at the ringside when Col. Gross starts the selling. R. P. Royce will represent The Missouri Farmer and bids entrusted to him will be handled with judgment and care. Please mention this paper when yo uwrite.

White's Durocs

About ten days ago the writer stopped over at Palmyra, Mo., and visited A. White, Jr., who advertises Durocs in this paper.

Mr. White's herd is in great shape at the present time and can take care of the wants of our readers who are in the market for choice Durocs.

Mr. White has on hand several fall boars that he is anxious to dispose of and in view of the quality and breeding offered he is pricing them worth the money. Two of the boars are sired by Crimson Col. I Am, the junior champion of The American Royal, and are out of the great producing sow, Missouri Lady. Mr. White also is offering about twelve extra good values in fall gilts that are sired by Crimson Col. I Am and are bred for fall litters to Select Col II, the boar now at the head of the herd. Select Col. II is one of the best Duroc boars the writer knows anything about. He is bred in the purple and as an individual few boars can approach him.

A very desirable lot of spring boars and gilts are in offer and Mr. White can furnish our readers with pairs, trios or more of unrelated stock, sired by Crimson Col. I Am, Col. Wonder and other good boars. Write for prices on this stuff.

Bennett Bros. Poland Chinas

Elsewhere in this paper will be found the advertisement of Bennett Bros., Lee's Summit, Mo. We take pleasure in introducing this firm to our readers because we know that their herd is one that deserves the serious consideration of our readers, furthermore we have known these boys, Park and Lewis, for a good many years and they are the kind of men to know. Ever since these boys came to Columbia, Mo., to attend the short course in agriculture, they have been making their plans to enter the business of producing pure bred hogs. Both members of the firm are critical judges of all kinds of livestock and when they made their initial purchases they selected individuals that were counted by all to be among the best sold in several top sales. This firm was the heaviest buyer at John Belcher's record winter sale and secured many of the best sows that were bred to Mr. Belcher's great boar Smooth Columbus. No boar in recent years has attracted more interest from breeders in this section than has Smooth Columbus, and it was the competition among breeders for his get that caused the Belcher sale to make an average of over $80. At this same sale Messrs. Bennett bought the great A Wonder sow, Fessie's Lady, at the record price for the state last winter, $355. Fessie's Lady was carrying a litter by Big Joe, at the time, and several of the boars for sale are from this sow. One boar in particular promises much, and is to be shown at the State Fair this

Clydesdale Horses, Jacks and Jennets

Clydesdale Stallions, Mares and Colts, with quality and breeding, for sale at lowest prices. We also breed Jacks and Jennets and sell them as low as the lowest.

HIGHVIEW FARM F. L. CROSBY, Prop., Mexico, Mo.

POLAND CHINAS

RIGGS' POLAND CHINA SALE OCT. 7

A great lot of February and March boars and gilts representing the get of JUMBO ORR 178083 and LONG SUPERIOR. The greatest lot I ever offered. Watch this paper for further announcement. Get my catalog.

N. R. RIGGS, - - - - - - - - - LAWSON, MISSOURI

SPOTTED POLAND CHINA BOARS

The big boned, thrifty kind. We have a number of boars now ready for service. A choice lot for only $25 each, f. o. b. Rocheport.

HALL & RAPP - - - - - - - - Rocheport, Mo.

MEGOWN'S SPOTTED POLANDS

No matured stock for sale but booking orders for pigs to be shipped later. Have length, bone, size and big spots. Sired by two of the biggest boars in the State for their age.

B. B. MEGOWN, - - - - - - - NEW LONDON, MISSOURI

Faulkner's Famous Spotted Polands

We are not the originator, but the preserver of the Old, Original, Big-Boned SPOTTED POLANDS. Spring pigs now ready to ship. Pairs or trios not akin. A few good fall boars ready for service. Write your wants.

H. L. FAULKNER, Box R, Jamesport, Mo

Smooth Columbus Boars and Gilts. Bennett Bros.

75 extra choice March and April boars and gilts sired by SMOOTH COLUMBUS, the record sire of the state, LONG JOE, and BAKER'S HADLEY. Big type Polands with quality. All immune. Satisfaction guaranteed.

BENNETT BROS. R. 5, LEE'S SUMMIT, MO.

Lockridge's Giant Poland Chinas

In my recent sale gilts bred to my great young boar THE GIANT 72083 averaged $57. THE GIANT is conceded to be one of the greatest boars of the breed. You will want some of his blood. Booking orders for spring pigs. Write at once.

WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

Poland Chinas & Shorthorns

Spring boars and gilts, pairs, trios or more. A few sows and gilts bred for fall farrow. Several choice young bulls and heifers.

Satisfaction guaranteed.

H. S. Williamson, Route 6 Centralia, Mo.

DUROC JERSEYS

Select Col. II Litter mate to Illinois Champion 1912

White's Durocs

Choice spring pigs by a champion and out of well bred sows! Stretchy, big bone, well grown. A few bred sows.

A WHITE, Jr. Box 422 PALMYRA, MO

Crimson Col. I Am Junior Champion American Royal 1912

ADENHILL DUROCS--SPRING PIGS

Spring pigs sired by Col. Wonder II out of sows carrying as good blood as the breed affords. Get my prices before you buy.

R. L. HILL, - ADENHILL FARM - - COLUMBIA, MO.

CHOICE DUROC SPRING PIGS

Sired by COL. WONDER 2nd. Prize winner at Missouri State Fair 1913

Will show again 1915 at State Fair and at the Panama Exposition, San Francisco, 1915. Others sired by Beauty's Col. and I Am Col. Enough. Dams carrying blood lines of Col. Gano, Col. Wonder, Crimson Wonder Again, Col. Chief, Beauty's Model Top, and B. & C's Col. II. The big type, big bone kind.

The purchaser satisfied or money refunded.

W. H. & GEO. E. THOMSON - - - - - - Columbia, Missouri

DUROC JERSEY SPRING BOARS AND GILTS

Large type, heavy bone, lots of quality. Ninety spring pigs ready to ship last of June. Two May yearling boars, good ones at bargain prices. I always guarantee satisfaction. A. C. BROCKMAN, Centralia, Mo., Route 2

DUROCS and SHORTHORNS

Immune bred gilts and tried sows $20 to $50; also some choice serviceable boars and spring pigs. A pair of good bulls 16 months old at reasonable prices and well bred. Will sell any of above stock worth the money. Write and tell me what you want to buy. Stock sold in 61 counties in Missouri. I believe I can please you.

J. E. WELLER, - - - - - - - - - FAUCETT, MO.

150 Duroc Boars and Gilts

February, March and April boars and gilts sired by Golden Tat, Bob's Col. Wonder, Col. Wonder and Professor's Col. Stretch, size, bone and quality. Priced for quick sale. Write or come.

J. E. McPherson, Columbia, Mo.

75 Duroc Spring Boars and Gilts

Seventy-five (75) good boars and gilts. Rich breeding, and plenty of size and bone. Pairs, trios or more. Priced to sell.

J. C. Garrard & Son, McBaine, Mo.

Champion Col. Wonder Durocs

A few yearling boars and bred gilts. Booking orders for spring pigs either sex. Col. Wonder sires my champions—he will sire champions for you. Write or come.

CHAS. L. TAYLOR - - OLEAN, MO.

A. NO. 1 DUROC SPRING BOARS

I am offering a few extra choice spring boars sired by ILLUSTRATOR and out of TATTLETALE 39th, junior champion International 1913. A few by CRIMSON CHIEF AGAIN. Write or come.

W. C. WATSON. - - - - - - - - NEW LONDON, MO.

fall. Messrs. Bennett are offering Smooth Columbus boars out of sows by Big Sampson, Baine's Wonder and Big Hadley. Among the get of this boar are some very high class future herd boars. They can be bought now worth the money and with right handling will develop into valuable breeding animals. When you buy Smooth Columbus boars you get an added value of advertising publicity few boars can give.

Several litters are by their former herd boar, Baker's Hadley, first prize senior yearling at Missouri State Fair last year, and are mighty good material to pick useful boars from.

We have seen this stuff and know that our readers will be pleased with the kind Messrs. Bennett are sending out at reasonable prices. This firm will have a young herd entered at Sedalia this fall and extend an invitation to all to visit their pens. Among the show stuff that is being fitted is a spring gilt by Smooth Columbus, that is as good as the writer knows of.

The Bennett herd is an outstanding good collection of strictly big type Polands and we take pleasure in recommending this herd to our readers. Everything is immune. Kindly mention this paper when you write.

Missouri Holstein Breeders Organize

"More and better Holsteins for Missouri" is the battle cry of some thirty-odd prominent Missouri breeders who attended the meeting at Columbia, called by E. G. Bennett, State Dairy Commissioner. This meeting was the out-growth of several district meetings called by Mr. Bennett for the purpose of getting the Missouri breeders together in a permanent organization. A very enthusiastic meeting was held and The Missouri Holstein Breeders' Association was launched. P. P. Lewis, Crescent, Mo., president of the state board of agriculture, was elected president; S. C. Lindsey, Carthage, Mo., vice-president; Casper P. Gantz, King City, M., secretary-treasurer. A temporary board of directors was chosen to serve until the next meeting which will be held at Sedalia, during the State Fair.

There is a very keen interest in this state in pure bred dairy cattle. The Jersey breeders organized some time ago and the value of such co-operation is already apparent in the large entries of Jersey cattle at the State Fair this year. Much good will be derived from these associations if they organize and operate along militant lines. Every breeder of Holstein cattle in this state should get in touch with the secretary and join in the good work.

The officers are planning a very practical program and are in a position to render members valuable service. Cow test associations, consignment sales, and community breeding will be encouraged.

White Eagle Chief O. I. C.'s

Beginning with this issue W. P. Doolittle, Woodland, Mo., comes before our readers with his White Eagle herd of O. I. C's and Chester Whites. Mr. Doolittle is no doubt well known to most of our readers as he has been engaged in the pure bred business for years, and his herd has come to be looked upon as first class in every way. The herd takes its name from the boar, White Eagle Chief. Wherever white hogs are bred the name "White Eagle Chief" is a byword. White Eagle Chief is not only a great individual but as a sire he is recognized as one of the most prepotent sires of size, bone and quality. Progeny of this boar will be found in many of the leading herds.

Our representative visited this herd not long ago and was impressed with the splendid fall boars and gilts he saw, as well as nice lot of thrifty, well grown spring pigs. Mr. Doolittle makes extensive use of forage crops in developing his young stuff and the wisdom and practical value of such a plan is readily noted in the White Eagle herd.

Usually Mr. Doolittle holds a fall sale, but this year he has decided to sell his surplus at private treaty. Accordingly he is offering a dandy lot of gilts bred for fall farrow, and the top of his spring stuff. Pairs, trios or more of unrelated stock can be furnished at prices that are very reasonble. When you write or visit this herd please mention this paper.

Thomson Bros. Durocs

W. H. & Geo. E. Thomson, Columbia, Mo., are offering splendid values in Duroc spring boars and gilts. Several days ago the writer visited this herd and he takes pleasure in calling our readers' attention to the advertisement which appears elsewhere in this paper.

Messrs. Thomson are making good their promise of establishing a herd that would rank with the best. The herd was good last year but is considerably stronger this season because of the valuable additions made last winter. Messrs. Thomson own in partnership with R. L. Hill, Col. Wonder II, as good a young boar as will be found in the state, and a boar that is destined to play an important part in the breed's development in Missouri. Most of the spring stuff is sired by this boar, but several litters are on hand by Col. Enough I Am, a strongly bred Col. boar, and by Beauty's Col., by Beauty's Model Top, while two litters are by Col Wonder, C. L. Taylor's grand champion and sire of champions. One of the Col Wonder litters is out of the great broo sow, Miss Crimson Col. I Am, purchase last winter in C. L. Taylor's sale for t long price of $270. This sow is easily o of the most valuable sows in the stat She is an extremely large sow, put up splendid lines, carrying remarkable lengt —in short she is a brood sow possessin to high degree those qualities most sought after by all. Several boars—she farrowed in May—are outstanding good ones and should go to good herds. A gilt in this litter is a plumb popper and will be shown this year.

Thomson Bros. have a lot of other good things for sale at prices in keeping with the quality, and they will appreciate having you investigate their herd before you buy. Remember, everything is sold on a positive guarantee.

McPherson's Durocs

J. E. McPherson, Columbia, Mo., is offering some of the best developed Duroc spring boars and gilts that we have seen in a long time—in fact, we don't recall having seen as much size this year. Most of the offering are sired by Golden Tat by Tatarrax Again, the boar that the College of Agriculture has been using with marked success. If you want size and quality at reasonable prices better write Mr. McPherson early. Such stuff as he is offering will not remain in his hands long. Single pigs, pairs or more, not akin, can be furnished. Write for prices and mention The Missouri Farmer.

Holsteins and Ayrshires

Look up the advertisement of the Galloway-Messer Farms offering choice young Holstein and Ayrshire bulls, heifers and cows. This stock is right in every way. Mention this paper.

R. F. Baldwin's Spotted Polands

On this page will be found the advertisement of R. F. Baldwin, Rocheport, Mo., in which he calls attention to his offering of Spotted Poland China spring boars and gilts. Mr. Baldwin is not a stranger to our readers inasmuch as he has used our advertising columns before. However, it is only this season that he really catches his stride as a breeder. For years Mr. Baldwin has been gradually getting a herd together with the view of entering the ranks of the good breeders.

The herd is headed by King Jumbo 71356, a splendid son of King of All, the noted Lawson boar. Mr. Baldwin purchased King Jumbo from Ed. Cook at Pattonsburg, Mo., as the pick of the litter out of the great sow Jumbo Wonder 2d. We regard King Jumbo as an exceptionally good young boar and judging by the way his pigs are showing up we look for him to prove a very successful sire in the Baldwin herd.

Practically all the spring stuff offered is by this boar and are out of dams carrying the blood of Blaine's Wonder, Big Hadley, Grand Look, Expansion K, Spotted King and Missouri's Best.

The writer visited this herd recently and is glad to call the attention of our readers to it, and to recommend it to those who are in the market for good useful breeding stock. Mr. Baldwin can furnish either black or spotted pigs and will ship out only such stock as he will guarantee to please. Lack of space at this time prevents us giving a more extended notice, but we will have more to say in subsequent issues. Mention this paper when you write.

Splendid Jersey Sale

Attention is called to the advertisement of R. L. Finch's sale of Jerseys at Carrollton, Mo., Sept. 18th. This is a splendid lot of rich producing cows and heifers and is a great opportunity for those interested in this great breed of dairy cattle to secure some bargains. The herd is headed by Eminent's Dairy Boy 104275, son of Eminent 2d, who sold for $10,000, and sire of 80 butter test cows. If interested in the sale, kindly write B. C. Settles, Sales Manager, Palmyra, Mo., for a catalog, and mention this paper.

POLAND CHINA SALE

Centralia, Mo., Thursday, Sept. 16

FIFTY HEAD OF THE GOOD KIND

This is my first public sale and I have selected the kind that I feel justified in asking the public to bid on Included in the offering are 9 TRIED SOWS 6 SPRING YEARLING GILTS, 5 FALL GILTS, 16 SPRING GILTS and 16 SPRING BOARS.

The entire lot represents my best efforts as a breeder, they are sired by KING DAVID 170565—the best living son of LONG KING; LEADER 201105 by GRAND LEADER, and by SEE WONDER the best son of PRITCHETT'S A WONDER I ever saw.

The tried sows and yearlings sell bred to KING DAVID and SEE WONDER.

Sale will be held at Fair Grounds near town.

Catalogs will be mailed to all who ask for one.

HALLECK BLAND, Centralia, MO.

P. M. GROSS, Auctioneer R. P. ROYCE, Fieldman

GALLOWAY-MESSER FARMS, WATERLOO, IOWA

HOLSTEINS Young bulls from our heaviest producing cows sired by King Segis Pontiac Combination. Better producing blood never breathed. Also cows and heifers. State your wants and how much you can afford. Detailed correspondence a pleasure. Call on us if possible.

AYRSHIRES A few splendid Ayrshire young bulls and heifers at lowest prices, quality considered. Every animal in this herd is specially selected. Start now—start right—in Ayrshires. Dairymen profits now greater than ever.

GALLOWAY-MESSER FARMS WATERLOO, IOWA

DISPERSION SALE of JERSEY CATTLE

45 Head of Bulls and Cows

Owned by R. L. FINCH

CARROLLTON, MO., SATURDAY, SEPTEMBER 18

40 FEMALES—5 BULLS

For Catalog Write

B. C. SETTLES, Sales Manager, - - - Palmyra, Mo.

BALDWIN HEIGHTS SPOTTED and BLACK POLANDS

I am offering desirable spring pigs with size, bone and quality, along with spots. King Jumbo 71356 by King of All, out of Jumbo II heads my herd. Also a few extra good black boars and gilts. Satisfaction guaranteed.

R. F. BALDWIN, Rt 1, ROCHEPORT, MO.

FOR SALE—350 Single Comb White Leghorn hens, trap-nest bred 11 years for egg production; winners in America's largest shows. Annual "make room" sale. $1 to $1.50 each; cockerels 75c up. Ackerman Poultry Farm, Bolivar, Mo.

FOR SALE—S. C. White Leghorn Cockerels, Yesterlaid strain; also others; April hatches; choice lot; prices on application. Mrs. Ray Streeter, Sturgeon, Mo. Rfd. 3.

ALFALFA SEED

Choice recleaned alfalfa seed of my own raising, grown without irrigation, $9 per bushel F. O. B. Piedmont. S. E. Morey, Piedmont, Okla.

Chester White Sale

Maryville, Mo.

Tuesday, Oct. 5

65 SPRING BOARS and GILTS

On the above date I will offer for public sale 65 Chester White spring boars and gilts, the very tops of my 1915 spring farrow. The offering will afford an excellent opportunity to secure breeding stock of exceptional quality. Sired by such noted boars as

WILDWOOD PRINCE 28531, the champion and grand champion at Iowa last year.

DEMONSTRATOR 27501, one of the largest boars of the breed.

INTERNATIONAL BOY, one of the best boars now living.

The dams of the offering represent one of the choicest collections of sows in the Corn Belt.

Write for catalog, mentioning this paper.

J. H. HARVEY

Maryville, Mo.

THOS. E. DEEM, Auctioneer

READING ROOM

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE
MISSOURI FARMER
COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE
AND THE MISSOURI EXPERIMENTAL STATION

An After Thought

A short while ago a couple of fine but stubborn friends of mine fell out over a matter and concluded "to have the law" on each other. Altogether, not over a couple of hundred dollars were involved in the controversy—but if it had been five thousand they could not have been more "het up." Furthermore, both are honest men and as a general proposition want nothing but what is right—once they know what right is. When I heard of the row I tried to get them to agree to a compromise but neither would listen. In due time, both consulted a lawyer. Smith's lawyer promptly agreed that they could easily "beat Brown" while Brown's lawyer filled up his pipe, leaned back in his chair and as he emitted a cloud of long green, complacently assured him that they would "mop up the Earth with Smith"—and so I suppose in due course the fur will fly.

Now, of course, Smith and Brown cannot both be right in their contentions and inevitably one or the other must lose the suit—or possibly there will be a compromise verdict in which both will have to give and take and pay lawyer's fees and a lot of court costs besides. That the two lawyers in question understand both the law and the justice of the conflicting contentions I have no doubt because they are both able, well read barristers. But they make their living out of the quarrels and disagreements of the public. If Smith and Brown got together and compromised their differences out of court there wouldn't be any lawyer's fees. And since lawyers are normal human beings like the rest of us we cannot expect them to assault their own pocket books. Practicing law is no more philanthropy than banking, farming, merchandising or mending shoes. But the fact remains that our present system of legal jurisprudence is a direct bid for legal controversies and the fees which flow from these controversies are the very foundation upon which much of the structure rests. That there are lawyers who frankly advise their clients when they are in the wrong is of course true—but they are the exception and not the rule. As a general proposition they hang out their shingle "to do business" and to give everybody a "run for his money"—and hence, when the day of trial comes they glare at each other with mighty and profound mien, roar like the lions of the jungle, read long passages of precedents and statutes—and then finally, mopping their learned brows they sit down with an air which inaudibly says to their clients, "I've done my blamedest. If you get skinned now it ain't my fault."

As I contemplate this system the thought comes to me, why should there not be in every county a high class judge of the caliber and legal learning of the average circuit judge and why should not such a judge have jurisdiction over a great share of the legal problems which come to pass? Then when Smith and Brown disagree about some matter, why should they not be able to go to this judge and explain their differences and after he has patiently heard both sides, let him deliver his decision—and thus not entail a penny of lawyer's fees or court costs upon the parties to the quarrel? I don't mean that the right of appeal to a higher court should finally be denied or that such a judge should have jurisdiction over the graver crimes and controversies which now and then arise—but in my humble judgment a county judge clothed with this power would automatically shut off 75% of our present court costs and at $3000 per year in salary I am confident he would affect a tremendous saving for both the county and the state—saying nothing of the money and vexation saved for litigants.

After all, under the present system the circuit judge is the legal umpire with reference to the controversies that come before him. After the rumpus and tearing of hair is over he delivers the instructions which guide the jury—so why not have a learned judge in every county to whom men and women can submit their differences without the cost of a penny? In nine cases out of ten his verdict would be accepted. Would not such a system tremendously simplify justice and would not both rich and poor have an equal opportunity in such tribunal? It may be "lese majeste"—but anyway, the thought has occurred to me.

—By the Author of After-Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VII SEPTEMBER 15, 1915 NO. 18

WILLIAM HIRTH
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MAKE ROAD MAKING A BUSINESS

Dear Editor The Missouri Farmer:

Since I can remember we have been resolving and legislating on good road propositions and have made very little advancement.

We have architects and other competent men to construct buildings, why not have good engineers and others that can make road work their business to build our roads?

We have had as good men as the country affords for road overseers but they have all been handicapped owing to the fact that they can't get men and teams at the proper time for it is necessary for farmers to be in their fields and the overseers can't do more than touch the roads up to last one year, doing no permanent work to build on in the future. I'll admit there have been some concrete culverts made but very few planned so as to grade to in the future, therefore, we can not expect to get anything permanent unless a radical change is made.

I suggest that our law makers study the road question seriously and intelligently and make a law that will enable us to lay a foundation that will not have to be torn out but one that can be built to year by year in all time to come. We have had and will always have men competent to make this law if they could just leave out self and work to the best interest of the state. I think all are willing to admit that this grand old state is entitled to better public highways and in my judgment I feel sure this can be done if we can have a practical engineer to supervise the work. Some might say that one man can't supervise the road work of a whole county. I think he can, if he can have good men and teams in different parts of the county as he thinks best.

I do not expect to live to see this completed but hope to witness the beginning of the work on a basis when completed it will be an honor to the state.

I hope there will be no further legislation on roads without a fixed purpose in view. C. C. Turner.
Browns Station, Mo.

A GOOD ROADS BOOSTER

The Missouri Farmer: I have read the article by Judge Turner in your valued paper as to a change in our road system in this state and I can heartily endorse what he says. Our present road system will never benefit our roads but very little. Our people are waking up as to the importance of good roads and they are generally becoming very enthusiastic as to immediate action of some kind to guarantee Missouri good roads in every county in our grand old state. This is becoming the burning issue throughout this land and the people have for the first time begun to realize what a very great benefit good roads will be to each and every farmer and business man or any other citizen, no matter where he lives. To solve this good roads proposition no doubt it will be taken up by our state and national governments soon and laws will be passed that will in the near future guarantee to the citizens of every state and county a better and a more efficient system of making good roads.

Some suggest one thing and some another as to the best and most efficient and economic way to build and maintain good roads. It all has resolved itself into one question, how are we to raise the necessary funds to do this road work and buy all the necessary machinery—the very best type and that which can do the quickest, cheapest and best work.

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Why pay the peddler twice my price?
It isn't enough to rid your hogs of worms, mark you. You must also tone them up and put them in such a clean, vigorous condition as to make worm development impossible. That is why my Stock Tonic not only contains vermifuges to expel the worms, but it also has in it tonics, blood builders and laxatives to build up and regulate the animal's system.
My Tonic is highly concentrated, as the small dose quantity will prove, and as I have no horses, wagons and salesmen to pay for, I can sell you at rock-bottom prices through your local dealer.
My Stock Tonic also aids digestion and assimilation, makes your hogs and other stock thrive; it is the result of knowledge which I have acquired as a veterinarian, doctor of medicine and stock raiser. Formula on every package.
So sure am I that Dr. Hess Stock Tonic will keep your stock healthy and expel worms, that I have authorized my dealer in your town to supply you with enough Tonic for all your stock and, if it does not do all I claim, just return the empty packages and get your money back.
25-lb. pail, $1.60; 100-lb. sack, $5.00, smaller packages as low as 50c (except in Canada and the far West and the South). Send for my free book that tells all about Dr. Hess Stock Tonic.
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For every 2 hogs, put one tablespoonful of Dr. Hess Stock Tonic in the swill twice a day and I guarantee it will get the worms.
If you have sick or injured animal, write me giving symptoms and I will send you prescription and letter advice free of charge. Send 2c stamp for reply.

Most people are of the opinion that the quickest and best way to raise the necessary funds would be by direct taxation and by forming special road districts, as the law provides, and issue 20-year bonds. I am a good roads booster day and night and at all times and places, and I am living in hopes that we may soon be able to build fine roads throughout every township and every hamlet in this state. Let this good work go on and on until good roads are a reality in Missouri

I think there is a general tendency to crowd all the roads by setting fences in on all these roads and some now are very narrow and no space to ditch our roads as they should be. This practice should and ought to stop and all should be compelled to move back and give the full distance for each and every road. There is also another practice that is bad for our roads, that of changing the road to other places and oftentimes very rough and hilly land, and a good road can never be had.

Dr. H. J. von Gremp, Dixon, Mo.

TAKES MONEY TO BUILD ROADS

Editor Missouri Farmer:

I see you are asking the farmers to write you their views on the subject of Better Roads. In the first place, it is very discouraging to try to do something without anything to do it with. A few years ago we had a property tax for roads that could be levied and collected in labor and the road work done near the land on roads the farmer was interested in. Some smart Alec introduced a Bill in our Legislature and had this law changed so the tax was paid in money. Now, the road money is collected and spent on a few main or automobile roads. Other roads including rural mail routes are neglected. The automobile tax money is put on a few inter-county seat roads and men hired to drag them. The dragging is done indifferently, one round at a dragging and soon there is a ditch inside the main ditch and the road is cut down to sixteen feet wide.

I am opposed to any law showing favoritism to farmers because they happen to live on a road leading from one county seat to another. Our farmers are donating work and money the renters doing their part of it and we are doing this to improve our roads to get to school, to church and to town.

I favor a uniform width of road of forty or fifty feet. Then levy a poll tax of $2.50 on able-bodied men and a land tax of 40 cents an acre running for five years. Then on personal property where the owner pays no land tax a levy of 40 cents on the hundred dollars valuation and at the end of the five years reduce the rate to just what may be needed to keep the roads up. When the money is paid in to the county superviser or township trustee let him have the work done and thus relieve the farmer of loss by being taken from his fields when the crop need working.

I give this as a suggestion for a plan I think is better than what we are now doing. G. B. Weaver,
Harrisonville, Mo.

There have already been several frosts in Wisconsin and other Northern states and their seed corn supply will be cut short. Missouri farmers better take warning and gather their seed now.

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The Missouri Farmer

VOLUME VII SEPTEMBER 15, 1915 NUMBER 18

Modern Systems and Practices of Swine Management

L. A. Weaver, Assistant Professor of Animal Husbandry, University of Missouri

High priced farm lands, which as a ule are less fertile than formerly, are emanding that more attention be aid to modern methods of farming. f agriculture is to be permanent, then he fertility of the soil must be, at east, maintained if not increased. In rder to economically keep up this ertility, it is a recognized fact that ome kind of live stock must be kept. The demand of the meat eating public nakes it imperative that a large part f the live stock produced on the farm e cattle, sheep or swine. The kind f animal to be kept is determined by good many different factors of which the following are some of the nost important:

First: The kind of farm, or in other vords, the kind of food available. It s easily understood that no man could row hogs profitably on the large razing areas of the west or on any arm where grain could not be readly supplied. As a country develops, he beef and sheep industry gives way o a certain extent to the dairy cow nd hog for the reason that dairy and ork production adapt themselves bter to intensive farming than does the roduction of beef or mutton.

The Hog Makes Economical Use of Feeds

The next thing to be considered is he relative efficiency of the various nimals for utilizing the feeds grown n the farm. No other meat producng animal, with the possible exception of very young lambs, will make s economical use of food given as vill swine. This is shown by a table iven in Jordon's "Feeding of Animals," the data of which was obtained rom the recorded data of experiment tations involving a number of obserations and hence should be reliable or average conditions. A part of the able follows:

Kind of animal	No. of experiments	No. of animals	Digestible organic substance to produce one pound increase in live weight
Steers (avg.)...	32	242	7.40
Sheep (avg. for sheep and lambs)	11	122	7.20
Swine (avg.)...	277	1,385	3.29

If the above results are trustworthy, t is seen that a little more than onehalf as much digestible organic matter is required to produce a pound of gain in live weight of swine than in case of cattle or sheep. (In this connection it is conceded, however, that cattle and sheep are able to utilize a greater amount of roughness than can the hog.)

Nor does the food required to produce a pound live weight tell the whole story. Another part of this same table shows the food requirements to produce one pound increase in carcass and also the requirement to produce one pound increase in edible solids.

	Digestible organic substance producing	
	One pound increase in carcass	One pound increase edible solids
Steer	12	36.3
Sheep and lambs.....	14.2	37.9
Swine	4	6.4

This table goes to emphasize the fact which we already know, i. e., that swine will dress out a much higher per cent than either sheep or cattle and also that a larger per cent of the swine carcass may be utilized for human food. So far, then, as economy of production is concerned, we see much in favor of swine when compared with cattle and sheep.

Capital Needed Relatively Small

A third consideration, as to kind of animal produced, would probably be the supply and demand. In other words, we must be able to obtain the animals which we can finish into a marketable product and must have a demand which will enable us to sell the finished product at a price which will give us a profit. Owing to the prolificacy of swine, there is no class of animal which is easier obtained. A small number of brood sows will produce a large number of animals to feed. The capital needed in order to start in the business is for this reason relatively small As to the demand for the finished product in the past statistics show that pork has sold for as high or higher price per pound than either beef or mutton. The facts already given show this to be the logical result. Pork is getting to be more and more the meat used by the working class of people and for this reason we may conclude that the demand for pork will continue.

The kind of animal to be produced is also determined, more or less, by the present prospects of the industry. Probably the greatest drawback of the industry in the past has been the dreaded disease of hog cholera. Since much progress has been made in the last few years in methods used to control this disease, it would seem that it should be only a question of time and education until the danger from hog cholera should be reduced to a minimum.

By the facts already brought out, namely: the trend toward intensive methods of farming; the economy of production, including both the cost and the food value of the product, and the demand for the finished product it is shown that there are some fundamental reasons why the swine business is profitable compared with other meat producing industries.

As a country develops, land increases in value and it becomes necessary to change the systems of farm management and farm practices. It has been shown that pork production is profitable. It is not, however, as profitable as formerly unless modern systems of management are followed. For example: Conditions were formerly such that it was profitable, as well as desirable, to market extremely heavy hogs. In the case of swine, however, as well as with other meat producing animals, early maturity and short feeding periods are now the rule so we find few prime heavy hogs (350 to 500 pounds) reaching the market. It is only by adopting the system of management to changing conditions that the hog feeder can make the most out of his operations.

Three Systems of Swine Management

Owing to the different kinds of farming there are several more or less well defined systems of swine management, each requiring to a certain extent, its own specific practices. For example, a system which is well adapted to farms having good equipment and on which is grown a large amount of grain, is that of keeping on the farm a breeding herd large enough to produce all the pigs needed for feeding. These sows are bred to produce, as nearly as possible, two litters a year. The pigs produced in this way should be crowded from birth and are marketed at from 6 to 8 months of age, at 200 to 250 pounds.

A second system is that of raising but one litter a year and having this litter come during the late spring. The sows and pigs are on forage of some kind for the grazing season with perhaps a small amount of grain in addition. The pigs are in this way grown, rather than fattened, until fall. At this time they are large framed, muscular hogs and are put on feed and finished for spring market at the age of 12 to 14 months.

A third system, practised by some, is one very much like the second except that the hogs are on pasture with little grain during the first summer, are fed a growing ration during the winter and during the second summer, or when the hog is a yearling, he is provided forage crops such as alfalfa, clover, rape, etc., and grain enough to finish him by the end of the grazing season. These are marketed in the fall at a weight of 300 pounds or more.

Other more or less distinct systems might be mentioned. Each has its advantages and disadvantages and the one practiced depends very much upon local conditions. The best system for one man may not be the best for another. The system best adapted for a given individual one year may not be the best for the year following. It is impossible therefore to say that any one system is best for all conditions.

Regardless of the particular system of swine management which is practiced, however, certain principles must be kept in mind and followed in order to make risk from disease small, cost of production low and selling price as high as possible.

Professor L. A. Weaver

One of the first principles which should be observed with any kind of live stock, in order to advance, is that of handling improved types. Many years of breeding a type, for a particular purpose, has resulted in the production of animals which are more efficient machines. The improved dairy cow, for example, is a more efficient producer of milk and butter than is the unimproved animal. She can take the raw product and from it more economically produce milk and butter. The same thing is true of meat producing animals. Years of breeding has produced a type of animal which will make a much more valuable carcass with no greater cost.

The profit made from pork production is the difference between the cost of producing the hog and the selling price. The improved type of hog is highly developed over the back and loin, is heavy in the hams, is light in offal, etc., and hence commands the better price. In order to increase the profits then, a better type of hog should be used. It is not enough to simply make pounds of pork but it must be pork of the right sort.

Generally speaking, it is profitable to produce on the farm the pigs to be fattened, since this gives the feeder much greater control over the type of animals handled. Better sires and dams mean that the offspring will be a better type of pork hog. It is very important that great care should be exercised when selecting the sire since this influence for good or bad, in the herd, is relatively much greater than is the case with a single dam. The dams should, of course, be of the best type which one can afford, but it is apparent that where polygamus mating occurs that it is good business to improve the herd through the sire, rather than through the dam.

ARE WE GIVING THE PEOPLE WHAT THEY WANT?

Sometimes we do not know altogether what we want or what may be best for us. Sometimes we may have a big problem on our hands and not know it. The other fellows think they know what we need, and what is good for us, and they attempt to apply a remedy but we will not stand for it, unless we see the need for their medicine. Common "cure alls" do not go down us as they once did.

I am referring in the foregoing to farmers and instructors in agriculture. In all the years too many of us farmers have not seen that we needed agricultural medicine, and too many instructors, while they may have known we were sick, either did not know the brand of sickness or if they did they did not apply the right medicine, or they gave it in wrong doses in the wrong way. Gave us a small pill but required us to take it in a bucket of water, and our capacity for water was too small, so we balked.

Too much of the time the farmer and the agricultural instructor, or institute lecturer, or what ever you may want to call him, have viewed a problem from different angles, and usually reached unlike conclusions, and unless they can see from the same viewpoint they are not likely to get together in a solution. Too often the speaker and writer, seemingly to appear wise, use terms that are as "Hebrew" to the average listener. When the hearer does not understand the meaning of every work a speaker uses the "chain is broken" and his interest is lessened, and the speaker has to that extent wasted "ammunition." Too many "farmers' bulletins" are largely "Latin" to the farmer. It may be true that all the farmers should know the meaning of the terms used in farm talks and bulletins, but the facts are that they do not and neither does anybody else without a reference once in awhile to the dictionary. We cannot deal with these things as we would like them to be but we must handle the conditions as they exist. A few varied experiences will help to make my meaning clear.

Not long ago I made a first visit to a place for making a speech, and I could not get attention until I spun a few jokes. Then I said a few mean things ,and gave them some real "rough stuff." When I once had attention and launched into my farm talk, the crowd stood for one hour and listened and at the close asked me many questions and they want three days next year. The trouble was in the beginning that they did not have the same viewpoint as myself but when we all got on the same track going in the same direction we "got somewhere."

In some cases I have signally failed to accomplish any visible results, and largely attribute the reason for this that at the start we did not get a mutual understanding of each other.

At Columbus Junction, Iowa, where I talked for one hour and gave them thirty minutes for asking questions, they were not satisfied to stop, but we had to give way for a 30-minute number to follow, and when that was done I was called back for another half hour to answer questions. The same happened on two other occasions. At Lincoln, Ill., I had only one hour, and of that I talked fifty minutes and had but ten minutes for questions, as I left the platform one man asked me if I could give him some time as he wanted to ask me more questions. I consented to do what I could for him. So we went about fifty yards away to a building with seats in it, and by the time we were started not less than twenty-five men were in my new audience. We had a conference lasting three-quarters of an hour longer and they asked me if they could make arrangements with me for next year for one week with a farm talk each day.

At one Missouri point where at least 2000 were present, the "main show" lasted one hour, questions forty-five minutes. When I went a mile into the country to take supper with a friend and within fifteen minutes after my arrival the telephone rang and two men wanted to see me to ask me further questions. I gladly welcomed them and a pleasant talk of perhaps ten minutes followed. I want to just mention incidentally that in my opinion not one of these ethusiastic farmers is a failure on his job and I know that not one of them is a blamed fool.

I mention these meetings to show how successful we may be in some places and how we fail in others. In the one case we no doubt give the farmer what he wants in the way he wants it and in the other maybe we do not know what the farmer wants nor how he wants it, and we sometimes think that many of us do not in reality know what is for the best. To know what the farmer wants and how he wants it is one of our biggest problems, and when we do get the answer iti makes all concerned feel mighty good.

Sam Jordan.

THE GREAT ST. LOUIS FAIR

The good old City of St. Louis is to be congratulated; a new organization of live business men has taken hold of the matter and is now bending every effort toward the completion of all necessary arrangements for putting on a new and up-to-date Agricultural Fair the first week in October. Some idea of the magnitude of the undertaking is indicated in the fact that they have leased one hundred and fifty acres of land as a fairground just outside the city on the St. Charles Rock Road, where extensive improvements, costing over one hundred thousand dollars have already been made including a large concrete grandstand and a beautiful mile race track, known as the Maxwelton Track. More than twenty acres of this ground will be covered with an exhibition of farm machinery. The Tractor Show and Demonstration alone will draw many enterprising farmers to this fair.

A number of men connected with the enterprise are well known in business circles and among livestock exhibitors. Col. Paul Brown, the wealthy broker and horseman, the owner of Johnnie Jones and My Idol, two of the best in the Missouri Saddle Ring, is one of the prime movers in this new enterprise and is vice-president of the company. Col. D. S. Stanley of the United States Army is the enthusiastic and active head of the Executive Committee. Mr. John T. Stinson, the Secretary and Manager of the Fair, was for seven years secretary of the Missouri State Fair at Sedalia, and is known to all the stockmen of this and surrounding states. Mr. Fletcher R. Harris, one of St. Louis' wide-awake real estate men is the Treasurer, and one of the most enthusiastic workers for the Fair. Among others who are actively pushing preparations for the coming event are Dinks L. Parrish, the owner of Belle Beach; Mr. Adolph Boeckeler, the lumber man, one of the live wires of St. Louis; Mr. Henry Steinmesch, one of the leading Poultry raisers of Missouri. Mr. A. L. Shapleigh, one of the live business men of St. Louis, is an active worker on the Finance Committee. Mr. Richard McCulloch, head of the United Railways, and Mr. A. C. Einstein of the Union Electric Company are also enthusiastic members of the Board of Directors.

Mr. Wade Childress, president of the Columbia Transfer Co., another live wire in business circles, is also one of the directors and an enthusiastic worker for the Fair. Mr. James E. Hereford, president of the Trust Company of St. Louis County, is President of the Fair Association and is well known in business circles. Hon. W. D. Vandiver, Assistant United States Treasurer, is another enthusiastic promoter of the Fair, as one of its vice-president. Porter Taylor of Montgomery City is Superintendent of Grounds, and now has a force of men at work getting the track and grounds in proper condition. Mr. Merritt Marshall., Jr., an experienced horseman and E. F. Bisbee of the National Stock Yards are both active supporters and directors of the Fair. Mr. James A. Houchin of Jefferson City, the owner of Astral King is also one of the Fair boosters and Mr. William Hirth, Publisher of The Missouri Farmer has shown great interest in the movement. Altogether, a large number of public-spirited gentlemen are devoting their time and energies to the making of a great Agricultural Exhibit, which is to be a permanent annual event for this great Metropolis of the Central West.

Another indication of permanence and prosperity of the undertaking is the fact that nearly all the banks of St. Louis, all of the big daily newspapers and most of the big mercantile establishments have taken hold of it in earnest. The Retail Merchants Association have taken one-tenth of all the stock of the company and the railroads are showing great interest in it by advertising it in a thousand or more of the country newspapers and sending out a quarter of a million circulars to be distributed through their local agents. The Mayor of the City has declared Big Thursday of Fair Week a Municipal Holiday. All the city offices will be closed and the business houses will be asked to close up also and all attend the Fair. It is probable the public schools will close for the Fair on Monday. The Automobile Show, the Veiled Prophet's Parade and the Buy-in-St. Louis Show will all come in this week. Verily the FAIR WEEK is to be the BIG WEEK of the city of St. Louis this year and the farmers of Missouri are cordially invited to take two or three days off, bring the "whole family" and have a good time before "corn shuckin" begins.

One thing that is exciting much interest is the Five Hundred Dollar Stake for Mule Colts. This is expected to bring the best mules of the country to this Fair. Five herds of dairy cattle are already entered for the Fair and others are expected. Also a big lot of sheep and hogs are to be on hand. The Chicken Show bids fair to be one of the finest in the country.

Possibly the biggest thing on the program is the great Three Thousand Dollar ($3000) Saddle Stake divided into five sections: Stallions, Geldings, Mares and Juniors, $500 each, and Champions $1000. This is perhaps the largest saddle stake in the world this year and is expected to be a sensational event. The Women's Clubs of St. Louis are to have a tent at the Fair, and they are giving great assistance in making the New St. Louis Fair rival or surpass the glories of the old Fair, which was for many years the great autumn attraction and brought many thousands of country folks to the Mound City.

Johnny Jones, one of the great show hor ses expected to be at the St Louis Fair

THE BANKER AND THE FARMER

We often see what some one has said that cannot be too often repeated and the following editorial in the September issue of Successful Farming is worth repeating:

The Banker-Farmer Conference

In an editorial last month, mention was made of a banker-farmer conference to be held in Chicago, July 7-8. It was a splendid program and the spirit of co-operation manifested there was good to see.

You may wonder, as did the editor and others, why the bankers are taking such an interest in the farmers that they should call such a conference. We have learned by experience that almost every effort put forth by politician, business concern or class of individuals, to benefit some other person or class, has back of it the element of self interest. We would not condemn this. We need only to recognize this element in human nature.

The bankers have come to see at last that they stand in a strategic position in relation to country life. They can make or break any community. Some bankers are Shylocks, and bleed the community of every dollar they can and give nothing back. But do not condemn all bankers because there ar some who do not have the broad community interests at heart.

The conference disclosed the fact that the better class of bankers are very deeply concerned in the upbuilding of country life. They want to lend all possible aid to the farmers who are worthy of aid. Some bankers lend money without interest to farmers who will build silos. Others will lend money at low rates for the purchase of live stock, alfalfa seed, or things they consider essential to good farming.

The bankers as a class are good level headed business men who know just how each farmer is succeedi They can often advise wisely against foolish investments or supposed improvements, or suggest ways of making the farm pay better returns. Mos country bankers are well read along agricultural lines and it is folly to think that because they wear white collars and sit in an office they know nothing of value to the farmer.

We will continue to have the loan-shark banker as we will continue to have the dead-beat farmer, but let not your minds be warped into thinking that these represent either class. They do not.

Among bankers the same as among other human folks there are the "wide" and the "narrow" ones. There are those in every class who consider self interest in the narrowest possible way, and those who see self-interest in a broad way.

The one sees self interest in filching

from others all he can get, and the other sees self interest in the welfare of his community. One sees or recognizes the principle of the brotherhood of man, and the other does not and does not count that he owes anything to society, and the other sees that society is all that can make him anything. One builds up, the other tears down, and as a class none see the principle of community interests more clearly at this time than does the up-to-date, wide-awake banker.

It has been my very great pleasure to have been among bankers in their meetings and associations for several years, and with very few exceptions they are anxious to lend every possible aid to community betterment.

If he were prompted alone by self interest let's analyze the situation and see if from that standpoint alone if no other he would be amply ustified.

A part of his business is to receive deposits. Since from these deposits he secures his greatest revenue, if the community is not prosperous that community does not have much money to deposit, hence his revenue for the bank must be cut short.

Listen! If the bank's loans are good the institution is safe and the quality of its loans depends upon the way the borrowers discharge their obligations, hence the bankers want us to have good credit by being prosperous. Now, "honest Injun" what do you think of a "feller" who does want to "get along"?

We get most of our six billion dollars of farm loans directly or indirectly through bankers. We get nearly all of our enormous personal loans through bankers and if we who borrow fail the banks must fail. So if we give him no credit for anything but self interest he is justified because that self interest helps the banker, the depositor and the borrower.

Sam Jordan.

THE BROOD SOW

The success of the prosperous hog breeder is due to the wise selection of the brood sow, as well as the wise selection of the herd boar.

In selection of the individual animal, there are a few points to consider. In general appearance, the sow should be fairly low set, good length, good constitution, deep bodied, strong back and symetrical throughout. She should stand square on strong feet and legs. Her head should be refined, indicating quality and present a feminine (breedy) appearance. The shoulders should be broad, deep, smooth on top and well fleshed. The back should be strong, slightly arched and with well sprung ribs. The loin should be wide, thick and strong. The sides should be long, deep and smooth, free from wrinkles. The rump should be broad and well carried out (not too drooping). The hams should be wide, deep and well filled down to the hocks. The legs should be straight and have quality and substance combined.

Other things besides individuality must be considered. One of the most important characters of the brood sow is fecundity, that is, the bearing of large litters. It costs just as much to winter a brood sow that produces three or four pigs in the spring as it does to winter one that will produce eight or nine. In selecting the brood sow, it is well to select those from large litters and whose mothers and grandmothers were from large litters.

After the first crop of pigs are weaned, the poor mothers and the sows that produced small, runty litters should be culled out and sent to the butcher.

Good sows improve for a number of years in the number and size of pigs they produce to the litter. At the Wisconsin Experiment Station, yearling sows averaged 7.8 pigs per litter with an average weight of 14.2 pounds per liter, while sows from four to five years old averaged 9 pigs per litter, with an average weight of 26 pounds per litter. The United States Department of Agriculture compiled the records of over six thousand sows and found that yearling sows averaged 6.65 pigs per litter and five year old sows averaged 8.4 pigs per litter.

The practice of some farmers selling their old brood sows each year and replacing them with immature ones is a bad one, as the older sows are better mothers and produce larger and stronger litters. C. W. Hickman.

Idaho Experiment Station.

THE FARMER'S SALARY

The farmer sometimes thinks his salary is too small and I have been one of those who shared in that belief, but if we are to remedy the trouble we can hope to reduce the wages of laboring men nor the profits of the average business man, but it must come by reorganizing and simplifying methods of distribution and marketing. Then there is need of reform in official salaries, methods of controlling public expenditures and stopping so much speculation and the parasitic expense taken by a class of middle men who are not needed and who render little service to society.

But while we are working and waiting for these reforms we should not become too easily discouraged with our business and quit farming and look for something better. The man in town who does not own his property will find the monthly rent bills coming in all too often, particularly if the weather is bad or times are slack and he is out of work. Then on the farm a big part of the family living comes from a well cultivated garden and orchard. If the farmer wants to take his family to church or for an outing a few miles away he does not have to pay a livery or garage bill of five or six dollars as nine out of ten men living in town would have to do. A salary of $1000 to $1500 may look big to the small farmer who does not sell that much grain and live stock off the farm in a year, but if he will look over the expense bill of the family in town he will find that the farmer has had more fresh fruits and vegetables on his table, more fresh eggs and fried chicken to eat, a much greater use of horse and buggy or automobile and while at the end of the year his bank account may be no bigger than it was at the beginning of the year his neighbor in town is in the same fix, minus the good things enjoyed during the year.

SOME MONEY SAVERS

Occasionally you will see a good rustling fellow but some how he just can't get ahead very fast. A close observance of this class of men as a rule will show a lot of little leaks in their system of doing business. It may be that a gate to the corn field has a broken hinge that a 25-cent hinge and twenty minutes work would make good, but it is just neglected until some night the stock break in and possibly a $200-horse is foundered and practically lost so far as any future value is concerned. Keeping the barn doors, gates, fencing, well covers and everything about the farm in shape will not only add to the daily convenience of things but it will save actual money loss in very many ways.

A few months ago a swine raiser had cholera among his hogs and neglected to quarantine the sick ones from day to day and to vaccinate the well ones, and finally in six or seven weeks the last hog on the farm died. A short time ago he cleared up the hog lots and stocked up again with some nice brood sows. An old strawstack standing back in the field was overlooked, but as a pig had died there of cholera the live cholera germs were still there and in a few days cholera broke out in the herd. Had that old strawstack been spread upon the fields at the proper time it would have enriched the land and perhaps this second outbreak of disease and the consequent loss would not have occurred. Old strawstacks are eye-sores on any farm, are harbingers of disease germs and some crop pests like grub worms and army worms, and the best plan is to work them into the manure supply during their first winter. A half filled silo is a good thing to hold over but an old strawstack, never.

In a day a man ought to go to the field and gather enough seed corn to plant forty acres or more and have time enough to string it or put it in a rack and get it in the dry. A gain of five bushels per acre is a small estimate for the difference between good and poor seed. Two hundred bushels of corn for one good day's work, but how many farmers will have their seed corn put away before the first freeze this fall?

A few weeks ago a farmer called a representative of the experiment station to vaccinate his hogs. When the veterinarian arrived on the farm he found that twenty hogs were already dead and a number more very sick and only about twenty head not yet visibly affected. These twenty head were at once inoculated with serum and fifteen head came through all right. It would have been a big money saver for this farmer had he called the veterinarian and had his hogs vaccinated the day the first sick pig was discovered.

If you are not entirely satisfied with the roads and with the way the road and bridge funds are employed just sit down and write us your views. If your district is doing some good work we would be pleased to get that so that others may benefit by it. We think the question of getting good roads to reach every farm home is our greatest problem.

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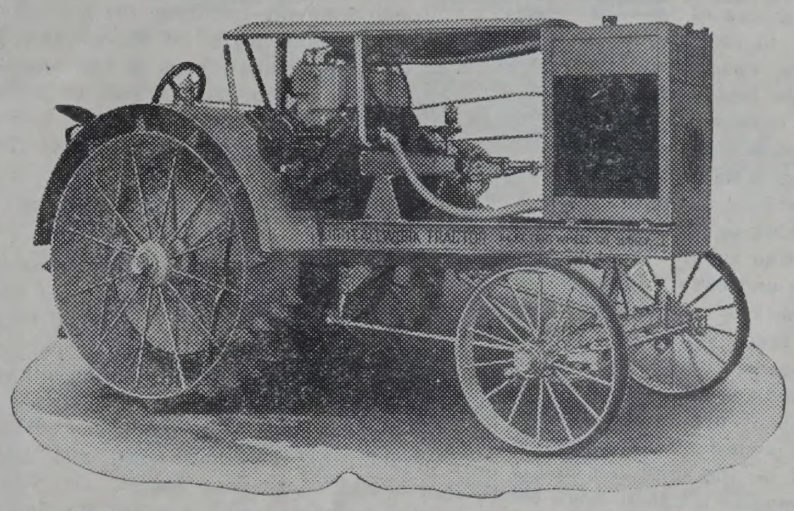

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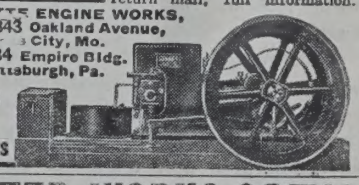

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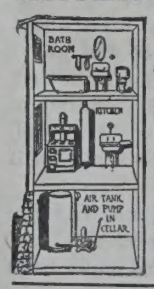

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SIMULTANEOUS VACCINATION AND "BLUE RIBBONS"

J. W. Connaway, D. V. S., M. D., College of Agriculture and Experiment Station, University of Missouri.

The advice I gave several weeks ago in regard to the dangers and disadvantages of "simultaneous vaccination" to the breeder of pure bred swine, was so well received by some of the best breeders of the country who have weighed that system in the balances of personal experience and found it wanting, that I feel justified in writing again to sound a note of warning to prospective swine exhibitors who are fitting show stuff for the state and county fairs.

There is now appearing in some of the farm journals a very attractive full-page illustrated advertisement of an Indiana Hog Cholera Serum Virus Company urging the breeders of pure bred swine who are preparing show stuff for the state and county fairs to **"immunize all their hogs before they take chances at the fair."** The advertisement says that even though your exhibition stock may be immune, they may transmit the infecting germs to the non-immune hogs at home. They therefore urge the breeders to have **"the veterinarian vaccinate every hog on the place"** with their serum. Which they say is more expensive but better than that of their competitors—(although the latter have the same Federal inspection and license). They say that "breeders of prize stock everywhere are taking this precaution" (?) "The season of hog cholera follows fast after the season of county fairs and harvest homes." "Take no chances (says the advertisement) but have your hogs vaccinated **now** with (the advertising company's serum", etc., etc.

Now I am hoping that the attractiveness of the advertisement and the scare-phrases it contains will not cause any breeders to do anything so foolish as he is advised and urged to do by this Hog Cholera Serum-Virus Company.

No old breeder who has had show experience will be caught by this advertisement. But the young breeder who is making his first try for the "blue ribbons" may be caught in the trap.

The promoters of the company who are running this advertisement are simultaneous (serum-virus) propagandists, and they are using all the advertising arts and tricks to promote their business, and to bring the simultaneous method into larger use; but they evidently know very little about the hog breeding business, and about fitting hogs for show, otherwise they would not have urged the course of action they did if they expect to gain and hold the confidence and good will of swine breeders.

Every old breeder knows that the time is too short between now and the opening of the fairs to make hogs safely immune by the simultaneous method, and to get their hogs in "show condition." And there is not one who would take the risk of knocking off the "show bloom" by injecting hog cholera virus into a prospective prize-winner that is already in show condition, because hogs in this high condition are less resistant to the effects of the virus.

There is no veterinarian no matter how expert he may be, who is always able to guage the dosage of the serum and virus so as to prevent occasional disastrous results, if he honestly tries to give the breeder what he is paying for, namely a "life immunity" to his show hogs. To do that the virus used must be an "active" virus, and not an inactive killed virus. It must produce a reaction strong enough to induce an "active" immunity, similar to that acquired by a hog that recovery from a natural attack of the disease—otherwise the immunity runs out. To gain that solid life immunity the hog must suffer some degree of illness, and in the case of show hogs in high condition, it is too great a risk to inject them with an active virus. It is not a safe way to compete for "blue ribbons."

A Warning to Prospective Swine Exhibitors

There is a safer and better way to protect your hogs. You need not lose your show hogs, nor your home herd, and you can save the larger part of that big serum and vaccination bill besides. All that is needed is to use a little sense and sanitation and serum-alone on the show hogs, and keep "virus" off your farms. Our State Veterinarian will confirm the statement that during the past four years not a single outbreak of hog cholera has been caused in the home herds of any exhibitor at the Missouri State Fair. And that but few animals developed suspicious symptoms during the progress of the Fair. The prompt isolation of these and proper disinfection of the pens and hogs, and the use of serum alone prevented the spread of the disease.

No compulsory vaccination of any kind has been required of the exhibitors. But it has been the custom of the Veterinary Department of the College of Agriculture to vaccinate with "serum-alone" the show hogs of any exhibitor who desires it. This service is free of charge. At the close of the fair a considerable number of the exhibitors have their hogs vaccinated with "serum alone" before taking them home.

To prevent the home herd from becoming infected it is the practice of every experienced breeder to isolate or quarantine his show herd for a few weeks on the return from the fairs, and during this period of quarantine proper disinfection measures can be applied to the hogs and their excretions, and the isolation sheds, so as to destroy any possible infection the hogs may carry. This is not a burdensome task to the experienced exhibitor who has formed the habit, and he much prefers this plan to the plans proposed by the serum-virus boosters. It is cheaper and safer and the results are more satisfying.

I would therefore say to the young breeders and exhibitors: do not permit anyone to use that little "virus syringe" on your show hogs, nor on the home herd. Do not permit anyone to bring onto your clean farm a little bottle bearing the label "VIRUS"—"DANGER!" For that little bottle does contain elements of danger which you do not want scattered over your farms. The inoculation of the contents of that virus bottle into your hogs is liable to make some of them sick, and some of them are liable to die, and the urine and dung from the sick hogs contain cholera germs, which it is not well to have scattered over the premises. The scattering of this infection is planting seeds of disease for future trouble.

The fact that the "serum and virus" are imported from Indiana, and may come from laboratories advertised as immaculately clean, and boosted by plausible well written booklets, does not rob "active" potent **virus** of its virulency, and potency for evil when injected into a pure bred sow or boar that is ready to compete for blue ribbons.

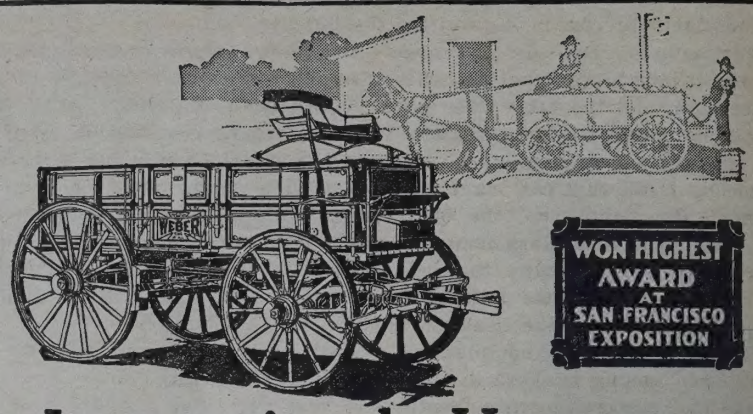
In regard to the dangers that come from the unwise exploitation of the "simultaneous method" by commercial serum companies that are more interested in financial dividends than in hog cholera eradication, I will quote from an article written by a level headed veterinarian in Indiana who carries a considerable part of the burdens of the hog cholera control work of that state. Dr. A. F. Nelson, the State Veterinarian of Indiana, says in the June 1 number of the Swine World: **"I rode 91 miles one day last summer and that day did not visit any but sick herds, all of them having been vaccinated by the "simultaneous method", being healthy when vaccinated, the loss ranging all the way from 12 to 94 per cent."**

That Indiana "virus" was evidently deadly stuff, and the serum was not sufficiently potent, or the dose large enough to prevent it from killing lots of hogs in herds that were healthy before vaccination, and which would probably have remained healthy by the use of proper sanitary methods, and a small amount of serum (without virus). But the owners wanted the "life immunity" they had heard so much about. They evidently had read that the losses averaged not more than 1 or 2 per cent. (And taking the average of a thousand or more herds these figures are probably approximately accurate), but these "averages" are not very comforting to the man who loses 12 per cent, and to the man who loses 94 per cent, such data is maddening. As nothing to the contrary was mentioned it is to be presumed that the vaccination was done by graduate veterinarians, and that the serum and virus was supplied by state and federal licensed serum plants—and these may all have done their work carefully, and deserve no blame for the results. But virus is virus; it is disease producing stuff, and it has the habit of giving surprises that are very surprising. And for that reason should be let alone by every breeder who has a show herd ready for the fairs.

I do not know how many of those Indiana herds were pure bred swine, nor how many were being prepared for the county and state fairs, but it is plain enough that none of the herds mentioned were in fit condition to put in the show-ring to compete for "Blue Ribbons." And all this happened in the state where the Serum-Virus Company is located that is advertising such bad advice to the swine breeders and where it is to be presumed the greater part of that company's business is done. But I am sure that the bad advice given by the Serum-Virus Company mentioned does not meet with the approval of the State Veterinarian of Indiana, for this is what he says: **"The more I see of vaccination and its results in a general way, the more I am convinced that sanitation and not simultaneous vaccination is the solution of the hog cholera problem."**

I mention this to show the strong turn of the tide among veterinarians who have no personal financial affiliations with serum companies, against the large and indiscriminate use of virus that has resulted from the commercial exploitation of vaccination.

But we do not have to go to Indiana for examples of bad results from the use of virus in herds of pure-bred swine. I know of breeders in this state who have had to call off an advertised sale because the herd was sick and a considerable number had died, and nothing was in sale condition. And others who have had to withhold from the sale a considerable number of sows that had been advertised as bred sows, but failed on account of the serum-virus treatment and others who have had bred sows



International Harvester Wagons—Weber—Columbus

THERE are a few points about the new **Columbus** and **Weber** wagons that every farmer ought to know. These points make the difference between **Columbus** and **Weber** wagons and others—a difference that means a good deal to you.

The fifth wheel, that prevents the pulling up and pitching of the bolster, makes it easier for your team to pull a **Columbus** or **Weber** wagon and does away with bent and broken king pins and circle irons. The patent folding endgate and the link end rods save much of your time in the busy season. The high-grade wood, iron, steel and paint used add years to the life of **Columbus** and **Weber** wagons. These things mean economy.

These points are explained in detail in our wagon folders and are pictured so plainly that it's almost like looking at the wagon itself. Some dealer near you handles these wagons and has samples set up for you to see. Drop us a line and we'll send you the booklets and folders. We'll also tell you where you can see a **Columbus** or **Weber** wagon so you won't have to waste any time looking for it. Write to us today.

International Harvester Company of America
(Incorporated)
CHICAGO USA
Champion Deering McCormick Milwaukee Osborne Plano

returned because they were not with pig.

The young breeder who is in haste to get along and have a chance at the "Blue Ribbons" may find himself in the same predicament as the breeders mentioned above if he is misled by the unwise advice given in so much of the serum-virus literature that goes through the mails and even finds its way into some high class agricultural journals, which I am confident have the best interests of the swine industry at heart, but whose advertising managers have not made sufficient study of the serum-virus matter to know what advertising is harmful or what beneficial. It is the duty, however of the editorial staff of every paper to warn its readers against any harmful practice its own columns may have inadvertently advertised.

The time is coming when there will be such a strong line-up of the agricultural press against the commercial use of hog cholera virus, that the interstate traffic in hog cholera virus will be prohibited. It has been charged with carrying "foot-and-mouth disease. Let me beseech you then, young breeder, if you have a clean farm to not let it become a focus of cholera infection by the use of hog cholera "virus," whether it is imported from some other state, or is the domestic variety. Use every possible effort to keep the farm free from disease. Organize an anti-hog-cholera club in the neighborhood for co-operation in keeping the disease out of the district. This will further protect you.

And when you get ready to ship your hogs to the fair, you can make the shipment with safety by keeping in mind the one word "Clean"—clean crates, clean cars, clean pens at the fair, clean troughs, clean buckets, clean bedding. And the time you spend on these details will pay, and you will not regard them as "extraordinary sanitary precautions." Although they may be called so by Dr. Roberts, the president of the Indiana Veterinary College, who is paid to write advertising articles for the Indiana Serum-Virus Company referred to.

Scrub the shipping crates with some good disinfectant. Hot water or fresh slacked quick-lime, or chloride of lime, will cleanse and sweeten the woodwork and kill disease germs. If the crates are old and the floors badly soiled with dung, wet the floor and sprinkle thickly with fresh lime and let stand for an hour then scrub off the floor clean. A three per cent Cresol Compound Solution (Liquor Cresolis Compositis—a pint to each four gallons of water) makes a good chemical disinfectant for spraying and scrubbing the shipping crates. Exposure to the sun for a few hours to dry out the moisture will be helpful.

See that the car in which the hogs are shipped is properly cleaned and disinfected. Saturate the floor and walls with the Cresol Compound Solution, or cover the moistened floor with fresh slacked lime, or lumps of quick-lime, and scrub out clean.

Don't overlook the transfer wagon at the fair grounds. Scrub the floor and sides of the wagon box with the disinfectant mentioned before loading the hog crates. The superintendent of the Swine Department should see that facilities for doing this are provided.

All the pens and alleys in the hog pavilion are thoroughly cleaned and disinfected under the supervision of the State Veterinarian before the opening of the Fair and before any hogs are admitted. Each herd is inspected on arrival, and no sick hogs are admitted to the grounds. A daily inspection is made by the veterinarian of all the hogs. And if an animal shows any symptoms of illness, it is removed to an isolation stall for observation and treatment. The dung and litter from each pen is disinfected and disposed of in a careful manner so as not to expose neighboring pens.

LYON'S PRACTICAL FARM PAPERS

I wonder if farmers generally do as most of us do down here, in regard to work that is usually considered to belong to men who have learned a trade?

We have one barn 36 x 48 feet, and seven years ago put up a 10 x 24 foot shed on the east side, which was all we could afford at the time, so last week we—that is the two boys and I—went to work and put up the other shed 10 x 24 feet, doing the work ourselves in two days. The roof on this shed is of what is usually known as rubber roofing, but we are roofing the main part with so-called cedar shingles, paying $1.75 per square for the rubber and $3.60 per thousand for the shingles, of which 840 lay a square (100 square feet).

We took off white pine shingles laid in 1879, and parts of the roof are good yet, but I do not hope that the cedar will last nearly so long, although another barn, 48 x 60 feet, roofed with them in 1905 is still in perfect condition as to roof.

We will save anywhere from $25 to $30 in carpenters' wages on the shed and roof, and a man who used to be a carpenter told us today that he considered the job as good as any one could do.

Just at this time lumber is cheaper than in years, but you cannot buy it any cheaper in the lumber yards, as the retail dealers are organized—like the farmers ought to be. Would it not be a nice thing to be able to go to the yards and say to the proprietor, "Tommy, I want 22,000 shingles. I am going to pay cash for them, and our association finds that you can sell them at 15 per cent profit for $3.20 per thousand. If you do not choose to sell at that price our agent will put a carload in here and sell at $3.20 with 15 per cent off, or $2.72," and the coon would come down.

I was once among the pine woods of the South for two months, and there saw No. 1 yellow pine mill-run lumber, selling at $9 per thousand feet, and at the yard in our town it was selling at $24, while the cost of bringing it from Forest, Mississippi, to Georgetown, O., was less than $6 per thousand. It is just the same with coal, which we buy by the bushel of 80 pounds, and pay 13 to 15 cents per bushel. Under organization this coal can be set on track in our town at 9 to 11 cents per bushel.

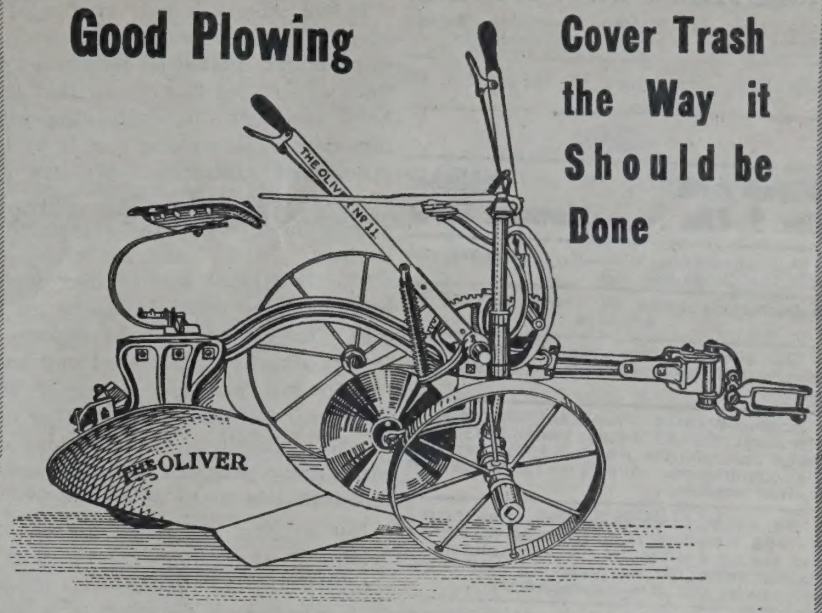
Last harvest we paid 12½ cents per pound for twine, and the grange in an adjoining county bought at 9 cents.

I have often written and oftener said, that the world at large, outside of the farming profession fears more than anything else, a close organization of farmers, and the longer I live the stronger I become in that belief.

With such an organization, and 75 per cent of all farmers members of it, oppressive trusts would have to shut up shop at once, pork barrel legislation would cease, rural credit banks would be established within 100 days, pure food laws would be enforced and adulteration of food products be a thing of the past.

Good Plowing

Cover Trash the Way it Should be Done



The James Oliver No. 11 sulky penetrates hard ground better than any other sulky plow. We stand ready to prove this.

It is the only three wheel sulky that plows as deep on corners as any other part of the field.

It plows a uniform depth in uneven ground.

It is light draft because the rear wheel carries all landside pressure.

The new Oliver trash coverer covers all kind of rank weed growth successfully.

Ask Oliver dealers or write us for full particulars.

Oliver Chilled Plow Works

Plowmakers for the World

ST. LOUIS KANSAS CITY

No matter how good a friend to the farmer the doctor, the lawyer, the banker, the artisan, the merchant, and all other professional men may be, they do not want to see the farmers of the entire country in a close organization, for they all think, right or wrong, that such an organization would give the farmer too great an advantage. Their opposition it is, that prevents thousands of farmers from joining any organization.

Georgetown, O. C. D. Lyon.

WE DEMAND BETTER ROADS NOW

Editor The Missouri Farmer:

After a term of dry years, during which our roads often suffered because rain did not come often enough, we have a season that has tested them to the limit.

Speaking for Northwest Missouri: This is the wettest season in our history. I am in my twentieth year of road dragging and I cannot remember a season when it was even one-half as difficult to keep any road in decent condition as it has been this one. No doubt our standards are higher—we demand better roads than we thought were good 20 years ago. Also we have more travel.

All these years of dragging I have been criticised by certain hasty, short-sighted people because I keep my half mile of road dragged to a high oval. Within the month an old neighbor took me to task on this account. During these dry years I have had a strenuous time holding my own with abstract argument, but this season, with flat-dragged, seepy spots cutting through and going to the bad all around me, while my old famous reformed mud-hole, about a quarter south of the house, has arched its thick steep-backed shell and resisted both rain and wagon wheels without a single day of failure—I have had a concrete example that gives support for my line of reasoning; and sentiment is growing rapidly in favor of my high-dragged highway as a system.

The argument is this: One had better be patient with a slippery road for a few hours, if one happens to be caught out in a heavy rain, rather than be forced to accept the alternative, which is a series of periodically impassable mudholes.

Another of my contentions that has more adherents than in former years is for the wisdom of lifting the road center gradually by dragging rather than by quickly heaping the middle full of loose earth and calling it an improved highway.

Our frequent torrential rains have emphasized this point during the past spring and summer. A heavy rain would gully a freshly graded road. An alert road boss would gather men and teams, get out the big grader and fill it in. Again a heavy rain—that same night, or maybe with a day between—and out would go the earth once more.

Well dragged roads were little affected by the rains except that they required more frequent dragging and the spring holes, or seeps, needed more care in dragging.

We need now to insist on properly built drags—so that the best of dragging can be done—and then we must have the better dragging.

Maitland, Mo. D. Ward King.

If you have a late immature field of corn that happens to be caught by an early frost the best thing to do with it is to cut at once and put it into the silo. It will be worth more as silage than any other way.

Farm Manager Wanted

Wanted, man to run sheep and dairy ranch. Must be responsible and have $2500 to buy half interest in live stock and farm implements. Will give the right man half the yearly profits; 1100 acres grazing land, part of which can be cultivated—all well fenced. Fine opportunity for right party.

Mrs. Anna Mitchell,
9-152t Monroe City, Mo.

THE MISSOURI FARMER

Devoted to Better Farming, Better Farm Homes and Better Citizenship.

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William Hirth - - - Publisher
Geo. B. Ellis - - Managing Editor

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The date on the address label gives month and year to which subscription is paid.

Agents Wanted. We want some one to represent us in every community and make up clubs for which we will pay liberal commissions. Write us for terms and sample copies.

We solicit communications from farmers and members of the family on timely and practical subjects. Photographs illustrating farm life or plans for buildings, live stock, etc., are appreciated.

To render service is our aim and we will endeavor to answer all pertinent questions or have them answered by competent authority. When answer is desired direct, always inclose stamp.

Entered at the postoffice at Columbia, Missouri, as second-class mail matter.

THE LAND BANK BILL

We want our readers to keep in mind the importance of getting every voter to understand the importance of the Land Bank Bill to be voted on at our next general election. The committee appointed to draft the amendment and the petitions will probably finish its work within the next few weeks and then the canvas for signatures and the campaign for the Bill will begin in earnest. As soon as the petitions are ready we will supply those who have volunteered to circulate them with copies and to others who feel like they want to help the cause along.

In this connection let us suggest that it is taking quite a lot of money for postage and if any one feels like contributing to a good cause they should send their contribution to Dr. E. H. Bullock, Edina, Mo., who will see that proper credit is given and that the money is properly used.

COUNTING THE COST

The Year Book of the U. S. Department of Agriculture for 1914, recently issued, estimates the loss for swine raisers for the year 1913 at $66,439,470. Missouri's part of this loss is placed at $6,079,412. It is estimated that 90 per cent of the total losses from all swine diseases is from hog cholera which would make the loss from that one cause in this state $5,471,470. This is nearly fifty thousand dollars average to the county and in fact the loss in some of the best hog raising counties is several times that amount.

The most serious aspect about this situation is that hog cholera is on the increase and unless something is done to try to eradicate it the business of making pork will become expensive and hazardous. Only two years previous to the date of the above statistics the Department of Agriculture estimate the annual loss from hog cholera at only $18,000,000. If we turn to the big packing plants where the statistics are more reliable and positive we find that the number of hogs condemned on account of cholera has increased from 7,677 in the year 1910 to 116,107 in the year 1914. There was a marked increase in the number of cholera-infested hogs received in every one of these five years over the preceding year while the total number of hogs received at these plants showed a very small increase. While the cholera cases increased by fifteen times the number in 1910 the number of hogs increased by only one-sixth.

If hog cholera is ever eradicated or even reasonably well controlled in this country it must be done along the lines experience has shown that have been successful in controlling other infectious diseases and that is by isolation and sanitation. We are discussing this matter now from the standpoint of eradication in the whole country.

The individual farmer may find it practicable to control cholera on his own farm by going to the expense of immunizing his whole herd and keeping up the practice regularly year after year but unless every other man in the township or county does the same thing you will have permanent infestation in place of eradication.

But suppose we admit for sake of argument that hog cholera can be controlled by the simultaneous process of immunization provided it is made compulsory by law and every hog raiser is required to immunize his hogs, then what will be the cost? We produce annually in Missouri around 5,000,000 hogs. The cost for serum and virus will average fifty cents a head at the lowest estimate and the veterinary fee for administering the stuff ten cents a head additional. The annual tax then on the hog raisers of the state for serum, virus and veterinary bills would be $3,000,000. But this is not the whole cost. In the use of virus the hogs must be fed lightly for two or three weeks and the hogs will be more or less off condition and will make no gains during this time. For this loss if we count but a pound a day for fifteen days and pork is worth seven cents a pound we have more than a dollar a head or $5,000,000 to charge up to the swine raisers. But this is not all! Under the best conditions and with the most careful handling there will be some death loss from the use of serum-virus. The loss may vary from nothing to half or more but a very low and conservative estimate of farmers and veterinarians we have talked with would be 3 per cent of all hogs treated, which for the whole state if compulsory immunization were required, would mean a loss of 150.000 hogs or a dollar loss of at least $1,500,000.

Summing up then the cost of immunization for the whole state we have, for one year only, this showing:

Serum, virus, veterinary	**$3.000.000**
Loss of condition and weight	**5.000.000**
Loss by death	**1,500,000**
Total cost of immunization	**$9,500,000**

The serum manufacturers and veterinary profession are getting a good thing out of the situation, but if the cost would end there the business of hog raising might bear it but the other and greater losses are eating into the very vitals of the business, and it is time farmers were looking at the proposition from the general and future welfare of the swine raising industry.

JACK FROST AND THE CORN CROP

According to the September crop report of the Department of Agriculture the corn crop of the whole country promises a total yield of around three billion bushels. If this forecast makes good we will have about 300,000,000 bushels more corn than we had last year. For Missouri the estimate is for 207,900,000 bushels against a crop of 158,400,000 bushels last year. The estimate for the whole crop is about ten per cent above the five-year average and the Missouri crop is about three and one-half per cent above the same average. There is one fault we find in the estimates of both the state and the Government reports and that is they have made their estimates on the whole acreage planted whereas all through the best part of the Corn Belt there are thousands of acres of corn entirely abandoned because of overflow or wet weather. But the corn is not yet safe from a killing frost and it will take some time yet for it all to be out of the way of a freeze.

FUTURE OUTLOOK FOR WHEAT

A reader writes the following letter which is similar to many others received within the last few weeks:

> I would like your views, as far as you feel at liberty to express them, in reference to the advisability of holding wheat for higher prices than are now prevailing. The sentiment has been strong in our section for better prices later on, while some contend that the lack of an export market, will bring the price of wheat down even below the present prices. Being interested in three large farms containing about 2000 acres we naturally want to get as much for our wheat crop as possible.

We shall not attempt to answer these inquiries for it is against our policy to advise our readers as to future prices on any crop for the wisest men make some mistakes. But we will discuss with our readers the present wheat situation and with these facts and all others they can get they must decide for themselves.

In the first place contrary to all expectations nearly all the countries of Europe have produced more wheat than last year. One uncertainty that we do not know where to place is the surplus of Russia. There is enough surplus there to make an impression on the market if it can be brought out but so long as it is bottled up it need not be counted a bear factor.

The Government September report estimates our total crop this year at 659,000,000 bushels winter wheat and 322,000,000 bushels spring wheat—a total crop of 981,000,000 bushels as compared with 891,000,000 bushels last year. But the Government has not yet made allowance for abandoned acreage and for wheat damaged and not fit for milling and when that is allowed for we will probably have a smaller crop by two or three per cent than we had last year. Canada has a very large crop this year estimated at 170,000,000 to 200,000,000 bushels above what they will need at home and owing to conditions brought about by the war it is probable that the Canadian surplus will be taken before much of our surplus is bought. It is reasonable to suppose that the excessive rains we have been having, the great fall in the price of wheat since harvest and the prevalence of Hessian fly will probably be factors strong enough to reduce the acreage sown this fall. With these facts before us it looks to us that the chances are about even for wheat to hold its own for the next few months with a little better chance for improvement later in the season. The man who has his wheat thrashed and in the bin in good condition and has it insured against loss by fire is not carrying a heavy risk as we see it and neither has he any very great chance for speculative profits. But some one must hold the wheat and the farmer who has good dry granaries ought to be able to hold it as cheaply as any one else.

Just a word of caution: If you have wheat in the granary this year do not fail to examine it for grain weevil and if you find the wheat infested you had better fumigate your bins as explained on page 9 of this issue.

EFFICIENCY IN PUBLIC OFFICE

If the public should demand the same efficiency of men in public positions as farmers expect and usually require of their hired men we would have a lot more money to improve our public shools and country roads. But the average man seems to think that a public salaried position is license for an easy time. It will always be so until the public mind becomes aroused and sufficiently interested to demand the same conscientious devotion to public work that is required of private employment. There are few state offices or departments but what could save a good percentage of their expenditures if they were put on a strictly efficiency basis.

A few years ago in a county where the writer lived an illiterate man was elected to the office of county recorder. He drew a salary (paid in fees) of $5,000 a year but he did not and could not transcribe a single legal document. A very efficient clerk or deputy working on a salary of $1000 a year did the work. This condition and other similar instances may be found in many counties and equally deplorable conditions exist in some of our state institutions and departments.

It looks like about the first thing some men do when they are elected or appointed to public office is to raise a howl about how hard the work is and how great the responsibility and how small the salary! We think the first and greater cause for this is blind allegiance to party. The average man is too quick to condemn everything he sees in one not of his own political faith and always ready, for supposed political expediency, to excuse and cover up or try to minify the shortcomings of one of his own party. There is no good reason for letting differences of opinion on National questions divide us on questions affecting the management of county affairs through the county court, the highway engineer, the county clerk and similar positions. So long as county elections are held at the same time as State and National elections most men will continue to vote their party ticket straight. That being true every man should make it his business to inform himself well about every prospective candidate for a county or state office and use his influence and his vote to have the best men nominated for office. If all men would do this it would make little difference which party succeeded.

We are not opposed to political organization but we think we should use such organization for greater efficiency in office rather than to destroy it.

We call attention to this matter just at this time for the reason that political slates for next year's elections are now in the making. The bosses are meeting with official aspirants and deals are on to eliminate certain men and to boost others and now is the very time for the farmer and the merchant, the laboring man and others whose sole aim should be to get honest, efficient men in office to make their influence felt. The election of a thoroughly efficient business man for Governor of this State, who would ignore for once the political bosses and who would fill all our state boards, departments and institutions with thoroughly efficient men and men who were enthusiastically and patriotically for the best interests of the state—if this could be done, it would give Missouri quite a different kind of publicity than what we are now receiving concerning the disputed school fund and anticipated shortage in state revenues.

BUCKSHOT BY "THE PROFESSOR"

I'll bet every time Woodrow Wilson hears a fire-cracker go off he jumps and thinks it's a submarine.

I heard a fellow argue against alfalfa the other day because he said, "It keeps you busy cuttin' the durn stuff all summer long."

"Bill" Taft has got more nerve than anybody I ever heard of. He's got those fellows across the pond skinned a city block. He's come out "agin" Woman's Suffrage.

I guess "Teddy" must have blown his cylinder heads out when he made that speech to the soldier outfit at Plattsburg, New York, recently. He's been quiet for three whole weeks.

Pick out a bright farmer boy in your neighborhood and tell him The Missouri Farmer will pay his way through the "Farmers' Short Course" at the Agricultural College this winter if he will give us the benefit of his spare time during the next two months.

Do you hear a strangling, gurgling subdued kind of noise? Well, don't get excited. It's the Standard Oil Co. trying to put the castor bean out of business by marketing a substitute for castor oil. It will all be over in a little while—and the castor bean will look as if a steam roller had run over it.

Before I throw my hat up in the air and tramp on it over this "big army" and "big navy" proposition I want to know who it is we are going to have to fight. I'd hate to get all "het up" and then find out that there isn't anybody left to scrap with. First, "show me the enemy" and then I'll promise to throw the finest, assorted bunch of fits anybody ever saw.

They jerked up old "Deacon" Jones the other day and tried him for swearing. One of his gossipy old neighbor sisters said she had heard him cuss the "consarn d—— salt" all summer long. When the other deacons confronted old Jones he smiled angel-like and said: "What I said gentlemen was, "Consarn the damp salt"—and they finally voted to let him off. All I've got to say is that the "Deacon" is one of the smoothest old scamps I ever knew.

They held a voting contest for the "homeliest looking man" at a big picnic in central Missouri the other day and an awful plain looking man won it. A little bit later "Sam" Jordan, the famous Pettis County Farm Agent, who is known from the Atlantic to the Pacific, arrived on the scene to make a speech. When the "awful plain looking man" got a good squint at Sam he arose solemn-like and said: "I make a motion that there vote which was took a little while ago he reconsidered"—and it carried with a whoop.

TO KILL GRAIN WEEVIL

A reader from Washington County writes that his wheat is infested with weevil and would like to know how to be rid of the pest.

The remedy usually recommended by our experiment stations and the United States Department of Agriculture is to fumigate with bi-sulphid of carbon. This can be bought at drug stores for 30 to 40 cents a pound in small amounts and for very much less in fifty-pound packages. If there are any weevil in the bins it is a good plan to fumigate the bins before the grain is put in and if the weevil appears fumigate again after the grain is in the bin.

In the first place the bin must be made as nearly air-tight as possible. This may be done by tacking building paper over all cracks, knot-holes and other open places. The amount of bi-sulphid to use will depend somewhat upon how nearly air-tight the bin is. The Michigan station recommends the use of one dram for every cubic foot of space in the bin. Count the whole space in the bin whether it is full of grain or not. At this rate a wheat bin 6 x 10 feet by 6 feet high would take about 2 pounds of bi-sulphid.

The Kentucky station reports that with 3.2 ounces per 100 cubic feet only 10 per cent of the weevil were killed in five hours, but the same amount killed all the weevil after 10 to 24 hours. Where there is only a small amount of grain and no tight bin is available large boxes will answer and for a 10-bushel box about four ounces of the bi-sulphid will be sufficient.

After the bin is made air-tight put some shallow dishes or crocks on top of the grain pour the bi-sulphid in the dishes and quickly close the bin.

The Michigan station says that "If the seed or grain is more than two or three feet deep in the bin, the liquid should be poured into it at some depth in order to insure its spreading evenly and filling all the space treated. This is easily done with a piece of gas-pipe fitted with a wooden stick for its entire length. The pipe with the stick inside it is thrust down half way to the bottom of the bin, then the stick withdrawn and the liquid poured down through the pipe. The stick merely prevents the pipe from becoming filled when thrust into place."

The liquid when poured into the dishes or into the pipe will soon be transformed into gas and as it is heavier than air it settles to the bottom and fills all spaces in the grain.

No fire or light should be near when using the liquid or when opening up the bin as it is a very explosive gas. Care must be taken not to breathe the fumes much as they are very poisonous. The bin should remain closed for twenty-four to forty-eight hours and then opened up to let air out.

This method is good for seed corn, beans, wheat and in fact all grains liable to infestations by any of the grain weevils.

BLACKLEG IN CALVES

A reader from Henry County writes he has lost a calf recently from what he fears is black leg and wants to know what to do to protect the rest of his herd.

Blackleg is a very fatal disease, especially among young cattle. It is more liable to occur in calves and yearlings. When an animal dies of blackleg it should be burned where it dies if possible. If allowed to lie on the ground to decay or if cut open for examination the germs are spread. If it is not safe to burn them the carcass should be buried deeply and cover the place where the animal has been with quick lime.

For prevention all young animals up to two and a half years old should be vaccinated. The U. S. Department of Agriculture recommends revaccination every six months. The vaccine is made by several firms and it can also be had free of charge from the Bureau of Animal Industry, Washington. D. C.

"The disease manifests itself by swelling under the skin of the fleshy parts of the body, usually the quarters, hence the name "quarter ill." The animal becomes lame and lags behind the herd. In experimentally inoculated animals, they frequently continue to eat as long as they can stand. The swellings, at first hard, hot, and painful, later become cold and insensitive, while the skin becomes discolored and leathery. Gas accumulates underneath the skin so that when pressed with the fingers a crackling sound is heard similar to that produced by placing a piece of paper under the coat and rubbing with the hand. The animal finally goes down, and lies struggling upon the ground, catching its breath in gasps. and expelling it with groaning, grunting sounds. The head is frequently thrown to the side.

"After death the animal is found in distorted positions, and is usually bloated as tightly as the skin will hold. which causes the legs to stick straight out horizontally in a characteristic attitude. Bloody fluid oozes from the natural openings, is forced in drops from the skin, and collects in large blisters under the outer layers.

"On cutting into the swollen parts a sweetish, foul smelling gas rushes out, and a bloody, frothy fluid runs from the opening, sometimes accompanied by the black, mushy, disintegrated muscle, which is forcibly blown out by the pressure of gas. The loose tissue underneath the skin is filled with a bloody fluid and bubbles of gas, which appear as a quaking gelatine-like mass. The divisions between the muscles contain the same fluid and have a greenish metallic color while the muscles are soft and black.

"This condition is not general throughout the body but is confined to certain affected portions. The organs seldom show extensive changes."

WELCOME MISSOURI FARMERS

Do you live on a farm? Then you have farm problems. Maybe it's alfalfa or soybeans, fertilizers, or cover crops, pruning or packing, animal rations or animal diseases, housekeeping or house building. Whatever your problem is, bring it to the Missouri State Fair and talk it over with the men and women from the College of Agriculture who will have their headquarters in the University building just inside the railroad entrance to the fair grounds.

Twelve men and women from the college will make up the "first aid" squad who will be on the job all week to take care of farm and farm home troubles brought to them for emergency treatment.

The opportunity to "talk things over" is only a small part of the service which the College of Agriculture will give to Missouri farm folks. One half of the University building—a space 30 x 120 feet—will be filled with exhibits telling the story of successful farm practice in Missouri in a way that even he "who runs may read." And like the three-foot colored boy with the six-foot stomach whose faith was expressed in the contention, "Not too much watah-million but too little niggah," the College of Agriculture finds it necessary this year, after taxing the capacity of the University building, to occupy a tent with 850 feet of floor space and an additional 2,500 feet in an adjacent building.

Lectures and demonstrations along the lines of soils, fertilizers, farm crops, corn judging, live stock judging, feeding of live stock, cooking, canning, and baking will be conducted. In the tent there is to be a hog cholera demonstration showing right and wrong conditions for the spread of the disease. Just outside the tent is where the big cholera clean-up demonstration will be given Thursday, September 30.

The "big show" will be in the University building. There you will find a whole carload of talking points—something of interest to every member of the family. Like the farm sale they are "too numerous to mention." But why mention them anyway, for all Missourians will want to see this all-Missouri feature of the big all-Missouri fair, Sedalia, September 25 to October 1—every day a Fair Day.

A. J. Meyer,
Extension Service, University of Missouri.

Clover Silage

The Missouri Farmer:

Can you give me any information in regard to filling a silo with clover? What quality of silage will clover make? W. R., Higginsville, Mo.

With any legume crop such as clover, alfalfa, soybeans, cowpeas, etc., where the weather will permit it is better to make hay of the crop and fill the silo with corn, kafir or sorghum. But when it is raining every day, and the clover or other legume is likely to spoil if cut for hay it can be put into the silo and will make fairly good silage but the keeping qualities are not so good as corn. If put into the silo it will probably be best to feed it out early, say during the early part of the winter and then if desired the silo may be refilled with shock corn. If you have corn ready for silage you will get better results by mixing the clover with corn, load about and this mixture will keep and make good silage. The acid in the corn will help to keep the clover. The clover should be well matured before it is cut for silage.

SOME NEW BOOKS

"Common Diseases of Farm Animals." The greatest loss farmers annually sustain is caused by diseases among live stock and most of this loss could be prevented by adopting better sanitary measures and better care in feeding. A book just received "Common Diseases of Farm Animals" by Dr. R. A. Craig, Purdue University should prove valuable to both the student and the stockman. The author lays special stress on the cause and prevention of disease and that is what the average stock raised should know something about. The book is nicely illustrated and printed and published by J. B. Lippincott Company.

"Productive Swine Husbandry," a recent book by J. B. Lippincott Company is by George E. Day of Ontario Agricultural College, who is favorably known in the United States, will prove valuable to any swine raiser or agricultural student. The prominent features of the book are: Breeds of Swine with the history and description of each breed and good photographic illustrations; Results of Experiments in Swine Feeding; Feeding and Management; Marketing and Curing; Buildings, Sanitation and Diseases. The book ought to prove a valuable and reference for any swine raiser.

If you have no silo about the best thing you can do with your late corn is to cut for fodder and feed out early.

A HOUSE? A BARN? A GRANARY?
A SILO? WHAT ARE YOU GOING TO BUILD?

Whatever it is to be—*This Is Your Best Time To Build!*

And whatever building you have been considering, build it now. You'll save money by it.

Since the European war has curtailed lumber shipments from this country, there never was a time when such large and complete stocks of high grade Southern Yellow Pine were available everywhere in the markets here. And prices are exceptionally reasonable—you'll be surprised to learn how little it will cost you to provide for your building needs.

SEE YOUR LUMBER DEALER NOW!

Ask for prices on *Southern Yellow Pine*, the best wood that grows for all 'round farm building and repairs.

Note This: If you want up-to-date plans for economical and convenient farm homes, barns and other buildings, complete with lumber bills, we have them—and they're yours FREE for the asking. Also, we have a free book, "How To Choose and How To Use a Silo," the most practical work of the kind ever published. Send for it.

P. S.—We have nothing to sell to you.

Southern Pine Association
Interstate Bank Bldg., New Orleans

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New Orleans, La.
Send me FREE your
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TABLE OF LUMBER TESTS ....
Name ....
Town ....
R. F. D. .... State ....

The Plunderer

By ROY NORTON

Author of "The Garden of Fate"

(Continued from last issue)

"Is the boss here?" Bill asked, pausing in front of the man with a wave.

"Who do you mean—Lily?" was the familiar reply.

"Yes."

"I think she's over helpin' nurse the Widder Flannery's sick kids this afternoon. They've got chicken pox. Might go over there and see her. if you're in a rush."

"We didn't say we wanted to borrow money," Bill retorted to the jocular latter part of the bartender's speech. "What time will she be here?"

"About ten, I guess," was the more courteous reply.

The partners walked out and past the row of buildings until they came to a general store, where they occupied themselves in making out an order for supplies and arranging for their delivery on the following day. The trader was a loquacious individual with the unmistakable "Yankee" twang and nasal whine of the man from that important speck of the United States called New England.

When they again turned into the street, the long twilight had been replaced by night, and on the tops of the high peaks to the westward the light of the full moon was beginning to paint the chill white with a shining glow. The street was filled with men, most of them scorning the narrow board walks and traversing the roadway. A pandemonium of sound was robbing the night of peace through music, of assorted character, which boiled forth from open doors in discordant business rivalry, but underneath it all was the steady, dull monotone of the stamp-mill, remorselessly beating the ore as if in eternal industry.

"Hardly know the place now, eh?" Bill said, as they entered the open doors of the High Light. It certainly keeps gettin' more homelike. Camp must be makin' money, eh?"

Dick did not answer. He was staring at a woman who stood at the lower end of the bar outside, and talking to a man with a medicine case in his hand. He surmised that she must be The Lily, and was astonished. He had expected the customary brazen appearance of other camp women he had known in his years of wandering; the hard-faced, combatative type produced by greed. Instead, he saw a woman of perhaps thirty years of age, or in that vague boundary between thirty and thirty-five.

She was dressed in a short skirt, wore a spotless shirt waist over an exceptionally graceful pair of shoulders, and her hair, neatly coiled in heavy bronze folds, was surmounted by a white hat of the frontier type, dented in regulation form with four hollows.

From the hat to the high tan boots, she was neat and womanly; yet it was not this that attracted him so much as her profile. From the straight brow, over the high, fine nose and the firm lips to the firmer chin, the face was perfect.

As if sensing his inspection, she turned toward him, and met his wondering eyes. Her appraisement was calm, repressed, and cold. Her face gave him the impression that she had forgotten how to smile. Townsend advanced toward her, certain that she must be the proprietress of the High Light.

"You are Miss Meredith?" he interrogated, as he halted in front of her.

"Mrs. Meredith," she corrected, still unbending, and looking at him questioningly as to his business.

A forgotten courtesy impelled him to remove his hat as he introduced himself, but Mathews did not follow it when he was introduced, and reached out and caught her competent hand with a hard grip. Dick explained his errand, feeling, all the time under that steady look, that he was being measured.

"Oh, yes, they'll be all right by tomorrow, Lily," the doctor interrupted. "Excuse me for being so abrupt, but I must go now. Goodnight."

"Goodnight," she answered, and then: "I'll be up there at three o'clock tomorrow afternoon. Ah, you were saying you wanted——"

She had turned to the partners again with her unfinished question leading them on to state their mission.

"Men. Here's a list," Dick answered, handing her a memorandum calling for so many mill-men, so many drill runners, swampers, car handlers, and so forth; in all, a list of twenty odd.

"Who told you to come here?" She exploded the question as if it were vital.

"Park. Bells Park."

She laughed mirthlessly between lips that did not smile and regular, white teeth. But her laugh belied her lack of sympathy.

"Poor old Bells!" she said, with a touch of sadness in her voice. "Poor old fool! I tried to keep him from gambling when he had money, and he went broke, like all the other fools. But he loved his wife. He made her happy. Some one in this world must be happy. So he came back, did he? And is up there at the Cross? Well, he's a faithful man. I'm not an employment agency, but maybe I can help you. I would do it for Bells. I like him. Good men are scarce. The bums and loafers are always easy to get. There isn't a mine around here that isn't looking for good men, since they made that discovery over in the flat. Most of them broke to the placer ground. Wages are nothing when there's a chance for better."

She had not looked at Dick as she talked, but had her eyes fixed on the paper, though not seeming to scan its contents. The room was crowded with men and filled with a confused volume of sound as she spoke, the click and whir of the wheel, the monotonous voice of the student—turned gambler—calling "Single O and the house wins. All down?" the sharp snap of the case-keeper's buttons before the faro lay-outs, the screech of the orchestra in the dance hall, and the heavy shuffling of feet; yet her words and intonations were distinct.

"We would like to get them as soon as we can," Dick answered. "We have unwatered the main shaft and——"

From the dance hall in the rear there came a shrill, high shriek, oaths, shouts, and the orchestra stopped playing. Men jumped to their feet from the faro layouts, and then, mob-like, began to surge toward the door, while in the lead uttering scream on scream, ran one of the dance-hall girls with her gaudy dress bursting into enveloping flame. She had the terror of a panic-striken animal flying into the danger of the open air to die.

As if springing forward from live ground, Mathews leaped into her path, and caught her in his arms. He jammed her forward ahead of him, taking no pains to shield her body save with his bent arm, and seized the cover of the roulette wheel, which lay neatly folded on the end of the bar.

"Give me room!" he bellowed, in his heavy, thunderous voice. "Stop 'em, Dick! For God's sake, stop 'em!"

Dick leaped in among the crowd that was madly stampeding—women with faces whose terror showed through masks of rouge, shrieking, men who cursed, trampled, and elbowed their way to the outer air, and the wild-eyed musicians seeking to escape from a fire-trap. Dick struck right and left, and in the little space created Bill swathed the girl in the cover, smothering the flames. And all the time he shouted:

"Don't run. What's the matter with you? Go back and put the fire out! Don't be idiots!"

As suddenly as it had commenced the panic subsided, and the tide turned the other way. Sobbing women hovered round the door, and men began to form a bucket line. In a long age of five or ten minutes the excitement was over, and the fire extinguished The dance-hall floor was littered with pieces of scorched wood torn bodily from the boxes, and the remnants of the lamp which had exploded and caused the havoc were being swept into the sodden, steaming heap in the center of the room.

Through the press at the sides came The Lily, who, in the turmoil, had sought refuge behind the bar. The partners, stooping over the unconscious, swaddled figure on the floor, looked up at her, and Dick saw that her face was as calm and unemotional as ever.

"Bring her to my room," she said; "I'll show you where it is. You, Tim," she called to one of the bartenders, "go as quickly as you can and get Doctor Mills."

The partners meekly followed her lead, pausing but once, when she turned to hold up an authoritative hand and tell the curious ones who formed a wake that they must go back, or at least not come ahead to make the case more difficult. Mathews carried his senseless burden as easily as if it were of no weight, and even as they turned up a hallway leading to a flight of stairs ascending to The Lily's apartments, the doctor and bartender came running to join them.

Not until they had swathed the girl in cooling bandages did any one speak. Then, as they drew the sheet tenderl over her, they became conscious of one another. As Bill looked through blistered eyelids, exposing cruelly scorched face, his lips broke into a painful smile.

"Doctor," The Lily said, "now you had better care for this patient."

She put her firm, white fingers out, brushed the miner's singed hair back from his brow, and said: "I've forgotten your name, but—I want to say —you're **a man!"**

CHAPTER VI

MY LADY OF THE HORSE

"It serves you right for bein' so anxious to help one of them dance-hall women; not but what I'd probably 'a' done it myself," was the croaking, querulous consolation offered by Bells Park as he sat beside the singed, suffering and heavily bandanged Bill that night, or rather in the early hours of the morning, in the cabin on the Cross. "They ain't no good except for young fools to gallop around with over a floor."

He poured some more olive oil over the bandages, and relented enough to add: "All but The Lily, and she don't dance with none of 'em. She's all right, she is. Mighty peart looker, too. None purtier than Dorothy Presby, though."

Dick looking up from where he sat with his tired chin resting on his tired hands and elbows, thought of the gruff Bully Presby with some interest.

"Oh, so the old Rattler owner has a daughter, eh?"

"I don't mean old skinflint Presby!" sharply corrected the engineer. "He ain't the only Presby in this whole United States, is he? He don't own the whole world and the name, even if he thinks he does. This Presby I'm talkin' about ain't no kin of his. He's too white. He owns all them sawmills on the other side of the Cross peak, about four miles from here. Got a railroad of his own. Worth about a billion, I reckon."

Dick's momentary interest subsided, but he heard the old man babbling on:

"I worked for him once, when Dorothy was a little bit of a kid. Him and me fought, but he's a white man. She's been away to some of those fool colleges for women back East, they say, for the last four or five years. It don't do women no good to know too much. My wife couldn't read or write, and she was the best woman that ever lived, bar none."

He looked around as if delivering a challenge, and, finding that no one was paying any attention to him, subsided, figeted for a minute, and then said he guessed he'd "turn in so's the water wouldn't gain on the pumps in the mornin'."

On the insistent demand of his partner, Dick also retired shortly, and the cabin on the hillside was dark save for the dim light that glowed in the sufferer's room.

They began to straggle in, the men wanted, before the partners had finished their breakfast on the following morning. Some of them were real miners, and others were nondescripts, bearing out The Lily's statement that good men were scarce, but all were hired as they came, and the Croix d'Or began to thrill with activity.

A fat cook—and no miner can explain why a camp cook is always fat —beamed from the messhouse door. A blacksmith, accepting the ready name of "Smuts," oiled the rusted wheels of his blower, and swore patiently and softly at a new helper as he selected the drills for sharpening. Three Burley drill runners tinkered with their machines, and scraped off the verdigris and accumulated dust of storage; millmen began to reset the tables, strip the damaged plates, and lay in new water pipes to drip cease-

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lessly over the powdered ore. Over all these watched Bill with his bnadaged face, rumbling orders here and there, and tirelessly active. Out on the pipe line, winding by cut and trestle from the reservoir in the high hills, Dick superintended repairs and laid plans.

Leaving his gang replacing sections near the power-house, he climbed up the length of the line to discover, if possible, how far the labors of the vandal had extended. Foot by foot he had traversed it, almost to the reservoir itself, when he paused to breathe and look off at the mountains spread below and around.

The Cross, in the distance, was softened again to a miracle of dim yellow laid against a field of purple, and, like a speck, a huge eagle swept in circles round its point to come to rest on its extreme summit. He turned from admiring its flight to inspect a bowlder that had tumbled down from the slop above and come to rest in a big dent; it had smashed in the top of the pipe. He picked up a piece of a storm-broken limb, used it as a lever, and sent the rock crashing across the pipe to go bounding down the hillside as it gained momentum with every leap.

There was a startled snort, a sudden threshing of the brush, and it parted to disclose a girl astride a horse that was terrified and endeavoring his best to dismount his rider. Dick, surmising that horse and rider had suffered a narrow escape from the bowlder, ran toward them remorsefully, but the girl already had the animal in control after a display of splendid horsemanship.

"Thank you," she said, as he hastened toward the horse's head, intent on seizing the snaffle. Please don't touch him. I can quiet him down."

"I am so sorry," he pleaded, with his hat in his hand. "I had no idea that any one ever rode up this way."

"Don't apologize," she answered, with a careless laugh. "No one ever does, save me. It's an old and favorite view of mine. I used to ride here to see the Cross, many years ago, before I went away to school. So I came back to see my old friend, and—well—your bowlder would have struck us if my horse hadn't jumped."

She laughed again, and reached a yellow-gauntleted hand down to pat her mount's shoulder with a soothing caress. The horse stopped trembling, and looked at Dick with large, intelligent eyes.

"Ah," said Dick, remembering the garrulity of the engineer. "I believe you must be Miss Presby."

Even as she said simply: "I am, but how did you know? I don't remember ever seeing you," he took note of her modish blue riding-dress with divided skirts and patent-leather boots. There was a clean freshness about her person, a smiling candor in her eyes, and a fine, frank girlishness in her face that attracted him beyond measure. She appeared to be about twenty years of age, and was such a girl as those he had known and danced with, in those distant university days when his future seemed assured, and life a joyous conquest with all the odds in his favor. Now she was of another world, for he was, after all, but a workingman, while she, the daughter of a millionaire lumberman, would dance and associate with those other university men whose financial incomes enabled them to dawdle as they pleased through life. He had no bitterness in this summary, but he sustained an instant's longing for a taste of that old existence, and the camaraderie of such girls as the one who sat before him on her horse.

"No," he said, looking up at her, "you never saw me before. I have been in the Blue Mountains but six weeks. I am Richard Townsend."

Her face took on a look of aroused interest, different from the casual look she had been giving him in the brief minute of their meeting.

"Oh," she said, "then you must be the Mr. Townsend of the Croix d'Or. I learned of your arrival last night after I came home. You are rehabilitating the old mine?"

"Yes," he answered, smiling. "At least we are trying to. As to the outcome—I don't know."

"You mustn't say that!" she protested. "Faith in anything is the first requisite for success. That's what it says in the copybooks, doesn't it?"

(Continued in next issue)

Home Makers' Conference

This Department is Edited by Miss Alice Kinney, New Franklin, Mo.

HOW ORGANIZATION IS DONE IN NEBRASKA

From a Nebraska reader comes the following interesting report:

Dear Home-Maker's Conference:

I am quite interested in your department of The Missouri Farmer, and as we once lived in Missouri I wish to tell you of our National Home Canning Club, which was first called the Nebraska Home Canning Club, but as the interest extended into other states we enlarged our boundary.

Our object is to promote home canning of fruits, vegetables and meats and give mutual help to each other; the only requirement being to report the number of cans put up and the number of chickens they have canned under the steam pressure system and report not later than October 1st, 1915.

The members have in their cellars such a variety of material that a novice would think it was a day in June rather than a possible bleak winter day—it is like having a garden the whole year 'round and ever so much better than living out of the butcher shop.

Every day the members of the National Home Canning Club are giving their friends such delightful surprises that their guest, after learning "how" firmly resolve to join and help fill more cellar shelves with something beyond fruit and jellies. As we enjoy our beautiful store of canned goods our hearts go out in sympathy to those who have failed in their bright anticipations for a full supply of home product, by floods or drought even after the garden was a dream in bright promises.

"With our first failure comes the starting point of success." So in locating the garden if possible hunt a more fertile spot of ground or a higher locality which will be above high water mark, and above all else better cultivation which always brings better results.

The individual reports of this club show that the following things have been canned successfully: Asparagus, beets, beans—string and lima; Boston-baked beans, pork, cabbage, carrots, field and sweet corn, chili sauce, chards, dandelions, Brussel's sprouts, hominy, kohlrabi, peas, potatoes, pumpkins, salsify, squash, sweet potatoes, turnips, vegetable soup, mixed greens, beef, sausage, browned ribs, head cheese, tripe and fish.

We also find the 121,500 quarts of vegetables and meat have been canned for home consumption, mostly in glass jars, by farmers and city gardeners.

We have a few members, who live on the farm, have been canning for market. Besides doing every day work they have averaged 625 cans per day for market.

This work is pleasant and profitable, cuts down the high cost of living besides furnishing the family with a well balanced ration at all times, eliminates the drug bills by insuring better health to all.

We agree with the government workers that to take care of what we have to prevent loss is the best way to reduce the high cost of living.

Each member of the club seems to realize that the $15 spent for their Steam Pressure Canner was the best investment they ever made.

Grace Dietz,
Secretary Nat'l Home Canners Club,
Lancaster County.

Vegetable Soup

Any one who is successful in canning tomatoes will be able to use this receipt even in the ordinary way of canning.

We all know how hard it is to have a variety of fresh vegetable soup and know how much time it takes to prepare the vegetables each time you desire to have vegetable soup.

You will find that to open a jar of canned vegetable soup and simply add your meat stock will be very handy. We have some of this soup in the cellar now put up a year ago—and it is just as good as it was the day we made it.

If fresh tomatoes are gone—we mention this because they are gone by the time the carrots are ready for use. Slice cabbage, dice carrots, onions and cut celery in quarter-inch lengths; blanch each vegetable separately after being prepared as described above in a small cloth sack which is dropped into a kettle of boiling water; after the water again reaches the boiling point leave vegetables in the kettle three minutes then remove and place the sack of vegetables in a pail of cold water and allow to chill through.

Take each vegetable and place in separate pans and cover with boiling water, salt to taste and boil until tender. Mix the cooked vegetables in the following proportions, using the liquid in which they were cooked—2 quarts cabbage, 1 quart carrots, ½ quart onions, ¼ quart celery, 1 quart ripe tomatoes (cooked); boil briskly one-half hour to blend flavors and seal—never add anything starchy for ordinary canning of this soup."

Grace Dietz,
Secretary Nat'l Home Canners Club,
Firth, Nebraska.

Canning Corn

The following recipe for canning corn comes from Mrs. J. Ed Hall of LaMont, Mo., whose entry of canned corn at the Missouri Home-Makers' Conference, exhibit of Pantry Stores, during Farmers' Week, scored 100 points:

"Take perfectly fresh corn, and before it begins to toughen rub off the silk with a stiff brush and with a sharp knife take off the top of the grain and press out the pulp. Have your jars perfectly clean and well sterilized; fill them with the corn, pressing it in firmly, to within 1 inch of the top—the milk will fill up the space to the top. Add a teaspoonful of salt to each quart jar, put on top and fasten down with spring.

Place the jars, as many as you can without crowding, into a clothes boiler which has a false bottom. This can be made of wire netting and is absolutely necessary, as the jars will break if placed directly on the bottom of the boiler.

Put in cold water sufficient to come up on the sides of the jars and place on the stove. Let come to a boil and keep boiling constantly for 4 hours, if quart jars. If half gallon jars are used, boil 5 hours.

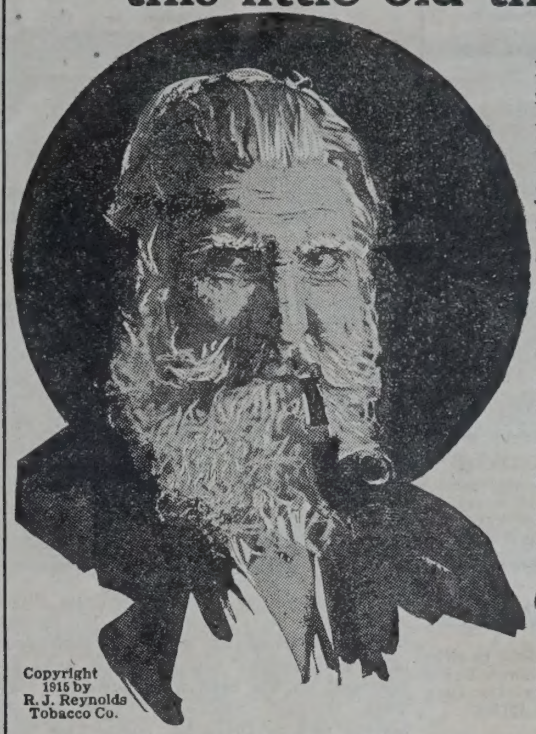
Remove from water and set in a good place in the pantry for ten days then if everything seems right and lids are tight, they may be put in the cellar.

Mr. and Mrs. J. Ed Hall are the good people who are offering the $10 prize for the six jars of canned vegetables.

V. M. in her inquiry for the cause of her bread souring fails to state how she cares for the bread; if shut up in a close box or drawer during the continuous damp weather it would naturally take on a musty flavor, which would not be present if kept in a thin towel and placed where there was a good circulation of air.

The fact that the first two loaves were good goes to prove that it was time and conditions that changed the flavor rather than any inherent cause in the yeast and sponge.—M. R.

Prince Albert just does this little old thing:—



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Live Stock Notes

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COMING SALES

SPOTTED POLAND CHINAS

H. T. Dickerson, Jameson, Mo., Oct. 6.
Andrews Stock Farm, Lawson, Mo., Oct. 14

POLAND CHINAS

N. R. Riggs, Lawson, Mo., Oct. 7.
Ed. Cook, Pattonsburg, Mo., Oct. 7.
L. L. Freeman, Kearney, Mo., Oct. 15.
J. B. Gurthet, Pattonsburg, Mo., Oct. 29.

O. I. C. and CHESTER WHITE

J. H. Harvey, Maryville, Mo., Oct. 5.
F. B. Goodspeed & Son, Maryville, Mo., Nov. 3.

ABERDEEN-ANGUS CATTLE

J. W. Austin, Carrollton, Mo., Oct. 5. M. A. Judy, West Lebanon, Ind., Sales Mgr.

Cook's Great Offering

Thursday, October 7, will be a red-letter day in Poland China circles. This is the date claimed by Ed. W. Cook, Pattonsburg, Mo., for his first sale of strictly first-class Polands.

Perhaps no sale will be looked forward to with greater interest—especially among those who have watched the founding of this herd.

When a man goes out to the big sales and buys one or two, or perhaps three, good sows he attracts attention to his herd, but when he goes out and buys fifteen or twenty top sows, all eyes are centered on his herd in a powerful way. This is just what Ed Cook did—he bought two or three top sows—and then, ten or twelve more. Mr. Cook did not merely top sales in the matter of price—be topped them in individuals, and few breeders can show a better lot of herd sows, any way you take them. After the sows were purchased Mr. Cook set about looking for a suitable herd boar and he exercised the same care and judgment displayed in his sow selections. The boar he finally purchased is a son of King of Wonders, one of the best boars in service in Iowa, and is out of Big Joe's Success by Big Joe.

We have watched the development of this boar ever since he was placed in the Cook herd, and we are frank to say that in every particular he has met Mr. Cook's fondest hopes. King Joe, the boar in question, is now two years old, and if there ever was a two-year-old boar that would weigh 1000 pounds King Joe can turn the trick. He has extreme length, and depth, massive bone, and withal, is one of the smoothest big boars of the breed. King Joe would be a great boar because of his extreme size and quality, but when one sees the class of pigs he sires, one likes to think of him as a great sire. The second boar in service is Bob the Wonder 72214 by Big Bob, out of Long Big Model by Big Wonder. This youngster promises to develop into a boar of extreme size, and he is siring the right kind. Two and two make four, and likewise two great boars used on great sows produce great pigs.

Mr. Cook has been getting ready for this sale for three years and has persistently refused to price his best stuff—and now he finds that he simply must cut down his herd, and accordingly he has selected for sale an offering that merits the attention of those who want as good as the breed affords. The sale will include fifteen of the private herd sows, six yearling boars, twenty spring gilts, and ten spring boars. Taken as a whole we doubt if any sale will offer as many really good tried sows and yearlings as are cataloged for this event. Most any one would be an attraction. Jumbo Wonder 2nd, by A. Wonder, out of a Jumbo dam, is a litter sister to the sow U. S. Byrne paid $400 for. She is an 800-pound sow and smooth. She sells with a litter by Bob the Wonder.

Belle Jumbo by Big Jumbo II sells with a litter by King Joe. This sow has extreme size and bone and perhaps will be as good as will be sold this year. Belle Jumbo together with her litter will put one right in the hog business. Big Lady Jumbo is one of the litter that sold in H. B. Walter's sale last fall for $1530. She is by Long Jumbo out of Big Lady Wonder by Long Wonder. Big Lady Jumbo sells open. Lady Josephine, Miss Big Joe, and Big Josephine are three crack spring yearlings by Big Joe and are out of Lady Giantess Wonder by A Wonder. Jumbo B and Jumbo C by King of All and out of Jumbo Wonder 2d are spring yearlings that are 700 pound sow prospects. In short, if we named all the fifteen good sows that sell, we would

CLYDESDALE HORSES

Clydesdale Horses, Jacks and Jennets

Clydesdale Stallions, Mares and Colts, with quality and breeding, for sale at lowest prices. We also breed Jacks and Jennets and sell them as low as the lowest.

HIGHVIEW FARM F. L. CROSBY, Prop., Mexico, Mo.

POLAND CHINAS

Smooth Columbus Boars and Gilts. Bennett Bros.

75 extra choice March and April boars and gilts sired by SMOOTH COLUMBUS, the record sire of the state, LONG JOE, and BAKER'S HADLEY. Big type Polands with quality. All immune. Satisfaction guaranteed.

BENNETT BROS. R. 5, LEE'S SUMMIT, MO.

PAWNEE PRICE IS DEAD

You will want some of his blood in your herd because it makes for size and quality. We have a few extra good spring boars sired by Pawnee Price for sale at reasonable prices. First come, first served.

J. F. RICHARDS & SON - - - - - - - - - - Bevier, Mo.

See The Giant 72083 at Missouri State Fair

He will not be fitted for the show ring but will be there in his every-day form. I want every man interested in larger and better Poland Chinas to see this mammoth yearling. He will interest you.

WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

Poland Chinas & Shorthorns

Spring boars and gilts, pairs, trios or more. A few sows and gilts bred for fall farrow. Several choice young bulls and heifers. Satisfaction guaranteed.

H. S. Williamson, Route 6 Centralia, Mo.

POLAND CHINA BARGAINS

I have some good Big Type Poland China hogs; some tried sows, one aged boar, some spring gilts and spring boars. Registered stuff. Cholera immune. Come and see them or write me. LOU LE FEVRE, Collins, Mo.

BALDWIN HEIGHTS SPOTTED and BLACK POLANDS

I am offering desirable spring pigs with size, bone and quality, along with spots. King Jumbo 71356 by King of All, out of Jumbo II heads my herd. Also a few extra good black boars and gilts. Satisfaction guaranteed.

R. F. BALDWIN, Rt 1, ROCHEPORT, MO.

SPOTTED POLAND CHINA BOARS

The big boned, thrifty kind. We have a number of boars now ready for service. A choice lot for only $25 each, f. o. b. Rocheport.

HALL & RAPP - - - - - - - - Rocheport, Mo.

MEGOWN'S SPOTTED POLANDS

No matured stock for sale but booking orders for pigs to be shipped later. Have length, bone, size and big spots. Sired by two of the biggest boars in the State for their age.

B. B. MEGOWN, - - - - - - - NEW LONDON, MISSOURI

DUROC JERSEYS

Select Col. II Litter mate to Illinois Champion 1912

White's Durocs

Choice spring pigs by a champion and out of well bred sows! Stretchy, big bone, well grown. A few bred sows.

A WHITE, Jr. Box 422 PALMYRA, MO

Crimson Col. I Am Junior Champion American Royal 1912

Fifty Duroc Boar and Gilt Bargains

We are offering 40 choice spring boars and gilts sired by Col. Wonder II, litter mate to the champion sow at Missouri State Fair 1914; Beauty's Col.; Col. Wonder, a champion; Col. Enough I Am; and Belle's Col. Pairs, twos or more of unrelated stock. Priced to sell and guaranteed to please.

W. H. & GEO. E. THOMSON - - - - - - Columbia, Missouri

Brockman's Durocs at the State Fair

I will be at the Missouri State Fair with a high class lot of spring boars and gilts for sale. Visit my pens.

A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

DUROCS and SHORTHORNS

Immune bred gilts and tried sows $20 to $50; also some choice serviceable boars and spring pigs. A pair of good bulls 16 months old at reasonable prices and well bred. Will sell any of above stock worth the money. Write and tell me what you want to buy. Stock sold in 61 counties in Missouri. I believe I can please you.

J. E. WELLER, - - - - - - - - - FAUCETT, MO.

150 Duroc Boars and Gilts

February, March and April boars and gilts sired by Golden Tat, Bob's Col. Wonder, Col. Wonder and Professor's Col. Stretch, size, bone and quality. Priced for quick sale. Write or come.

J. E. McPherson, Columbia, Mo.

75 Duroc Spring Boars and Gilts

Seventy-five (75) good boars and gilts. Rich breeding, and plenty of size and bone. Pairs, trios or more. Priced to sell.

J. C. Garrard & Son, McBaine, Mo.

Champion Col. Wonder Durocs

A few yearling boars and bred gilts. Booking orders for spring pigs either sex. Col. Wonder sires my champions—he will sire champions for you. Write or come.

CHAS. L. TAYLOR - - OLEAN, MO.

A. NO. 1 DUROC SPRING BOARS

I am offering a few extra choice spring boars sired by ILLUSTRATOR and out of TATTLETALE 39th, junior champion International 1913. A few by CRIMSON CHIEF AGAIN. Write or come.

W. C. WATSON, - - - - - - - - NEW LONDON, MO.

ANGUS CATTLE

Choice Aberdeen-Angus

Established 30 years. 100 head in herd. We are offering good useful Bulls, and Heifers of excellent individual merit and breeding. Prices reasonable. Our customers make them popular.

D. L. Sutherland & Sons Windsor, Mo

Aberdeen-Angus

I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.

J. D. Blackwell Fayette, Mo.

ANGUS CATTLE

HERD FOUNDED 1904

Seven early calves—3 BULLS and 4 HEIFERS, sired by Dean's Eric 139686. Every one the right kind, and priced to sell.

V. E. LAWRENCE, SALISBURY, MO.

Angus Bargains

Registered bulls and heifers. The market topping kind. Leading families represented. Priced worth the money and satisfaction guaranteed.

Also Poland China Hogs

J. M. JONES, R. F. D. 3, EVERTON, MO

HOLSTEIN CATTLE

Dutchland Sir Hengerveld Rag Apple 99771

A few choice bull calves out of heavy producing dams sired by the above famous bull for sale.

BLACK AND WHITE FARM
Baden Station, Mo.
Tel. Colfax 1812 R. R. 30

IN MISSOURI

Eight bulls, 2 to 8 months, $100 to $175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.

S. W. COOKE & SON, MAYSVILLE, MO

Holstein Bull Calves

Registered sons of Sir Missouri Josephine Chief 72328 and Wauseona Royalton Korndyke 117165 from high producing cows. All stock tuberculin tested. For prices write Wm. J. Salts, Steward.

MISSOURI STATE SANATORIUM,
Mt. Vernon, Mo.

HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndyke Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

M. E. Moore & Co., Cameron, Mo.

JERSEY CATTLE

JERSEY CATTLE

Bulls ready for service. They are sired by the Owls Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers

Wm. H. Bruns & Son, Concordia, Mo.

Jersey Cows

I want to sell 20 head of registered cows and heifers that are either fresh or soon will be. Also four young bulls.

J. B. SMITH Platte City, Mo.

Sunset "Correct Type" Jerseys

Do you want a trio of the famous line bred Blue Belle-Golden Rosebay Jerseys? I have two magnificent heifers, both bred, and a young bull to go with them, almost ready for service. Price of the trio, $300—just half their value. Write for breeding, description of herd, production, etc. They will please you. The Ennis Stock Farm, Horine Station, Mo. (Just south of St. Louis).

RED POLLED

RED POLLED CATTLE

HERD ESTABLISHED 16 YEARS

Young stock for sale at all times. Young bulls for sale sired by Logan 13500. The duel purpose kind.

M. L. Snyder - Polo, Mo.

simply give fifteen reasons for attending this sale.

The six yearling boars furnish excellent herd boar material and merit the attention of any one in the market for something good. They are all sired by King Joe, four of them are out of the great sow Jumbo Wonder 2d, and two are of Princess Expansion. Among the ten spring boars listed are six by King Joe and two by Bob the Wonder. Two out of Wonder's Queen and by King Joe are extra good. The spring gilts, litter mates to these boars, show extreme size and bone together with smoothness, and the buyer who can't find what he wants among them will be hard to please.

Remember this sale is first class in every way. Cook has the goods to back up every statement, and it will be a long time before you have a better chance to buy this class of stuff at your own price. Send at once for the catalog and arrange to be there. R. P. Royce will represent this paper and will be glad to look after the bids of our readers who are unable to attend. Please mention this paper when you write.

100 Pigs to Show In Duroc Futurity

Geo. E. Thomson, treasurer of the Missouri Duroc Jersey Breeders Association, advises us that over one hundred pigs have been entered in the futurity show to be held at the Missouri State Fair. This is the first year of the futurity and such large entries are a distinct credit to the officers of the above association. Prof. L. A. Weaver of the College of Agriculture will judge the futurity.

The Austin Angus Cattle Dispersion Sale

On Thursday, October 5, at the fair grounds, Carrollton, Mo., J. W. Austin will close out his herd of Aberdeen-Angus cattle. Mr. Austin's eyesight has failed and it is impossible for him to give his pure-bred herd his personal attention. There are 115 head listed, of the five most fashionable families known to the breed—Blackbirds, Pride of Aberdeen, Queen Mother, Drumin Lucy, and Nosegays. Every one of these families has done much to make history for the breed. The latter family is noted for the very heavy milers it has produced as well as the good individuals. The herd has been developed along constructive and progressive lines as near as nature would permit to maintain the high standard of the animals. Bulls of the very best blood lines and merit have been used in the herd for 20 years and the tabulation of the pedigrees for the catalog shows many of the most renowned animals. There are 28 bulls listed, including the double bred Blackbird bull Blackbird Monarch A, a grandson of Prince Ito and Black Magic—of the same family that such great bulls have come as Gay Blackbird, Black Knight of Estill, Lord Woodlawn, Blackbird Jim, Woodlawn Black Lad and many others. He is in fine form and will make good in some other herd of pure-bred cattle. The other 27 bulls are in nice form to begin service and they will range in age from 8 to 20 months. Several very nice herd-headers can be selected and there are others that will please the farmer or the rangeman who wants to produce the market topping steer. The 87 cows and heifers are the kind that when once seen will please. Developed as they have been, almost the year in and out, on the best of bluegrass, no one need have the slightest fear of them not being able to make good. Many valuable matrons will pass into new hands sale day that have been priceless heretofore. Several of the cows will have calves at foot. The offer is free from old cows that have about done their life work. Everything of breeding age has been bred to Blackbird Monarch A and the young things not yet old enough to breed will be found most attractive and will make good foundation stcok. This herd is one that has been a money-maker and who ever invest in them sale day will find that they will give them good returns on the investment. Send for catalog and mention his paper.

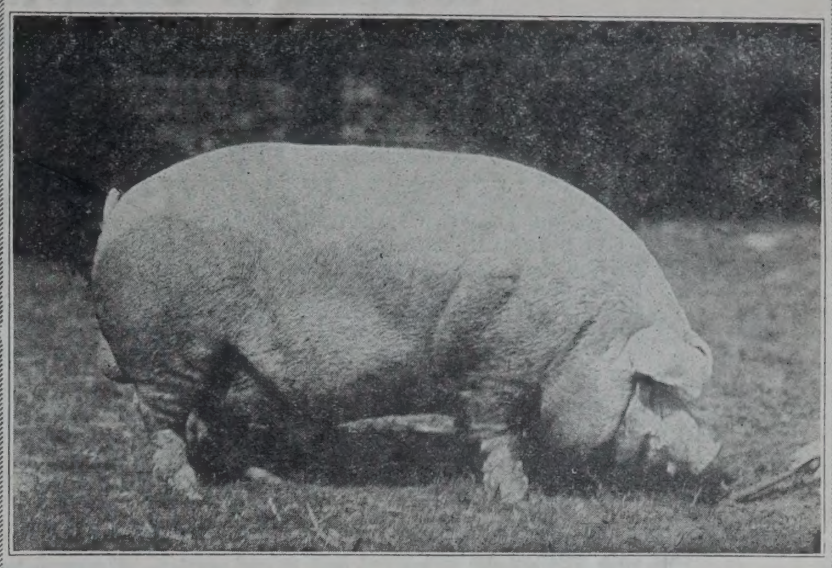
Grade Angus Herd for Sale

Look up the advertisement of Delia Rehn, Crocker, Mo., in which is announced that her entire herd of grade Angus cows and heifers, together with the herd bull, must be sold. Mrs. Rehn writes that her reason for selling is due to the fact that her son has been offered a good position outside the state and that the cattle must be sold before he can leave. Here is a good opportunity for South Missouri readers to buy a profitable producing herd of grade Angus worth the money. Write for prices.

Goodspeed & Son's Chester White Sale

MARYLLVILLE, MO., WEDNESDAY, NOVEMBER 3

30 BOARS -:- -:- -:- -:- -:- 20 GILTS



Our offering includes 28 spring boars and 20 spring gilts. All of March and April farrow. Sired by my 1000-POUND TWO-YEAR-OLD, SWEEPSTAKES GIANT 25957; the Iowa Champion, Wildwood Prince and Iowa First, out of sows of the most approved breeding.

We believe that we are offering more size and quality than ever sold in Missouri. Bred for size and fed for size.

TWO HERD BOARS SELL

VALLEY PRINCE, a September yearling by GRUBSTAKE, a son of SWEEPSTAKE is a great prospect.

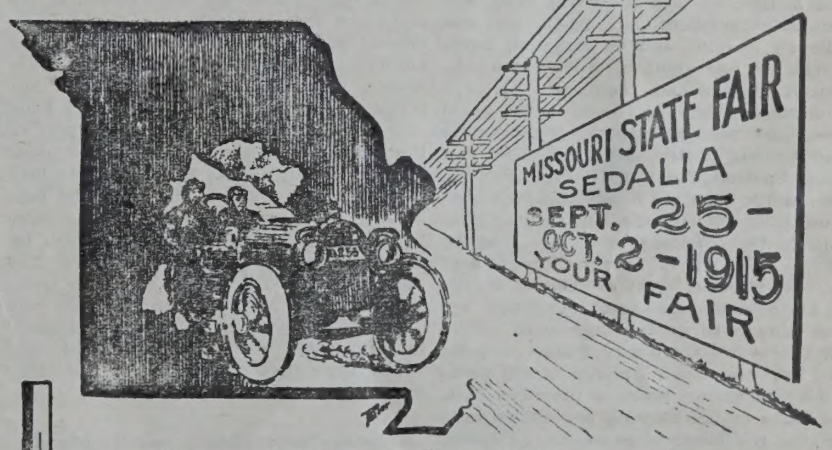
HARVEST LAD by International Boy will look good to buyers.

Write for catalog and watch this paper for further announcement.

F. B. GOODSPEED & SON, - Maryville, Mo.

COL. C. C. EVANS, Auct. R. P. ROYCE, Fieldman

Turn Your Eye and Auto Toward THE MISSOURI STATE FAIR



All Previous Attendance Records Will Be Smashed

More Farm Machinery, More Fine Horses, More Fine Cattle, Bigger and better Industrial and Educational Displays than Missouri Has Ever Seen At Her Own

GREAT STATE FAIR

See Missourians and Missouri at Their Best

You May Not Have To Be Shown But That Is No Reason Why You Should Not Have A Look-in. The Missouri State Fair Board Has Arranged That You Should and At

THE MISSOURI STATE FAIR

SEDALIA, MO. SEPT. 25 - OCT. 2

Good Roads Day Sept. 27 Auto Races October 2

Do Not Miss These Events

Bennett Bros. to Exhibit at Sedalia

Bennett Bros., Lee's Summit, Mo., will have a young herd at the State Fair and extend an invitation to all our readers to visit their pens and get acquainted with the kind of Poland Chinas they are producing. They write that they have entered in the junior classes and the futurity and they will have a number of extra spring boars and gilts for sale after the show and we would not be surprised if there would be several winners in the lot.

MISSOURI'S GREATEST POLAND CHINA SALE

PATTONSBURG, MO., THURSDAY, OCT. 7

50 HEAD OF GUARANTEED ATTRACTIONS

This is my first sale and I am proud to invite the public to attend this sale and bid on this magnificent offering. In no other sale will be found as many real high class attractions. This is not said boastfully, but is a plain statement of fact. Almost any one cataloged would be an outstanding attraction in the average sale.

15 PRIVATE HERD SOWS

Included in the lot are some of the top sows of the breed. **JUMBO WONDER II** by old **A. WONDER**, dam **LADY JUMBO**, sells with litter by **BOB THE WONDER**. **BELLE JUMBO** by **BIG JUMBO II** sells with litter by **KING JOE**. Both are real 800-pound sows. **BIG LADY JUMBO**, one of H. B. Walter's $1530 litter. Three spring yearlings by **KING JOE** out of the great sow **LADY GIANTES WONDER**. Other choice sows and yearlings by **BIG BONE CHIEF, KING OF ALL, BIG BEN, BIG MASTIFF, BIG SMOOTH PRICE.**

Six Top Yearling Boars

All by **KING JOE**—four out of **JUMBO WONDER II**, two out of **PRINCESS EXPANSION**. There is certain herd boar material here. Save railroad fare by attending this sale.

King Joe by King of Wonder Heads My Herd

KING JOE is pronounced by all to be among the best young boars of the breed and if you want to see a smooth 1000-pound 2-year-old boar, take a look at **KING JOE**. King Joe at 20 months old weighed 825 pounds, stood 40 inches high, 77 inches long, 72 inches, heart and flank. **King Joe is bred right and breeds right.**

Ten Early Spring Boars

Here are ten tops. Sired by **KING JOE** and **BOB the WONDER** and out of several of my best sows.

Ninteen Crack Spring Gilts

Every one a certain brood sow prospect. Size and bone and quality to suit the most critical.

This sale will not be surpassed in size and quality. Arrange to be my guests October 7. Write at once for handsome catalog.

ED. W. COOK, PATTONSBURG, MO.

COL. H. S. DUNCAN, Auctioneer **R. P. ROYCE, Fieldman**

Dickerson's Spotted Poland China Sale

Look up the advertisement of H. T. Dickerson, Jameson, Mo., in which he calls attention to his annual fall sale of spotted Poland Chinas to be held at Jamison, Wednesday, October 6th, Mr. Dickerson is one of the younger breeders of the popular spotted Poland China, who has built up a herd that ranks up high in the opinion of his fellow breeders. Starting several years ago by purchasing a few top sows from the better known herds he has gradually increased his herd until he is able to select for the coming sale about sixty head, consisting fo twenty-five spring boars, twenty-five spring gilts and ten fall and summer yearling gilts. The writer visited this herd last week and found the sale offering to be such as will interest any of our readers who are in the market for a few of the old-fashioned, spotted kind.

Mr. Dickerson has endeavored to produce a type of hog that will meet the demand for efficient pork producers, and while he has insisted on size and bone, he has not lost sight of other essentials, namely, quality and prolificacy. Everything cataloged is bred deep in the blood lines most popular. Most of the lot is sired by one or the other of the two boars, Spotted Chief 65306 by Pawnee Pete, and by Spotted King 66978 by Longfellow 62829 by Hoppe's Big Chief. Several of the yearlings are by Spotted Mike, a good son of Lamar Chief, one of the best sires of spotted Polands in the state. Several of these yearlings are good enough to go into any herd. Several litters are by Lucky Judge, Cainesville Boy and Good Enough 56907, three of the best known boars of the Corn Belt. The dams of the offering are choice sows carrying the blood of Budweiser, Clipper, Lamar Chief, Lucky Judge and others.

Mr. Dickerson has handled this stuff intelligently and will be able to offer a superior lot. Everything sells open with the privilege of breeding. Write at once for the catalog and kindly mention this paper.

Baker & Son Buy New Boar

In a recent letter from W. A. Baker & Son, Butler, Mo., they have the following to say: We have just returned from an automobile trip to Page County, Iowa, where we went in search of a herd boar. We saw a lot of good ones, but believe we got the best when we purchased a fall yearling from John B. Lawson. This boar is sired by Big Long Jumbo and is out of a dam by A Wonder. To our mind, he is an outstanding boar and we feel that we have strengthened our herd materially. We will be "on deck" at Sedalia and will be glad to have all Missouri Farmer readers visit our herd."

Messrs. Baker have one of the good herds of the state and we take pleasure in referring our readers to the advertisement elsewhere in this paper.

A Capital Poland Offering

N. R. Riggs will hold his annual sale at Lawson, Mo., on Thursday, October 7, and at that time will offer a very desirable lot of Poland China spring boars and gilts of strictly big type breeding. We saw the offering a few days ago and in point of uniformity and size it will be hard to equal.

Mr. Riggs has been in the business for a number of years and has perhaps given as much study to the production of swine as any breeder in the state. We have been visiting this herd for three years and it seems that each year Mr. Riggs produces a better lot than the year before.

The sixty head to be sold are all of February and March farrow and will include thirty boars and thirty gilts. Most of them are sired by Mr. Riggs' good herd boar, Jumbo Orr 178083, by Missouri Lad by Big Prospect, out of a Long King dam. Jumbo Orr has proven to be one of the most consistent sires owned in the state and the class of young stuff by him offered in this sale is added proof of his ability to produce the kind that the buyer wants. Several litters are by Long Superior by Big Superior's Equal, Iowa King and Big Superior's Equal. The dams of the offering are sows possessing unusual size, and quality, that have been retained in the herd because of their marked prolificacy. Buyers will look a long time before they will find a more uniform lot to bid on. Mr. Riggs says he never had pigs do better and that by sale time these February and March boars and gilts will average 220 pounds. We take pleasure in calling your attention to this sale and would urge that you write for the catalog. Please mention this paper.

Thomson Bros. Ship Durocs to Florida

Thomson Bros., Columbia, Mo., recently shipped four yearling gilts to the Everglade Sugar and Land Co., Miami, Florida. These gilts were exceptionally high class and will do much to extend the influence of this herd throughout the South. Included in the shipment was a daughter of Crimson Chief Again by Crimson Wonder Again, and out of a Col. Gano dam, one was an extra good Commander Chief gilt out of a Crimson Wonder Again sow, one was a toppy daughter of Golden Model 34th out of a Col. Gano dam, and one was by Col. Wonder II, the prize winning son of Col. Wonder.

Messrs. Thomson are enjoying a nice trade for breeding stock from their herd and we would suggest that you write this firm for prices before you place your order elsewhere.

See the Giant 72083 at Missouri State Fair

Notice the change in Will G. Lockridge's advertisement in this paper. Mr. Lockridge wants every reader of this paper who is interested in bigger and better Poland Chinas to visit his exhibit at the State Fair at Sedalia, and see his great young boar, The Giant 72083. Mr. Lockridge writes that The Giant will not be fitted for show but will be there in his every-day form. This boar has attracted about as much attention as any young boar in the state and promises to figure strongly in the development of the breed in Missouri. The Giant was sired by Hercules 68356 the noted son of Big Ben 61935, and is out of Colossal Giantess by Colossal. The Giant promises to develope into a boar of extreme size—when he was nine months old he weighed 400 pounds and measured 65 inches from between the eyes to root of tail, and stood on a straight 10½ bone. In Mr. Lockridge's winter sale sows bred to this boar averaged $57.

You will want The Giant represented in your herd and Mr. Lockridge can furnish a number of cracking good spring boars and gilts. Get his prices. Don't forget to look this boar up at the State Fair.

H. T. DICKERSON'S

SPOTTED POLAND SALE

JAMESON, MO.

WEDNESDAY, OCTOBER 6, 1915

Sixty Head the Old-Fashioned Big Bone Kind

10 Fall and Summer Yearling Gilts

Everyone a certain brood sow prospect. Genuine Spotted Breeding.

25 Spring Gilts

Lot of size, lot of bone, lot of white! Sired by SPOTTED CHIEF 65306 and SPOTTED KING 66978 out of sows carrying the blood of BRANDYWINE, LUCKY JUDGE, GOOD ENOUGH, SPOTTED CHIEF, ETC.

25 Spring Boars

Litter mates to the above gilts. Several herd boar prospects in the lot.

All the Gilts sell with breeding privilege.

Write for Catalog Mentioning This Paper

H. T. DICKERSON - - Jameson, Mo.

WELLS & NELSON, Auctioneers; R. P. ROYCE, Fieldman

TwentyDuroc Gilts for Sale

Notice the change in the advertisement of R. L. Hill, proprietor of the Adenhill Duroc herd, Columbia, Mo., in which he offers twenty choice March gilts.

These gilts are out of Missouri Lady Again, she by Crimson Wonder Again and out of the $405 brood sow, Missouri Lady.

Missouri Lady Again was first in her class at the Nebraska State Fair in 1913. Her litter brother was first in under year class, and her two litter sisters second and sixth in their class. The litter was first in herd under a year; first in Nebraska special offered by the National Duroc Jersey Record Association, and won the silver cup given by the National Duroc Jersey Record Association. Missouri Lady Again is a great brood sow and decidedly prolific. She farrowed 13 pigs on March 13th, and we are offering five of the gilts for sale, sired by Col. Wonder II.

A few of the March gilts sired by Col. Wonder II are out of Golden Model's Maid, she by Golden Model 30th, he winning in 1912 2nd at Iowa, 1st at Minnesota, defeating the hog that won 1st at Iowa, 1st at South Dakota, again defeating the hogs that won 1st at Iowa and 3d at Sioux City. Her dam is May Crimson by the grand champion Crimson Wonder Again. She is the biggest sow in the herd, and has never farrowed less than 11 pigs to the litter. Her spring gilts by Col. Wonder II are the big kind with quality, and a nice even bunch.

There are several March gilts by Col. Wonder II out of Columbia's Beauty, the good sow by the three times champion, Beauty's Model Top and out of a Defender dam. Here is a line of breeding that is very popular, and the gilts from this litter will please particular buyers.

Miss Col. Bob, another big and prolific brood sow by the good breeding boar, Col. Bob, is the dam of a nice bunch of March gilts by Col. Wonder II Miss Col. Bob is also very prolific, a good mother, and always raises a good bunch of pigs. A gilt out of her and by Col. Wonder II will make money.

Write Mr. Hill for prices and mention this paper.

ANDREWS STOCK FARM

Annual Sale of Spotted Poland Chinas

Lawson, Mo., Thursday, October 14, 1915

50 Tried Sows Yearlings Spring Gilts Spring Boars

50 Tried Sows Yearlings Spring Gilts Spring Boars

Following my usual custom I will offer at public sale a superior lot of old-fashioned, big boned Spotted Poland Chinas from my well known herd. Fifty head will be cataloged and will include 14 SUMMER AND FALL YEARLING GILTS; 20 SPRING GILTS; 15 JANUARY, FEBRUARY and MARCH BOARS. Sired by the great boars, SPOTTED JUMBO and SPOTTED KING. In addition, I am putting in for attraction 2 TRIED DAUGHTERS OF OLD BUDWEISER. SEND FOR HANDSOME CATALOG

ANDREWS STOCK FARM - - - Lawson, Mo.

P. M. GROSS, CHAS. R. THOMPSON, Auctioneers R. P. ROYCE, Fieldman

Andrews' Spotted Poland China Sale, October 14

Our readers' attention is directed to the advertisement of the Andrews Stock Farm, Lawson, Mo., announcing that the annual sale of this well known firm will be held at Lawson, Thursday, October 14. For several years past this sale has proved to be an event of more than passing interest to those in the market for Spotted Poland China breeding stock and this year's offering should be no exception. We have been in close touch with this herd for the past three years and feel that we are rather familiar with the line of breeding found in the herd. We have seen many breeding animals sell in these sales and we know that they make good for the buyers. Only recently we saw a boar that was purchased in last year's sale to head a herd and we know of no better young Spotted boar in the state. Mr. Andrews insists on size and knows that it takes more than breeding to develop size and because of his ability as a feeder he is able to offer a highly desirable class of stuff.

The two herd boars, Spotted King and Spotted Jumbo have been largely responsible for the success of the herd. These two boars were very much of the same type—boars with plenty of size—not the largest—heavy bone, width and depth, and bot hshowing excellent quality. When crossed on the herd sows, all of which were bred along the most popular lines, a very excellent type of pork producer was the result. Spotted Jumbo, the larger of the two boars, died this summer ,and the sale will be the last opportunity to secure his blood. Another young boar that has been used in the herd is Spotted Clover 74709 by Spotted Giant 62468, counted by many to be the best spotted boar in the country.

This year's offering will consist of about fifty head and will include two tried sows, fourteen summer and fall yearling gilts sired by Spotted Jumbo, Spotted King and Spotted Mammoth, 20 spring gilts and 15 spring boars of the same breeding. Taken as a whole this year's offering does not includes as many January and February boars and gilts as last year's lot but there are a goodly number of early ones. Among the yearlings are a number of very attractive gilts, and we might mention the yearling daughter of Spotted Mammoth out of Spotted Carwin as being particularly good. The real attractions of the sale will perhaps be the two tried daughters of the great old sire, Budweiser. These sows, Budweiser Girl and Budweiser Lady have been splendid producers for Mr. Andrews and the only reason he is offering them is in order to make this sale a very attractive one. Budweiser Girl sells bred to Spotted Clover, and her litter sister will sell open.

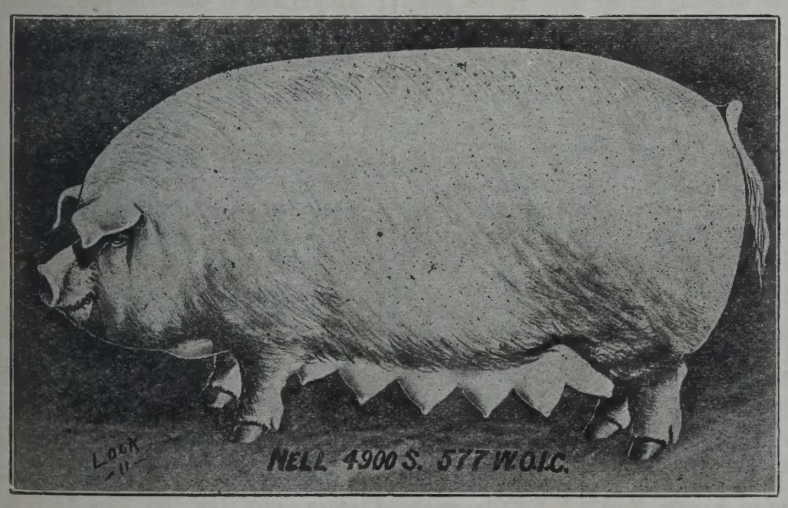
Write at once for the catalog and watch this paper for further details.

HARVEY'S

Annual Chester White Sale

MARYVILLE, MO., TUESDAY, OCT. 5

65 SPRING BOARS and GILTS



The Harvey Kind

On the above date I will offer for public sale 65 Chester White spring boars and gilts, the very tops of my 1915 spring farrow. The offering will afford an excellent opportunity to secure breeding stock of exceptional quality. Sired by such noted boars as

WILDWOOD PRINCE 28531, the champion and grand champion at Iowa last year.

DEMONSTRATOR 27501, one of the largest boars of the breed.

INTERNATIONAL BOY, one of the best boars now living.

The dams of the offering represent one of the choicest collections of sows in the Corn Belt.

Write for catalog, mentioning this paper.

J. H. HARVEY, - Maryville, Mo.

THOS E. DEEM, Auctioneer

Frost's O. I. C's

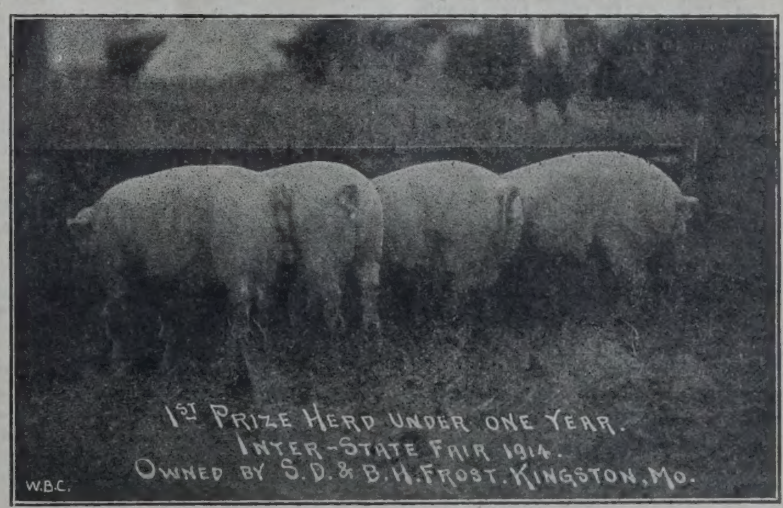
For over thirty years the name of Frost has been associated with O. I. C. hogs, and this name has been regarded by many as synonymous with quality. The herd was founded by Judge L. L. Frost, of Mirabile, Mo., and it remained his sole property until October, 1912, when the present firm of S. D. & B. H. Frost was formed. The Spring Grove and Caldwell County herds have an enviable record in producing both show and breeding animals of high order. It will be recalled by many that this herd made a remarkable record at the World's Fair at St. Louis—almost cleaning the boards.

At present a number of attractive fall boars are for sale, and the top spring boars and gilts of the 1915 farrow. Our readers will like the kind Messrs. Frost are producing and we know their prices will please. Mention this paper when writing.

Last Call for Harvey's Chester White Sale

This is our last opportunity to call attention to J. H. Harvey's annual Chester White sale to be held at Maryville, Mo., Tuesday, October 5. These Harvey sales have come to be events looked forward to by breeders and farmers who are in the market for choice breding stock, and each year it seems that Mr. Harvey is able to improve on the previous offering. This fact is evidence of his ability as a constructive breeder, and is further evidence that his herd is improving. Last week the writer visited this herd and was pleased to note the general high character of the spring boars and gilts that are being prepared for sale. The offering throughout is very uniform, has been well grown by intelligent feeding and we believe exhibits a bit more bone than last year's lot. The major portion of the offering is sired by International Boy, a splendid boar that stood at the head of Mr. Harvey's herd until a long priced offered by J. J. Wills, Platte City, Mo., caused him to sell. Barber Girl 42882 C. W. R. furnishes a capital litter by International Boy. Barber Girl is one of the best producing sows in the herd. Harvey's Perfection 59084, Anna 50688, Minnie Ha Ha 59088 and the great old sow, Peach Blossom, all have litters by International Boy. Several litters sired by Demonstrator 27501 show unusual bone. Hiland Kind 69058, one of the best young sows we have seen in years, is the dam of a remarkably good litter sired by Wildwood Prince, the Iowa champion last year.

In all, 65 head will be sold and will in-



S. D. & B. H. Frost will exhibit Chester Whites at the State Fair.

DISPERSION SALE OF HIGH-CLASS ABERDEEN-ANGUS CATTLE

Carrollton, Missouri, Tuesday, October 5, 1915

115 Head 28 Bulls 87 Cows and Heifers **115 Head**

This is without question one of the greatest offerings of Aberdeen-Angus cattle that has ever been booked for sale in the great state of Missouri. The consignment represents five of the most fashionable families of the breed: **Blackbirds, Pride of Aberdeen, Queen Mothers, Drumin Lucy,** and **Nosegays.** (This last family has long been noted for the very heavy milkers it produces.)

Twenty-eight Bulls are listed, including the double Blackbird bull **Blackbird Monarch A 168334,** a great grandson of the mighty **Prince Ito** that holds the record price, $9100. He has been used in the herd with most satisfactory results. Among the other bulls listed are several herd-headers and there are plenty for the farmer or the cattleman who wishes to produce baby beef. They will range in age from 8 months to 20 months old. They are now in the very pink of condition to begin service. The ranchman will find them the kind of bulls to please and make good.

The eighty-seven cows and heifers wear the very stamp of approval. Many valuable matrons will pass into new hands on the day of sale. All will be found in tip top breeding condition. Several cows will be sold with calves at foot. Everything of a breeding age will have been settled to the service of **Blackbird Monarch A.**. Heifers that have not been bred are well developed and will please any one who is wanting young things. The cows in this herd have been money-makers and will give good returns to the party who invests in them at this sale.

The individuality and blood lines of the whole offering is such as will meet with the approval of the old breeder or new beginner who wishes to start a herd of pure-bred beef cattle.

This sale will take place the second day of the American Royal Live Stock Show and there being no Angus sale at the Royal this year, I cordially invite every breeder, farmer, cattleman and rangeman to attend this public auction and secure some of the bargains. Where there are so many cattle sold in one day there is no doubt that at times the sale will lack support. For a catalog and other information about the cattle to be sold address

J. W. AUSTIN - - - - - - - CARROLLTON, MO.

M. A. JUDY, Sales Manager, West Lebanon, Ind.

COL. SILAS IGO, Auctioneer **R. P. ROYCE, Fieldman**

clude the top spring boars and gilts of the herd. We commend this offering to our readers feeling that it will afford a splendid opportunity to select a future herd boar or sows that will develop into valuable additions to any herd.

When you buy of Harvey you get more than just a registered animal—you get one that is the result of years of careful breeding and selection. The catalogs are ready to send out and will be mailed to all who ask for one. R. P. Royce will attend the sale in the interest of The Missouri Farmer readers and will handle any bids sent to him.

Goodspeed & Son's Chester Whites

F. B. Goodspeed & Son, Maryville, Mo., will hold their first public sale of Chester Whites from their Pleasant View herd on Wednesday, November 3rd.

This herd has not been before the public long, but what it lacks in years is more than made up in quality, and from now on is bound to figure strongly in the progress of the breed in this state. The foundation breeding stock was secured from such herds as J. H. Harvey, B. M. Boyer & Sons, and other leading breeders. The senior Goodspeed is a very critical judge of livestock and knows what he wants and will purchase only such animals as come up to his standard. Further, he is admirably situated to raise hogs of the highest type, having one of the good farms of Nodaway County on which alfalfa and corn are among the staple crops. Last week, during the Nodaway County Fair the writer had occasion to visit this herd and was impressed with what he saw. The sow division includes daughters of such noted boars as Jumbo 2nd, Chief Select, Seldom Fed, Silver Lad, New York's Pride, Rustler, International Boy, etc. At the head of the herd stands the best two-year-old Chester White boar we have seen in Missouri, Sweepstake's Giant 25957. This boar was two years old last March and in his every-day clothes tips the scales at 905 pounds, and could easily carry 250 pounds more. Sweepstakes Giant was sired by the grand champion, Sweepstakes 28006, and is out of Goldie 3rd 26048 by the great boar Jumbo. Sweepstake and Jumbo were 1200 pound boars. Sweepstake's Giant is not just a big boar —he is good most every way. He has a typical head and ear, great length and width with corresponding depth; carries a good strong back, stands on excellent bone and feet, and is wonderfully smooth for so large a boar.

The sale offering will consist of fifty head, including thirty boars and twenty gilts of March and April farrow. We have seen a great many herds during the past few months but we have get to see a herd that can show more size than the Goodspeed herd. Most of the offering is sired by the above boar, but there will be three litters by the champion Wildwood Prince, and one by the well-known boar, **Iowa First.** Two older boars are also listed, **one Valley Prince, a September yearling by Grubstake, a son of Sweepstakes and out of Daisy by New York's Pride, will make the buyers set up and take notice; the other Harvest Lad, by International Boy, out of a Jumbo 2d dam, is the kind that will meet with ready appreciation.**

We will have more to say regarding this offer in a later issue. Remember the date is Wednesday, November 3rd, and we would urge that you write Messrs. Goodspeed at once and ask for catalog. Please mention The Missouri armer when you write.

Holstein Bull Calves

S. W. Cooke & Sons, Maysville, Mo., are advertising several very desirable Holstein bull calves sired by a richly bred bull and out of high producing cows. Dairy experts declare that a good bull can raise the production of his progeny 1000 pounds of milk and 40 pounds of butterfat per year above that of their dam. Therefore in selecting a dairy bull it is essential that he comes from producing dams. Several of the calves offered for sale are from cows with A. R. O. records. Mention this paper when you write.

Richards Has Poor Sale

J. F. Richards & Son's Poland China sale held at "Pen-Yr-Hyl" farm, September 8, was a flat failure so far as they were concerned, but it proved to be a regular harvest for the few buyers who were there. A full report will be given next issue.

Bridges Bros. Lose King John

Bridges Bros., Slater, Mo., write that they had the misfortune to lose their herd boar, King John 72135. King John was undoubtedly one of the best Poland China boars owned in Missouri, and his loss means much to the breed in this field.

Record Entry of Senior Bulls

With 29 entries, the two-year-old bull class in the Hereford division of the American Royal live stock show, to be held in Convention Hall, Kansas City, Mo., Oct. 4 to 9, establishes a new record for senior bulls. A search of the records of the American Royal and other leading live stock shows fails to show where this record was ever equalled. While eight monies are offered in this class, it is expected that, because of the large number and high quality of the entries, several additional animals will be placed, and probably extra monies added.

The Hereford entries for this year's American Royal number 352, of which 325 are in the breeding classes and 27 in the steer classes. There will be 28 exhibitors in the breeding classes and eight in the steer classes. The large number of steers entered presages an exceptionally interesting exhibit in this department. The steer recently imported by Col. E. H. Taylor, Jr., of Frankfort, Ky., for the express purpose of "cleaning up" this year's shows will be one of the contestants, and Hereford breeders are eager to learn how he will rank with the home-groun article. George M. Boles of Lubbock, Tex., will judge the Herefords.

Too Late to Classify

Hazelwood Durocs

Seventy choice spring boars and gilts sired by HAZELWOOD CHIEF, by CRIMSON COL., and out of OHIO CHIEF bred sows. Get our prices.

E. P. POWELL & SON, Maryville, Mo.

Prize Winning Blood Predominates.

Big type hogs with quality, plenty of bone, very prolific and early maturing, are found in

ADENHILL FARM DUROCS

Twenty big March, 1915, open gilts by the great Col. Wonder II from big, prolific sows, now selling. They will prove profitable additions to any herd.

R. L. HILL, Adenhill Farm
Columbia, Missouri

WANTED to hear from owner of good farm for sale. Send cash price and description. D. F. Bush, Minneapolis, Minn.

GRADE ANGUS COWS and HEIFERS

My entire herd of grade Angus cattle for sale, consisting of twelve young cows, eight yearling heifers, nine calves and one bull. My son is leaving the farm and stock must sell before he goes. Priced to move. Buy this stuff and you will have a herd of twenty young cows next year.

DELIA REHN - - - - - - - Crocker, Missouri

REGISTERED HOLSTEIN BULLS FOR SALE

Three registered Holstein bull calves for sale out of A. R. O. dams and sired by Colantha Johanna Champion Junior. Also three or four fine grade bulls out of splendid dams and sired by the same bu ll.

MARSHALL GORDON - - - - - - - Columbia, Mo

N. R. RIGGS'

Jumbo Orr

Poland China Sale

LAWSON, MO.

THURSDAY, OCTOBER 7, 1915

60 Boars and Gilts

My offering this year includes 30 boars and 30 gilts of February and March farrow and shows more size than any lot I have ever sold. Competent judges pronounce it one of the most uniform lots seen this year. Size, bone, quality and prolificacy are the foundation of the Crystal Springs herd.

Everything offered is bred in the best big type blood and has been fed to produce size. Most of the lot is sired by my great breeding boar

JUMBO ORR 178083

by MISSOURI LAD by BIG PROSPECT and out of a LONG KING dam.

Other litters by IOWA KING, LONG SUPERIOR, BIG SUPERIOR'S EQUAL. My herd sows are the big, motherly, prolific kind and are daughters of several of the great boars of the breed.

If you need a herd boar or a few gilts I can fit you out in this sale.

Write for catalog mentioning this paper.

N. R. RIGGS
Lawson, Mo.

COLS. DEEM and WELLS
Auctioneers

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE MISSOURI FARMER

COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE AND THE MISSOURI EXPERIMENTAL STATION

Real Heroes

The other day a messenger boy handed me a telegram. As I tore open the envelope I felt the quickened heart beats with which I always receive these missives that come flying on the wings of the wind and which nearly always imply important news of one kind or another—and nearly always good news or bad. This time it was to be the latter and as I quickly scanned the words they told me that one of the best friends I have ever had in this World, or expect to have, had breathed his last upon the operating table of a great hospital. Since then I have talked to another mutual friend who stood by his side as the surgeons—the most skillful that could be found in a great city—performed their delicate task which, in this instance, was to be the last act in the wonderful drama of a human life. "To the very last" said my friend, "he joked and laughed with all of us. Turning to the surgeons he said, 'I know you will pull me through if you can—and if you can't, I'll simply have to take the count. But don't be afraid. I am tougher than I look and I am going to try to live if I can—for I like the game. But if I have to go it's alright'—and as they applied the ether he laughingly remarked, 'that stuff could smell worse—but if I had my choice I'd prefer a bunch of American Beauty roses'—and, with a smile he sunk into unconsciousness to awake nevermore."

For years this man had filled a position of great responsibility. His mandates affected interests which involved millions of dollars as well as the weal or woe of many men—and although for a long while he had been the victim of an incurable malady, never once have I seen him when the keen, though distressed smile was absent from his kindly face. Often when the pain would overwhelm him I have seen him bury his face upon his desk—and then, after a moment or two look up and say cheerfully, "Go ahead, I am alright, now."

This brings to my mind another incident: Last winter, one evening, I sat in a great Chicago theatre which makes a specialty of high-class pictures and vaudeville. The chief picture on this particular night was one of the most touching I have ever seen and it portrayed a crippled, hunch-backed cobbler—the unfailing friend of the little street urchins who lived in his part of a big city. As I followed the scenes and beheld this almost inhumanly gnarled, twisted and mis-shapen bit of humanity perform little acts of kindness which made him the "Good Samaritan" of the little friendless ones who came to his little cobbler's shop with their tears and troubles, it was with difficulty that I held back a sob—and I am sure I was no exception to many others in the audience. No sooner had the last of the picture been flashed upon the canvas, when a property man carried a little table out to the center of the stage. Then he disappeared for a moment only to reappear an instant later, half guiding and half carrying to the little table, Marshall P. Wilder—the man who had taken the part of the hunch-backed cobbler in the films—and firmly grasping the table in order not to topple over, he smiled a smile which seemed to me to have more sunshine and more human kindness in it than any other smile I had ever seen. When the audience recovered from its surprise it gave him a mighty cheer—and then for a half hour this man whose wit and fun has been heard around the World—this man who had never known a waking hour free from torturing pain—this little maimed and crippled hunch-back told that great audience of healthy men and women how to laugh and be happy and pointed out the many beautiful flowers which grow by the wayside of life if we will only stop to look for them. Several months ago he died and as he passed out of the World he carried a pile of its sunshine, laughter and good cheer along with him. When I think of these poor heroes who drag themselves through life with a smile despite the never-ending pain which is written upon their pale faces, I am reminded of what fault finding cowards the most of us are.

—By the Author of After-Thoughts.

Be sure to read "Important Announcement" on Page 8.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VII OCTOBER 1, 1915 NO. 19

WILLIAM HIRTH
PUBLISHER

The Little Devil or 8 Horses—Which?

Compare the cost of eight horses with the cost of a Little Devil oil tractor—$850—and don't forget that the Little Devil eats only while working and feeds on common kerosene.

It enables you to plow at the proper time—and the time of plowing has greater effect on crops than any other factor over which a farmer has control—think that over.

Think of one man plowing fifty acres in four days—doesn't that open big farming possibilities for you? And he did it with common kerosene, too. Here is the story, read it yourself.

Elizabeth, Colo., Aug. 11th, 1915
Hart-Parr Co., Charles City, Ia.

Gentlemen:—In answer to your letter, I pulled a Moline plow, three bottom, fourteen inch and plowed from five to six inches deep in ground that had been plowed once about eight years ago, which was practically back to sod. I plowed fifty acres of such land in four days and am very much pleased with the work. I feel satisfied that the engine will continue doing as good, for it is in fine shape. Yours truly.
J. H. CLARK

Mr. Clark is one of many who is pleased with the Little Devil.

This same Little Devil will harvest, run a 29-inch thresher, fill a silo and do all kinds of belt work, up to 22 H. P.

The Little Devil does such good work because it has a valveless motor—powerful and simple. The whole tractor has but seven gears, all made of steel. Ask us to describe this motor—you'll be interested—it's a wonder.

And we want you to know about our drive wheel, a skeleton type wheel built up with "Hold Fast" lugs, which do not pack the ground. They grip the ground like a horse's hoof.

We haven't the space here to tell you all about it, but if you'll send us your name and address we'll give you the whole story.

HART-PARR CO.
381 Lawler St., Charles City, Ia.
The largest builders of oil tractors exclusively in the world.

FOREWORD TO LAW-MAKERS

If farmers would have their own ideas made into laws they should be discussed before the public so as to inform other interests what is needed. And then farmers do not always agree among themselves and a free and full discussion of the merits and demerits of a measure may result in something free from material fault. There is a certain class of legislation affecting farmers only and as a rule the farmer members of the Legislature can get anything they want of this kind of legislation if they can agree among themselves. Farmers do not usually have a very thorough understanding among themselves, which is to their own disadvantage, because with the fifty or sixty members of the lower branch of the Legislature which they hold they should wield a most powerful and wholesome influence on all legislation.

Last year, just before the convening of the Legislature we opened the columns of The Missouri Farmer for a discussion of "Needed Legislation" and as a result of that discussion some strong support was given to the passage of the "Land Bank Bill." One measure that failed which was discussed in our columns was the proposed protection of sheep owners. But the reason that measure failed was because the farmers did not agree and too many measures were allowed to get before the Legislature. So let us begin now and have a free discussion of new laws or changes in our present laws which will aid in the development of our agricultural interests. Are you satisfied with the presten game and fish protection laws? Do you think it is fair to compel the man who owns a sheep or a hog to keep it on his own premises but allow the fellow who owns a dog to let it prowl at will? What do you think about our road laws? Have you not in your experience found something in the road law that does not work well?

We do not want these questions discussed from any selfish or narrow point of view but let us think and talk and work together for the public good. Any question of interest to farmers may be discussed in our columns.

One Farmer Awake

We have just received the following letter along the line suggested in the above article which shows one farmer awake to this subject:

In this connection, why not establish in your paper a department entitled something like "Legislative Needs of the Missouri Farmer" with the hope that possibly it may start a movement that may develop into "National Legislative Needs of the American Farmer." It would seem that many suggestions could be made between now and January, 1917, some of them of such a character that they could be accomplished with a unity of farmers interested. These suggestions as worked up and discussed in this department of your paper could be discussed also to some extent at the Farmers' Week meetings at Columbia in January. A committee appointed at that time could shape them up, select what seemed to be the best, most needful and most likely of accomplishment, get them in shape and make as much publicity of them to the farmers of the state as possible and as far as possible get representatives elected in the various counties who would pledge themselves to try to make such laws in the interest of the farmers. They might in this way go to the Legislature in 1916 with considerable strength and power.

Every class of business interests except farmers work in harmony to secure legislation of their own suggestion for their own interests. They spend money, time and use their best influence to get such legislation enacted—much of it honest and honorable, some of it not, but because they unite to get the legislation and use their best efforts and money for that purpose is no sign the legislation is wrong or corrupt or that corrupt methods are used to get it enacted. And so with the farmers. They are entitled to some legislation in their behalf and they ought to go after it to get it and wont get it until they do.

Take Illinois, for example. Their legislation for some years has been most favorable for labor interests, simply because of the strength of labor unions and the fact that they stood united in their demands. Labor in Illinois is not as strong as farming interests in Missouri.

It is now none too soon to start this work if it is to be started, for things should be gotten in tip top shape in time for use even before nominations.

A. S. Ennis.

Protecting Cottontails

The Field and Farm says:

"The farmers throughout the northern part of the state are up in arms against the cottontail law which stands to protect rabbits in certain seasons. These orchard pests are already feeding on the bark of the young trees, preferring it to all the succulent food available. As a result some of the fruit growers' associations and nurseries have petitioned the governor, the state game commissioner and the county commissioners to permit the killing of cottontails before the open season. We know what we would do, law or no law, to a lot of pesky cottontails that were chewing up our trees. This fool statute was fathered by a locomotive engineer who probably never saw a jackrabbit and who certainly had no fealty for the agricultural interests of the state."

We have not gone quite so far in this state with the cottontail but we have with the skunk.

The Difference Is In Specialization

THE TEST OF A TIRE is the mileage it yields. Firestone Tires yield "Most Miles" per Dollar" because they are the product of the highest degree of specialization.

You are familiar with the quality advantages of Firestone Specialization. Extra rubber and fabric, the two-cure process of building, the added inspections—all of which account for the multiplied mileage.

Tremendous volume and Firestone distribution cut cost. You reap the benefit in these low prices.

Send us the name of your dealer and the name and make of your tires and we will send you one

Cementless Tube Patch Free

Also our new book of Tire Saving Helps, "Mileage Talks." No. 41.

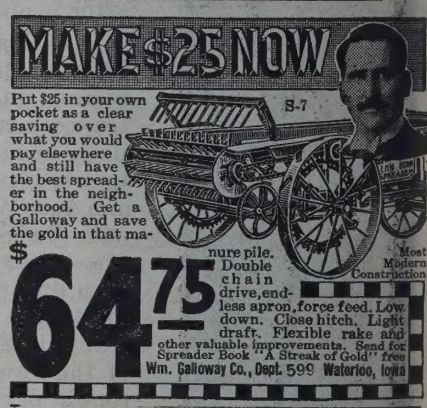
Firestone Tire & Rubber Company
"America's Largest Exclusive Tire and Rim Makers"
Akron, O., Branches and Dealers Everywhere

Pneumatic Tires, Truck Tires, Pleasure Electric Tires, Carriage Tires, Motorcycle Tires, Fire Apparatus Tires, Rims, Tire Accessories, etc.

Firestone Net Prices to Car Owners

	Case Round Tread	Case Non-Skid	Grey Tube	Red Tube
30x3	$ 9.40	$10.55	$2.20	$2.50
30x3½	11.90	13.35	2.60	2.90
32x3½	13.75	15.40	2.70	3.05
34x4	19.90	22.30	3.90	4.40
34x4½	27.30	30.55	4.80	5.40
36x4½	28.70	32.15	5.00	5.65
37x5	35.55	39.80	5.95	6.70

Firestone



Put $25 in your own pocket as a clear saving over what you would pay elsewhere and still have the best spreader in the neighborhood. Get a Galloway and save the gold in that manure pile. Double chain drive, endless apron, force feed. Low down. Close hitch. Light draft. Flexible rake and other valuable improvements. Send for Spreader Book "A Streak of Gold" free

$64.75

Wm. Galloway Co., Dept. 599 Waterloo, Iowa

BOWSHER Feed Mills

Crush ear corn (with or without shucks) and **grind** all kinds of small grain and **head kaffir.**

Stock Thrive Best on Ground Feed

Bowsher Mills are differently constructed from others. **Light running**—handy to operate. In 10 sizes from 2 to 25 H. P. Sold with or without elevator. We also make Sweep Grinders. Write today.

FREE *Catalog and folder on values of feeds and manures.*

T. P. BOWSHER CO.
South Bend, Ind.

12 New Bulbs, 10c

Together with a Complete Treatise on the Culture of Hardy Bulbs both in door and out, and our beautiful Catalogue—
1 Giant Calla, largest and finest.
2 Pink Freesia, exquisite new color.
3 Purity Freesia, big pure white.
3 Double Rosebud Oxalis, large as a half dollar, and fine as a Rose.
3 Oxalis G. Duchess, mixed colors.
All for 10 cts. postpaid.
Our Catalogue of Hyacinths, Tulips, Narcissus, Lilies, Hardy Plants and rare winter-blooming plants free to all.

John Lewis Childs, Inc., Floral Park, N. Y.

Boston Garter
Velvet Grip

Enjoy year-round comfort by wearing one of these three styles of the "Boston" — the only garter for men that has the *Velvet Grip* QUALITY RUBBER BUTTON CLASP
At your dealer's or by mail.
Lisle, 25c., Silk, 50c.
Geo. Frost Co., Boston

WORN BY MEN THE WORLD OVER

The Missouri Farmer

VOLUME VII | OCTOBER 1, 1915 | NUMBER 19

Good Roads Our Greatest Country Life Problem

By Geo. B. Ellis, Managing Editor

How to get a system of good roads is the most important of all questions affecting farm life.

It is an economic impossibility to build rock roads from every farm to town. Neither is it desirable to do so.

It will cost $4,000 to $5,000 a mile to make a good rock road. In some instances it will cost $6,000 to $8,000 but it is only necessary to rock a few miles for the heaviest traffic near town.

A good dirt road with good culverts with easy grades can be built through any good farming section for $100 to $1000 a mile and the maintenance cost of a dirt road is much less than the maintenance cost of rock roads.

D. Ward King of Holt County, Missouri, has given a practical demonstration for 20 years proving that with only a plow and split log drag a road made of Missouri clay can be made dependable every day in the year—good for buggy, automobile or a heavy load—and at a cost not to exceed $30 a mile for a year. There is no excuse for poor dirt roads in any good farming county in Missouri.

That we may not be misunderstood in what we have to say in this article let us introduce the subject by saying that we consider the question of how to get and to maintain good roads in every neighborhood as the most important problem affecting farm life and farm prosperity that we will have to deal with for a number of years—at least until the question is settled in some permanent sort of way. But while that is true we can not agree with so many enthusiasts for good roads that it is more an economic than a social problem.

When the average man comes to look at good roads from the same point of view he looks upon the matter of providing a better house for his family—as a necessary convenience for the better enjoyment of life, we will then make more material progress in road building. Paradoxical as it may seem, I am not sure but what the average man has looked upon the road question mainly from the social betterment point of view while engineers and road agitators have based their arguments too much on the economic value of good roads to get much of a following among farmers.

Some Common Fallacies

A few years ago a distinguished jurist, who sought the nomination for Governor of this state, made this argument in favor of rock roads in Missouri: "The ordinary farm team will draw a ton of grain to market over the ordinary country road and the same team will draw two tons over a good hard surface road. Therefore, the farmers could sell one-half their horses and mules and save all the expense of keep and apply it on the cost of hard roads." This argument while sound in theory is not in accord with farm practice and hence the eminent judge made little progress with his campaign among farmers. The fact is that farmers are not teamsters, they do little heavy hauling on the road and they know they will need about the same number of horses to do the farm work whether they live on a rock road or an ordinary dirt road.

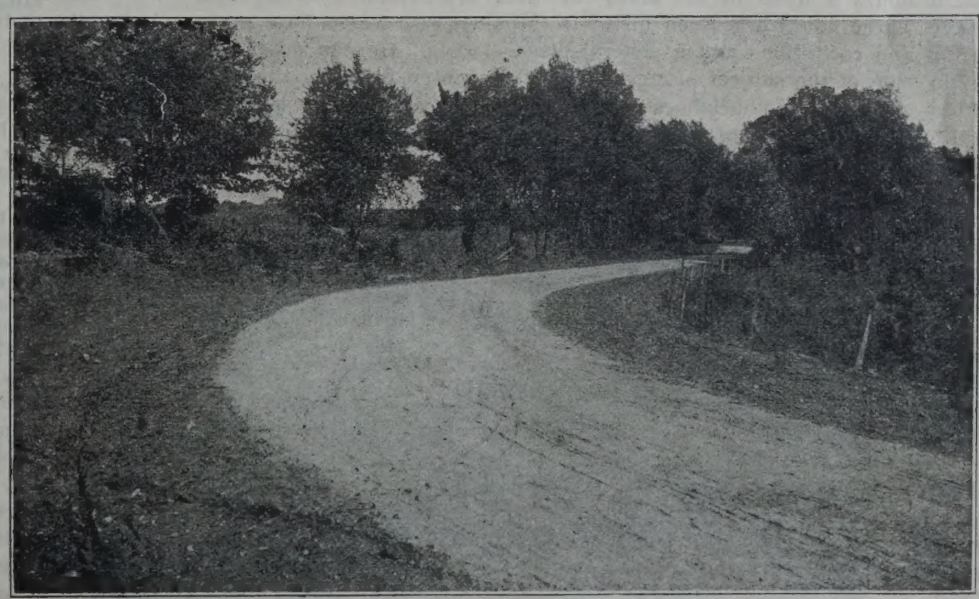
It is sometimes stated by those who look only or largely from the economic side of the good roads problem that it costs the farmer from 25 cents to 35 cents a ton-mile to get his grain hauled to market over the ordinary dirt road and that this cost may be reduced one-half or more by building good hard roads. This argument does not appeal to the average farmer with any force because comparatively few men in this state, except the dairymen and truck farmers near the cities have much tonnage of farm crops to haul over the roads. The man who feeds his grain to beef cattle or mules is not much moved by the economy argument for good roads because his cattle and mules will market the grain without expense and do it as easily and as cheaply over a dirt road as they will over a rock road. If the corn is fed to hogs it is but an ordinary load over the average dirt road for a farm team to market 200 bushels of corn.

To get this question a little more clearly before us let us consider the cost of building rock roads and the cost of upkeep and see what amount of traffic it will take to make it a profitable improvement. The cost of a good macadam road under Missouri conditions will run probably from $4000 to $5000 a mile. The cost will often exceed these figures but for this calculation we will concede these figures a fair average. The annual interest on $4500 at 5 per cent amounts to $225, and if a macadam road is kept in first-class repair it will take at least five per cent on the first cost to keep it up. Thus if we place road building upon a strictly economic basis we must have traffic enough on every mile of road to sustain a tax of $450. If there is a saving of 10 cents a ton-mile, which we think a liberal estimate, it would take 4500 tons of freight per mile of road to make it an economic saving. Expressed in bushels of wheat it would take 150,000 bushels to be transported over the road to sustain the cost of building and upkeep. This is enough to show our road engineers that it is only those roads bearing a very heavy traffic that will justify the expense of a hard metal surface.

Earth and Rock Roads Compared

Again engineers should know that a good dirt road is even a better road for all kinds of travel except heavy hauling for from eight to ten months in the year than any hard surface road. So the advantages are reduced to the difference between the dirt road and rock road for only two to four months in the year. Good roads' boosters sometimes get so enthusiastic about hard surface roads that they tell us there is a great saving on the "wear and tear" of vehicles, harness as well as horses by using rock roads in place of dirt roads. But every farmer who has had any experience in this matter knows that a vehicle will last much longer used on a dirt road than if used on a rock road. The shoeing of horses is a considerable expense on hard surface roads but amounts to very little on the dirt road. We make these statements not because we are opposed to building hard surface roads where conditions are favorable but because we see the statement so often made that "no road is a good road but a hard surface road." We believe this sentiment is responsible for much of the apathy of communities in road building. This is so because the people know that it is an economic impossibility to hard surface all the roads at a cost of $4,000 to $5,000 a mile (and some will cost much more), but they reason if a dirt road can not be made good there is no use to do anything.

If now we get back to the idea that the good roads question for the average farm community is more largely a social than an economic problem and plan our road building along lines that people are willing and financially able to build, we will then begin to make progress. The well kept dirt road will serve the social needs of the farm community in a very efficient way for 365 days in the year. We make this statement knowing that thousands of good people will dispute its accuracy. But we make the statement because we have seen the evidence. We have seen dirt roads crowned and ditched and persistently kept smooth with the drag that were dependable every day in the year for light vehicles and also for the occasional heavy load that passes over country roads. We make that statement because it is substantiated by 20 years of experience of D. Ward King who has for that time demonstrated that a dirt road can be made dependable for every day in the year and for year after year and with no other implement than a two-horse plow and a split-log drag. Some people object to the dirt road because they say it must be everlastingly repaired. But what of that? We may not have to go over the rock road so often for repairs as we do the dirt road with the drag but the average annual expense for keeping up a rock or gravel road will be greater than the expense for keeping a dirt road in first-class shape all the year round. It is not the average country road that gets a little rounding up once a year with the big grader or which has some brush and dirt thrown in to fill up the holes that we call a good dirt road but it is the road that is well rounded in the center with open ditches



Roads should be built according to the amount of traffic they carry.

kept smooth with a drag so the water will run off quickly. Such a road with good concrete culverts, twenty feet or more in length, will prove both a social and economic improvement for any agricultural section in the state. It is estimated that we have 110,000 miles, or more, roads in this state and we have 277,000 farmers which means that for the average mile of road in the agricultural sections of the state there are two and one-half farmers. It will cost anywhere from $100 to $1000 to put a dirt road in good condition including the small culverts but not including the larger bridges built out of county funds. If $300 a mile is a fair average it means that the first cost of getting a good dirt road is approximately $1 an acre for the first cost and the road can be kept up for not to exceed 10 cents an acre annually. And with this nominal cost every farmer has a good road to school, to church, to his neighbor and to the railroad station. The only thing we need to bring about this kind of roads in Missouri is a better road sentiment and a better system for doing the work. The first step is to make up our minds that we must have good roads and the next step will be to put our road work into the hands of men who will give their whole time to the business of making roads. A crew of men after a few weeks experinece in road building and with the latest improved road machinery to work with will not only do better work but they will do about twice as much as men who take green teams and poor tools off the farm to work on the road.

Some Rock Roads Necessary

While we are convinced from experience and observation that the dirt road can be made to answer the needs of intra-commuity travel and at a cost that can be easily borne by any community, we know there is a small percentage of the road mileage of the state that will carry so much traffic that only some hard surface will answer. Near our cities and larger towns where roads become pactically street extensions and over which must go many heavy wagons every day in the year regardless of the condition of the weather the only road that will give satisfaction is one made of gravel, macadam, concrete, brick or other hard surface material.

These roads will cost, if well built, $4000 and up per mile. But such roads are built through land that is much more valuable than the average farm land and the town people are enough interested to pay part of the cost. Several hundred miles of such roads have already been built in Missouri under the special road district organization. Around towns like Sedalia, Joplin, Springfield, Columbia, Lexington and other good towns the main roads leading in all directions have been hard surfaced and the levy for funds is made to cover the property in the town and the farm property within the district where the roads are built. This plan combined with the special benefit assessment plan which provides for assessing the land according to the benefits of the road, will provide for what rock roads that can be made economically profitable and they can be paid for without unreasonable increase in road taxation. The increased levy for good roads will be cheerfully paid by farmers who learn to value their social as well as their economical value.

Missouri is making some progress in road building, not very rapid to be sure, but a gain that shows an increased public sentiment. Every additional mile of good roads is a standing argument for a system of better roads throughout the state.

PREPARING TO FARM BETTER

A practical course for practical farmers. This is the description that fits the Short Course in Agriculture at Columbia. Twenty years ago the Short Course was established at the University of Missouri. Since then 2,468 students have been enrolled in it. Students have attended the Short Course from every county in Missouri save one. A number of students from other states have been attracted by the good things which this practical course offers.

At the Short Course in Agriculture the largest amount of instruction that it is possible to give is crammed into each term. There are four distinct and separate terms of work that a student can take. During each term he has an opportunity to study from 6 to 8 different branches of agriculture. Each term is seven weeks long and is complete in itself. Two terms are given each year. When a student completes four terms satisfactorily he is given a certificate of graduation. In other words there are four distinct and separate short courses combined and these four together are generally spoken of as the Two-Year Winter Course in Agriculture. A considerable number of students find that it is possible to attend only one term of the Short Course. The majority however manage to attend at least two. This gives them 14 weeks of instruction. A lesser number return for the second year of instruction and at the end are given a certificate. This number is increasing.

Many people wonder what is studied at the Short Course in Agriculture. One studies all there is to teach about practical agriculture. Mr. E. H. Autenreith, a young farmer of Bluffton, Mo., a graduate from the Short Course two years ago, recently said: "Numerous as are the different branches of Agriculture found on a general farm there is none of them concerning which I did not learn something of considerable value which can be put to some practical use."

The students who will enter the first term of the Short Course November 1st, 1915, will study six different subjects. In one of these he will take up a detailed study of the cereal or grain crops and grain judging. In this course he learns the best methods of producing profitable yields of corn, oats, rye and barley and other grain crops. He studies the methods of preparing the seedbed, planting, cultivating and harvesting these crops. Last but not least, he studies the methods of improving them and learns to judge the important varieties of these different crops and how to judge and grade commercial grain. He spends nine hours a week in the study of this. Three hours are given up to lectures and recitations and a general discussion of the subject matter. Six hours are spent in the laboratory where he handles the grains and learns to judge, grade and classify them.

The student also studies farm dairying. This course gives him information about dairying which will be of value to any one engaged in farming. He studies the composition of milk. He learns its value as food and how to separate cream and properly make butter under farm conditions. He learns how to test cream and milk for butter fat and how to test individual cows. Six hours a week is spent on this subject. Two of these are discussions and recitations and four hours are spent in the laboratory actually handling the milk and milk products. In these days when dairying is becoming more and more important in the agriculture of Missouri the emphasis given this course is more than justified.

No course in agriculture would be complete without a study of live stock judging. The student is taught to be thoroughly familiar with the types of the common breeds of live stock. He learns to judge them. That is, he learns to decide which animal of a group is better from the standpoint of work, beef production, pork production, mutton and wool production, milk production and as a breeding animal. He spends six hours a week at this work.

Five hours a week is spent in studying the principles which have to do with the most successful feeding and handling of farm stock. The student is taught which feeds are most digestible and most nutritious. He learns in this course how to select certain feeds to get certain results. What to feed to growing animals and what to feed for the production of meat, milk and work are taught and demonstrated. He studies something of the breeding and marketing of farm stock. When a student has finished this course satisfactorily he knows the feeding value of different feeds and how to properly balance rations.

Each first year student is required to take a course in the handling of poultry, for this fifty million dollar farm industry demands consideration. He learns how to hatch and grow farm poultry, how to feed for egg production and handle the stock for market. Instruction is given in the most economical way of dressing poultry for the market. He learns how chickens should be housed on the farm and how to treat poultry for the common diseases. This is essentially a poultry course for the farmer.

In addition to the courses described above, the student has an opportunity to select another course. This may be a course in Wood-working, Forging, Commercial Orcharding or Breeds of Live Stock. In the first course, the student can learn the principles of carpentry so that he can build ordinary buildings on the farm for himself. He also learns how to properly handle tools. He can do the necessary carpentry work on the farm with much less effort after he has been trained for it. In the Forging course, he can learn to make simple weldings, how to temper metal, and in short to do the things that it is possible to do at home if one has a little forge and home blacksmith outfit. The man who applies himself in this course will be able to save many trips to town for repairs during the season and incidentally many repair bills.

It is possible the student is interested in fruit growing. In that case instead of choosing the course in Forging or Woodworking, he can take one in Commercial Orcharding. Here he is taught how to properly care for an orchard. He learns what trees to plant, how to take care of them including pruning and spraying for this is important and necessary if one wants to get profits from orchards. In addition to all these things he is taught the best methods of marketing his fruit. In these days when an orchard that is not cared for brings practically nothing and the one that is cared for brings a good income this is a dollar making course.

The student who is interested in live stock can take up a more detailed study of the Breeds of Live Stock commonly found on or adapted to use on Missouri farms, if he does not want to take the course in Woodworking, Forging or Commercial Orcharding.

Thus it will be seen that a student in the first term of the first year's work gets instruction on practically every particular branch of farming and is permitted to specialize through the selection of the last four courses described. This plan is followed out more in detail in the second term of the first year and in both terms of the second year. In the Short Course the practical things are emphasized. The student is taught how to make more money with less bodily effort.

The Short Course Literary Society, the University Grange, the University Y. M. C. A. and the Agricultural Club, all have membership open to him. His attention is called to the more important duties of citizenship and he is given training along that line.

The best test of the value of this Short Course to young farmers is that gained by practical experience and we give below statements recently made by Short Course graduates:

"When viewed from a dollars and cents standpoint the Short Course is worth ten times what it actually costs. By applying the principles taught in the veterinary science department I feel sure I have saved in live stock many times the cost of the course."—Dennis Phelan, Allenton, Mo.

"Before I took the Short Course I was working as a farm hand at less than $20 a month. Last year I was tester for the Jackson County Cow Testing Association at $50. Now I am herdsman for one of the best herds in the state, at $60 a month and board."—E. F. Pentecost, Martin City, Mo.

"This course gives you the many years of past experience which has taught others and gives you a chance to begin where others stopped off instead of spending the best part of your life in finding out what should be known in the beginning."—R. E. Higgans, Houstonia, Mo.

"I now have doubled the amount of live stock the place had before I attended the Short Course and it is paying a greater profit than formerly. I do not consider the training I got in the purely practical subjects the greatest value, but have found it of general helpfulness in making me a broader man."—W. D. Ashburn, Farmington, Mo.

The first term of the Short Course this year begins Monday, November 1, it closes December 17. The second term begins January 10 and closes February 26. The second term will not open until the Monday following Farmers' Week. A bulletin for free distribution has just been issued which describes this short course in detail. For further information write to Superintendent of Short Courses, College of Agriculture, Columbia, Mo.

Students use the State Farm live stock to learn live stock judging

HOGGING DOWN CORN

That the practice of hogging down corn is a good one has been shown by tests carried on at many experiment stations and has been demonstrated in actual practice by a large number of feeders.

Eleven trials with hogging off corn at the Missouri Station have shown that there is no better way of finishing hogs than by allowing them to do their own harvesting. This was true considering both the rate and economy of gains.

Some of the advantages of hogging down corn are well summarized by the Iowa Station as follows: (Bulletin 143)

(1) Labor is saved. Four handlings of the corn crop are omitted, namely: (a) husking, (b) cribbing), (c) reloading, shoveling into wagon at a later feeding time, (d) feeding the hogs on pasture or at the yards. These enumerated handlings of the corn crop are modified under local conditions; some simply take the load of corn from the field, if they have an extra wagon, into the hog lot and feed it there, thus doing away with cribbing and reloading.

Two handlings of manure are discounted. The manure is dropped in the fields where it is needed, no labor is necessary to haul it out of the lots and to scatter it. Any animal such as the hog, or device such as the self-binder, the corn husker, or gang plow is welcome under the present existing labor conditions: "Hogging down" has been pressed into service largely because of the extenuating difficulties arising in the securing reliable efficient help to harvest the corn.

(2) Storage charges are saved upon the portion of the corn hogged inasmuch as crib space is not needed. The rats and mice do not get any of the corn that is "hogged down."

(3) Returns are equally as good in pork produced where the hogs gather their feed themselves as where it is hand-fed. It is proposed of course that some pasture or supplement be fed in conjunction with the corn in field as well as in dry lot feeding. Hogs running in the cornfield and having alfalfa, rape or clover pasture in addition with possibly a little supplement depending upon the pasture used are ideally handled to secure a maximum of pork at a minimum expense. The hogs gain more economically and rapidly when in the cornfield properly supplemented than they do in dry lot.

(4) The hogs develop good constitutions with considerable strength and are in excellent condition for quick fattening feed after coming out of the field. Range with its accompanying exercise provides a most excellent tonic; the hogs are healthier than in dry lot feeding and are especially inclined to stretch and develop in the cornfield, building frame and muscle to a large degree, putting them in good shape for a few weeks close-pen fattening.

(5) No manure is lost, practically speaking, as in dry lot feeding; of course this does not apply to pasture. Animal husbandry has not yet been able to devise a system of manurial fertility, conservation which would excel the "hogging down" way. With the almost entire lack of leaching loss we have only that fertility removed from the land which is carried away in the hog's body; which really comprises only a small portion of the corn crop's fertility.

(6) The manure is evenly and uniformly distributed over the field in such a manner as to do the most good without the intervention of human labor. Hogs easily excel the modern mechanical manure spreader. These manurial advantages of "hogging down" mean increased yields as compared to the elevator way of handling the corn crop.

(7) The crop is harvested without waste, the hogs if rightly managed picking up practically every stray kernel of corn. By following up the fattening hogs with young shoats or even with brood sows, the field will be garnered more closely than it would be by the ordinary husker. In truth the hogs turned into the field after the husking is over pick up considerable corn which might otherwise go to waste.

(8) The weeds may be cleared up to some extent. One man especially says, "Quack grass has disappeared permanently since I started "hogging down." One would not ordinarily expect such a happy result as this but nevertheless considerable of the weeds are destroyed.

(9) Hogs may follow up cattle and otherwise save waste. They may clean up after silo filling time, gathering the ears which have been dropped by the corn binder, they may follow the husking machine and garner the waste grains.

(10) Facilitates and encourages the gathering of seed corn early from the standing corn in the field. One practical man puts it this way: "The reason many men do not gather their seed corn early is because they do not like to 'smash' down the rows with a wagon and carrying a sack is tedious, discouraging, sticky business..... With us in half a day two men with team and wagon gather enough seed to plant a hundred acres..... We then turn the hogs in and they efficiently do the rest with much profit resulting directly and indirectly."

(11) Poor stands of corn may be taken advantage of in that rape may be sown at the last cultivation, thus enabling the land to produce a full crop that season; the hogs do the rest.

(12) Brood sows which are to farrow spring litters may be advantageously run into the field after the fattening or other hogs are removed; they gain health from so doing, thriving under the tonic of invigorating exercise and beneficial range.

(13) Fall plowing is sometimes possible if the hogs clean the field up early, thus preventing rush of spring work.

(14) Organic plant matter will be largely added to the land if supplementary crops such as rape, rye, soy beans and cowpeas or the like are sown in the cornfield. The rape stumps as well as the mat of material left from rye or soy beans will discourage washing and erosion to some extent. The "hogged down" stover reverts more quickly to the desirable manurial and fertilizing form of organic matter than does the hand-husked. Quick and speedy incorporation of crop residues into the soil is quite desirable.

(15) Corn is harvested omre quickly.

If such a practice is to be most profitable it must, as in the case with any other method of harvesting, be rightly managed. For best results the hogs should not be given access to the entire field but should only have the run of what they will clean up in ten days or two weeks. If the hogs are limited in this way they will have fresh forage from time to time and will clean the field up much better as they go. For this purpose some kind of a movable or temporary fence must be supplied. A cheap and efficient temporary fence may be made from woven wire by fastening well at each end and then tying to the corn stalks.

Before placing the hogs on the corn they should be gotten on full feed of new corn gradually by starting them on a few stalks and increasing until they are getting about all they will clean up. They may then be placed in the field to do their own harvesting. The hogs should be turned into the cornfield when the dent has just formed in the kernel. They will do better at this stage than if the corn is allowed to get harder. For profitable results it is of importance to supply an abundance of water to hogs on a full feed of corn.

The question of a supplement to the corn which is "hogged down" is one of importance. In sections where crops like rape, or soy beans may be successfully grown in the corn, a grain supplement is perhaps unnecessary. When such crops are not grown it will do doubt pay to feed in addition a small amount of some supplement, like tankage. For this purpose one-fourth to one-half pounds of tankage per 100 pounds live weight per day should give good results. The tankage may be fed either dry or wet in a trough. The Iowa Station reports good results by feeding tankage in a self-feeder and allowing them to eat at will. Their results indicate that hogs will balance their ration about right.

L. A. Weaver,
University of Missouri.

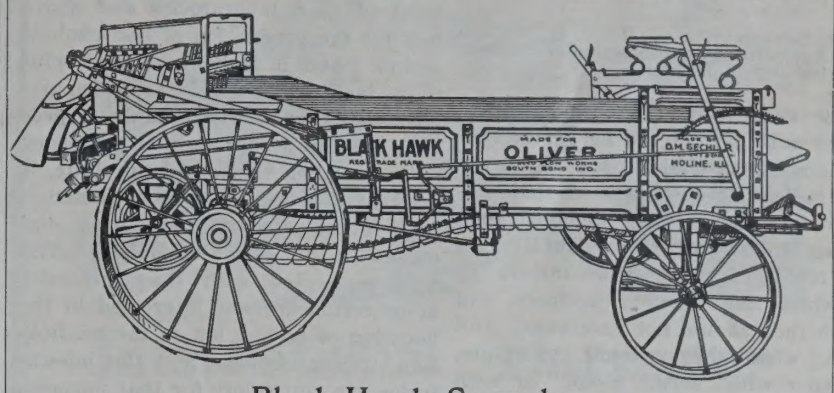
Information on Tractors

In the last issue of The Missouri Farmer appeared the advertisement of the Electric Wheel Co. of Quincy, Ill., which is putting out a splendid small sized tractor suitable for pulling three plows as well as performing a lot of other farm work. In this issue you will find the advertisement of the Hart-Parr Co. of Charles City, Iowa, and we suggest that all our readers who are interested in tractors drop a line to each one of these concerns and ask them for their literature which you will find very instructive. Be sure to mention The Missouri Farmer when you write. Also remember there will be a big Tractor Demonstration at the St. Louis Agricultural Fair, October 4 to 9.

Going to Need a Gas Engine?

If you are in the market for a gas engine we suggest that you drop a line to the Witte Engine Works of Kansas City, Mo., and the William Galloway Co. of Waterloo, Iowa, and ask them to send you their literature. Their advertisements appear elsewhere in this issue. A good gas engine goes a long way as a substitute for a farm hand. You will find the literature interesting and helpful. Be sure to mention The Missouri Farmer.

Spreads Wide or Narrow



Black Hawk Spreader

You have been looking for a manure spreader that has the advantage of spreading wide or the width of the box. The Black Hawk is such a spreader. It gives you an opportunity to do the best spreading under all conditions.

The rear trucks are close enough to the back end to prevent front tipping up when spreading up steep hills.

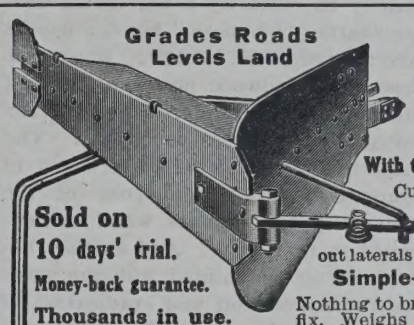
It is a low down manure spreader with the trucks under the load. It is 41 inches from the ground to top of box.

The horses carry the load easier and there is less strain on the spreader. This means a light draft and more durable machine.

The wide spread attachment operates without the use of a gear or chain.

It spreads 7½ feet wide evenly, and with very little additional draft.

Oliver Chilled Plow Works
Plowmakers for the World
ST. LOUIS KANSAS CITY



Ditching Made Easy

With the Martin Ditcher and Grader

Cuts V-shaped ditch up to 4 ft. deep. Fine for levee work; terracing; cleaning out laterals and bed furrowing.

Sold on 10 days' trial.
Money-back guarantee.
Thousands in use.

Simple—Practical

Nothing to break or get out of fix. Weighs 300 lbs. Does all, and more than the big machines. Pays for itself in a few hours' use. Write for catalog and special introductory proposition.

OWENSBORO DITCHER & GRADER CO., Incorporated, Box 837 Owensboro, Kentucky

LOOK at the LOCK

and you WILL SEE WHY "SQUARE DEAL" Fence is the best fence to buy. Before you buy another rod of fencing, see for yourself why the SQUARE DEAL LOCK makes this the favorite field and stock fence of discriminating farmers everywhere. See how firmly it double grips the one-piece stay wires to the wavy strand wires without cutting, breaking or slipping—how it combines solid strength with remarkable flexibility—how its self-draining shape prevents rust—how it makes

Square Deal Fence

especially strong where others are weak. See the one piece stay wires that prevent sagging, bagging and buckling—save posts, time and trouble. See the wavy strand wires that give springiness, elasticity and life, keeping SQUARE DEAL FENCE tight and trim the year 'round. We want to send you our FREE catalog telling all about SQUARE DEAL FENCE. Land owners write for it NOW—TODAY and we also will send you FREE and postpaid (if you have not sent for one before) a regular 50c edition of ROPP'S NEW LIGHTNING CALCULATOR—160 pages of money, time and labor-saving ideas—the GREATEST book of its kind ever published. WRITE.

[25]

Keystone Steel & Wire Co.
4025 Industrial St., Peoria Ill.

"Stamping Out Hog Cholera"

Is there any Hog Cholera in your neighborhood? Then you should have a copy of "Stamping Out Hog Cholera" at once. It tells you how to keep this pestilence from getting into your herd. This great book is described elsewhere in this issue and by acting at once we will send you a copy free.

VACCINATION FOR THE PREVENTION AND ERADICATION OF HOG CHOLERA.

J. W. Connaway, D. V. S., M. D., College of Agriculture and Experiment Station, University of Missouri.

The great value of properly prepared anti-hog cholera serum in saving hogs from cholera, and as an aid in eradicating outbreaks of that disease has been fully demonstrated. There is, however, much confusion in the minds of many swine raisers, as to when they should vaccinate, and when they should not vaccinate. And with what they should vaccinate, whether with "serum alone," or with "serum and hog cholera virus." The decision of these matters should be made wholly in the interests of the swine raisers and not in the interests of the men who make and sell hog cholera serum and virus, and their agents who make a handsome profit from the vaccinating business, and consequently urge all the farmers to vaccinate all their hogs. The farmers want to save their hogs if in danger, and they want to eradicate the disease from their farms, and from the neighborhood and county and state; but they want to do this in the most economical way. They have found vaccination to be very helpful but they have found it to be very expensive. And they do not want to vaccinate when it is not necessary; or to use large amounts of serum if the use of less expensive measures will save the serum and vaccination bills. They want to get rid of vaccination as well as hog cholera, and do not want to adopt any system that will fasten upon them a perpetual vaccination tax. This viewpoint of the majority of the farmers is the right one, and this is the viewpoint from which the Veterinary Department of the College of Agriculture of Missouri is trying to serve the swine industry of the State. The State has supplied the University with funds for the erection and equipment of good laboratories and quarters for the production of hog cholera serum. And it is believed that with these facilities the University Departments concerned will be able to produce all the serum that is necessary to control hog cholera in the State, if used in a proper way in conjunction with other essential measures discussed in this series of articles. The men connected with the University laboratories are not interested in the boosting of serum, but in the eradication of hog cholera, and the laboratories are run solely for that purpose, and as the work of the University along these right lines becomes more effective, less and less serum will be needed. It is therefore to the best interests of the swine raisers who desire to save their hogs from cholera and to eradicate the disease from their farms and from the neighborhood to co-operate closely with the University departments that have charge of the Hog Cholera Eradication work.

Every Farmer a Stock Holder

Every farmer in the State has stock in the University Serum Farm and laboratories and there is no reason why he should not have the services of the departments that have the hog cholera eradication work in charge, and he can have this service if he asks for it.

The State Serum and Laboratories were not established to compete in a business way with commercial Hog Cholera Serum-virus companies, namely to build up a big serum and vaccinating "business," but for use in conjunction with other important means to eradicate hog cholera, and incidentally to render the need for serum less and less each year. The majority of the swine raisers are in sympathy with this purpose of the University departments, which are engaged in this work. And as they become better acquainted with the plans for the prevention and eradication of hog cholera the co-operation between the farmers and the University will become more effective.

A Heavy Tax on Farmers

The viewpoint of the commercial Serum producers is wholly different from that of the University; with them the production of serum is a "business" run for personal financial gain. The advertising literature of one of these companies which poses as the best of its class shows a marked effort to discourage farmers from adopting the sanitary methods advocated by live stock sanitarians. This literature seeks to impress upon the farmers that there is only one way to secure protection against hog cholera, namely to "immunize all their hogs for life by the use of both serum and virus." A method which ample proof shows spreads and perpetuates cholera, although the vaccinator may save a good percentage of the hogs in individual herds. Whether such advice is given ignorantly or knowingly, the fact remains that if the farmers follow the teachings of some of these business exploiters of serum and virus, the swine industry must continue to pay a large toll to hog cholera and to the serum producers is wholly different commercial vaccinators. But fuller information from dependable sources will in time put the swine raisers straight on these matters.

A brief discussion of "immunity" and the action of vaccines and serums will be helpful to the layman in deciding when and how he shall vaccinate. An animal is said to be "immune" to a disease when it is resistant to that disease when well exposed. This immunity may be "natural" or "acquired." For instance, cattle do not have hog cholera, no matter how badly they may be exposed to the disease. Common observation shows that cattle may occupy the same feeding yards with cholera infected hogs, and eat fodder or corn that has been soiled by the excretions of sick hogs without contracting the disease. Cattle are therefore "naturally immune" to hog cholera. The germs, poisons or virus of hog cholera do not seem to have the power to attack the blood or body tissues of cattle.

Immunity Explained

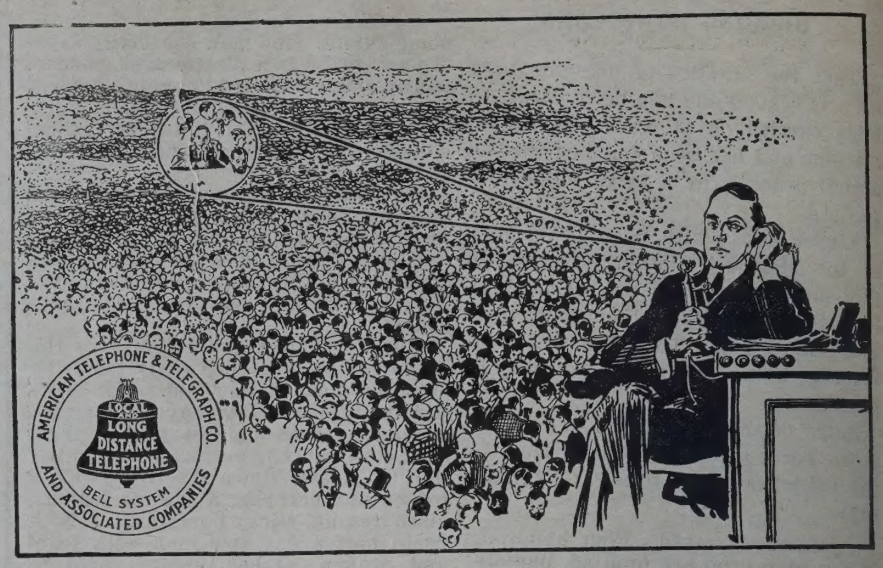
There are theoretical explanations for this which it will not be profitable to discuss in this paper, but the facts given are known to every feeder of cattle and swine, whatever the explanation of the facts may be.

Another fact that is known to swine raisers is that when hogs have suffered from an attack of cholera, and have recovered from the disease, they rarely suffer from the disease again. A profound change of some kind has taken place in the body of the recovered animal, that renders the animal resistant or immune to a second attack, no matter how severe the subsequent exposure to the disease may be. The immunity gained in this way is called an "acquired immunity." The same is true of a number of human diseases, as smallpox, measles, mumps and whooping cough. When a patient recovers from one of these diseases he is then immune to a second attack.

Observations such as those mentioned led to attempts to produce immunity by the artificial infection of the person or animal, with the germs of the disease, but used in small quantities or modified by heat or other means so as to render the infection less virulent, and less liable to produce a fatal attack. Persons or animals so treated with the living or modified germs gained a more or less prolonged immunity from the vaccination. The immunity so gained is called an "active" immunity.

The explanation for this acquired active immunity or prolonged resistance is that the body cells of the recovered persons or animal has acquired the power to produce "protective" substances that circulate in the blood and counteract the disease germs or virus when these destructive agents are taken again into the body.

The protective substances or antibodies which are produced by the recovered or immune animal, for its own protection, vary according to the disease; a different and specific substance being produced for each disease. The nature of these substances is not well known, but that they exist



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in the blood of animals that recover from certain diseases has been definitely established. This knowledge has led to the production of the "protective serums." Notable examples are the diphtheria and tetanus antitoxins and the anti-hog-cholera serum.

Length of Time Immunity Lasts

The animal that is to be used for the production of a protective serum for use on other animals, must be "hyperimmunizing bodies in the blood—then stance, although a hog which has recovered from cholera may have a sufficient number of "immune bodies" in its blood to protect itself against a subsequent attack. There are not enough of these protective bodies in a small quantity of the blood—say 20 to 30 cubic centimeters—to protect another hog. It is necessary therefore to treat the immune supply animal with large quantities of the disease germs or virus, so as to stimulate the production of a larger number of the nmmunizing bodies in the blood—then a small quantity of the blood serum will serve as a protective dose when injected into a susceptible hog.

These protective serums do not however produce an immunity that is so prolonged as that which is produced when the animal suffers from an attack of the disease either by contracting the disease in a natural way or from being artificially inoculated with the living germs. This temporary immunity produced by the injection of the protective serums is called a "passive" immunity. The duration of this immunity is variable. The anti-hog-cholera serum produces an immunity lasting from 30 to 90 days or longer, dependent upon the degree of potency of the serum used, the quantity injected, and the size and age of the hog vaccinated. The younger the hog the more quickly it loses its immunity. And experience has shown that young pigs as a rule outgrow the immunity that is produced by the simultaneous inoculation of both serum and hog cholera virus, and frequently older hogs lose their immunity after a time although injected with virus and serum for the purpose of producing a "life immunity" an absolute "life immunity" is therefore not acquired without a very profound reaction such as is caused by an attack of the disease with the development of considerable fever. The hogs must become more or less sick to become "life immunes."

ALFALFA THE DAIRYMAN'S FEED

Alfalfa is equal to bran for milk production. It has been the custom for years for farmers and dairymen in the Corn Belt to buy wheat bran to feed to dairy cows, with other feeds to balance the corn ration; or to furnish the protein required by the cows to produce large quantities of milk. This experiment was carried on by the Illinois Experiment Station for a period of 19 weeks.

Two lots of cows were used, three cows in each lot. For the first period of 9½ weeks Lot. No. 1 was on choice alfalfa hay—all they could eat.

In addition to the alfalfa hay they were fed 6 pounds of clover hay, 30 pounds of corn silage, and 6 pounds of corn meal.

The cows in Lot No. 2 were fed 6 pounds of best clover hay, 30 pounds of corn silage and 6 pounds of corn meal, and as many pounds of bran as the cows in Lot No. 1 were fed on alfalfa.

The only difference in the rations of the two lots for the first period was that Lot No. 1 was fed alfalfa and Lot No. 2 was fed wheat bran.

This experiment was begun on the 3d of December when the weather was very cold. The cold weather accounts for the rapid falling off in the milk production for the first nine weeks. At the beginning of the ninth week the feeds were reversed. Lot No. 1 was changed from alfalfa to wheat bran and Lot No. 2 was changed from wheat bran to alfalfa—the other feeds being just the same as before. You will note that Lot No. 2 when changed from bran to alfalfa immediately went up in the milk production from about 460 pounds to 515 pounds, while Lot No. 1 that formerly had alfalfa and was now on bran went down, and continued below the lot on alfalfa most of the way through the experiment.

This is only one of a number of feeding experiments carried on by different experiment stations at which practically the same results are obtained. Hence, we say that alfalfa is equal to bran for milk prodution. Alfalfa is not only equal to bran for producing milk but it builds up the soil and costs much less than wheat bran. Alfalfa can be produced on any farm for $5 per ton at the most, while wheat bran usually costs $20 to $25 per ton. By growing alfalfa on your land you are keeping your money at home, and at the same time adding humus and nitrogent to the soil, enriching the soil so that you can grow greater crops of grain following the alfalfa. When you buy wheat bran you are sending your money away from the farm, probably clear out of the state. This clearly shows why live stock should be kept on every farm.

P. G. Holden.

THE LAND BANK IS NOT A BUILDING AND LOAN PLAN

Some who have not carefully understood the Gardner Land Bank Bill passed by the last Legislature and which requires an amendment to the State Constitution before it becomes effective have confused this plan with that of building and loan associations. The truth is there is very little similarity between the two plans. In a recent interview Col. F. D. Gardner, the author of the Land Bank Bill, called attention to the differences.

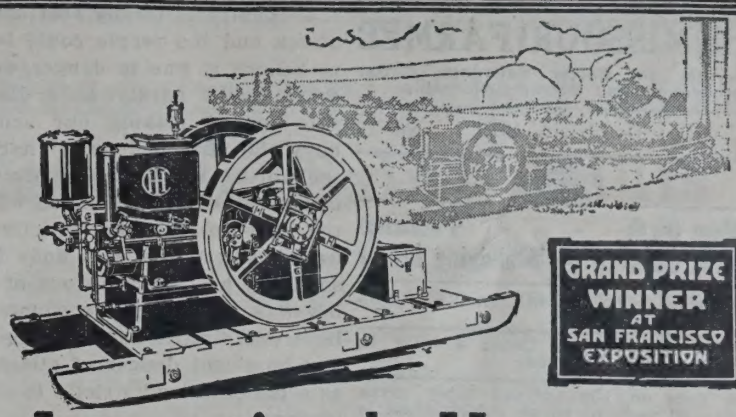
"In the building and loan association every subscriber pays in monthly dues. These accumulated dues are loaned to one subscriber. The Land Bank is not operated on that basis. By issuing bonds, the Land Bank borrows money in the large financial centers of the world where money is cheap, and this money is loaned to the farmer at the rate at which the bonds are sold. The farmer does not have to make monthly payments at all. He simply pays off his loan in annual payments, paying 4.3 per cent interest, ½ of one per cent for reserve, and 1.7 per cent to apply on the principal, making a total annual payment of 6½ per cent, which pays off the loan and interest in twenty-five years.

"In the building and loan association there are hundreds of subscribers who make monthly payments but who are not borrowers at all. It does not issue bonds. It does not bring outside capital in. It has the use only of such capital as the members themselves raise and pay into the treasury, whereas by issuing bonds the Land Bank brings into use millions and millions of outside capital to be distributed in the rural districts. Thus you will see that the great difference in the two plans is that the building and loan association simply utilizes the money of the community, whereas the Land Bank utilizes the money from the great outside reserve centers. The Land Banks are in successful operation in every civilized nation except America. The farmer produces all of the wealth of the nation and in all fairness is entitled to the use of it at as low rates of interest as other people can get it. But the truth of the matter is I, as a manufacturer, am offered money at 3¼ per cent. This money comes from New York and was accumulated from the sale of agricultural products. Now, should not the farmer be able to borrow this money at as low a rate as I can borrow it here in St. Louis when he puts up his farm as security? But I know he is compelled to pay 7 or 8 per cent, counting all expenses.

When the people are thoroughly familiar with this proposed plan which aims to furnish farmers cheaper money which can be used to buy homes, to pay off mortgages, to drain swamp lands, to clear and put into cultivation timber lands and to buy improved live stock and build silos and make other needed improvements then what little opposition there may have been to the plan will disappear.

If any of our readers are not thoroughly familiar with all the details of the Bill if they will write and submit their questons we will try to make it all plain. Any meritorious measure is always made stronger by full and free discussion.

J. T. Mitchell, banker of Centralia, Mo., and bank commissioner of Missouri, said: "The establishment of the State Land Bank, as provided in the Gardner bill, will prosper all classes of people. It seeks to correct unsatisfactory conditions by operating at the source. When the source of all wealth is less embarrassed for funds better conditions will prevail. Country banks do not want long-time real estate loans, therefore will not object as it places more money in their communities and permits them to handle a more liquid class of loans—safeguard of every bank. The Gardner bill is far-reaching in its effects, and a free discussion will impress the public with its merits."



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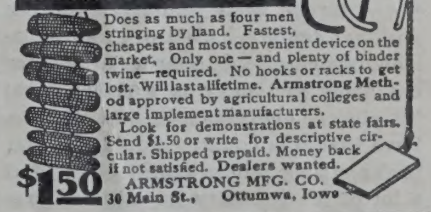

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THE MISSOURI FARMER

Devoted to Better Farming, Better Farm Homes and Better Citizenship.

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ON TRIAL

The Missouri Farmer has from time to time pointed out the benefits that might come to the farmers from the work of a good county agent, or so-called county farm adviser where he had the hearty co-operation of the farmers of the county. Without a close co-operation there can be little advantage in having a man for this work. The plan has been on trial now for about three years in Missouri and some good work has been accomplished but for some reason the organization of new counties is not going ahead like it should if the good things we had hoped for it can be realized.

Some good work has been done by the county agent co-operating with the county school superintendent in organizing boys' corn clubs, girls' canning clubs, home economic classes, etc. One thing that has been of real economic value to the farmers of several counties has been the effort to control hog cholera. This work alone has saved the farmers of a few counties more than the cost of the county agent.

If this movement can stand on merit it is now old enough to show substantial results in its favor, and if it is to move forward as it should we think the agents who have been at work for a year or more should begin to give some publicity to their plans as to what they are able to accomplish. If it is a good thing it ought to be extended to every county in the state, but if it is a failure and does not pay we ought to know it so that our energies may be directed along some other lines.

WHAT PREPAREDNESS MEANS

About the livest topic discussed in the newspapers for the last three or four months is the question of providing a larger army and navy for our national defense. A lot of this discussion favoring big appropriations for the army and navy is without doubt the sincere expression of men who believe that this country would be safer under strong military protection. But a lot of the publicity for military preparedness comes from those who would be directly benefited by such a program. First of these is the organization of the army and navy. Second and more powerful than the first is the combined sentiment of all trades and manufacturers who make money out of war or preparation for war. If this country is in any real danger of attack and the people could be made to believe it was in danger we think there would hardly be a dissenting vote against making our army and navy the strongest of all nations in the world. But it will be pretty hard to make the average citizen who is in the habit of attending strictly to his own business and who finds that by so doing he can keep out of either lawsuits or personal encounters, believe that the American people are in any imminent danger of attack if we as a nation attend strictly to our own business.

It has been stated on the highest authority that out of every dollar expended for any and all purposes by the United States Government that 72 cents of the dollar goes for war and only 28 cents for internal improvements, education, administration of all civil offices and every other line of work the Government is interested in. The enormous losses of both life and property in the European war should open the eyes of every liberty loving individual to the barbarity of so-called modernized warfare. According to figures made public by the Red Cross Society the losses of life for the first six months of the European war was 2,146,000 men killed; 1,150,000 seriously wounded; 3,781,000 slightly wounded; 1,764,000 taken prisoners. Counting only the killed and seriously wounded we have for the first six months of the war a number almost equal to the whole population of Missouri and the losses for the last six months have been very much greater. The cost of the war in dollars is so great that it is incomprehensible to any mind.

We have called attention to this matter merely to impress upon our readers the opportunity they have for exercising their right to express themselves either for or against a system of militarism in this country. Every man should write his Congressman and let that official know just where his constituent stands on this question.

MAKE IT YOUR PAPER

We hope to render such service to the readers of The Missouri Farmer that every one of them will feel like he or she had a material interest in the paper. In the first place we are careful to keep our columns free from any offensive or objectionable matter. Many a young man has recived his first suggestion for an evil life by reading unwholesome papers. The aim of The Missouri Farmer is to be a constructive force for good citizenship as well as for good farming . The motto we carry on our banner every issue is "Better Farming, Better Farm Homes, Better Citizenship." The foundation of it all is better farming and that means reducing as much as possible the hard-man-killing labor that has been too great a part of the old system of farming. We have known many a farmer who felt proud of himself because he had endured many hardships and much physical labor and we honor the man who has done so through necessity, but we pity the man who has done so because of lack of information.

Most any intelligent person can learn how to do a few things well but in a business with so many complications as farming there will be a thousand other things about which precious little is known. Here is where the farm paper can be of some real service. It brings to every reader the best knowledge from time to time that has been discovered by the experiment stations and that has been published by the department of agriculture and other agencies whose business it is to study farm betterment. But we think one of the most valuable services a farm paper can render is to bring its readers in touch with the sentiments, experiences and methods of the farmers of the whole state.

The Missouri Farmer goes to farm homes in every county in the state and we believe our readers are among the most progressive and most successful farmers of Missouri. From time to time we have published splendid articles from some of our readers, some pointing out mistakes that have been made, some giving account of things successful, some giving expression to good moral sentiment and some to a little high-class humor.

The thought we want to get before our readers in this article is that every reader has the opportunity through the columns of The Missouri Farmer to render a real service to his or her state by writing us stories about how they have succeeded, how the home has been made better and the farm work or the housework has been made lighter. Then there are other questions which affect the whole community, the schools, the roads, the farmer's club, the home-makers club, the clubs for boys and girls—if any of these things have been worked out in your home neighborhood we want to urge you to sit down at your first leisure time and write The Missouri Farmer family about it.

Our readers know how nice it is to live in a neighborhood where everyone seems to be working for the good of all along with what he is doing for himself. A state is very much like a big neighborhood and it is made a desirable place to live according to the public spirit and altruistic sentiment of its people. Nature has done a lot for Missouri by giving her a greater diversity of natural products than any other state in the Union but it remains for us to do our part towards giving the state good roads, good schools, and good homes.

HOME MAKING FOR GIRLS

Although somewhat tardy in doing it the University of Missouri is now providing about the same opportunity for the girls to learn home making that is provided for the boys to learn better farming. This opportunity is offered in the seven weeks' Short Course in Home Economics which begins November 1 and ends December 17, 1915.

Practice work is given in the kitchen laboratories, in the sewing and millinery departments and lectures will be given by experts in the various lines of household science. Students learn how to cut and fit garments, how to care for the sick and the prevention of disease, how to plan and prepare meals for the family, and in fact most everything a good homemaker needs to know. Full information may be had by writing P. M. Brandt, Superintendent of Short Courses, Columbia, Missouri.

Important Announcement

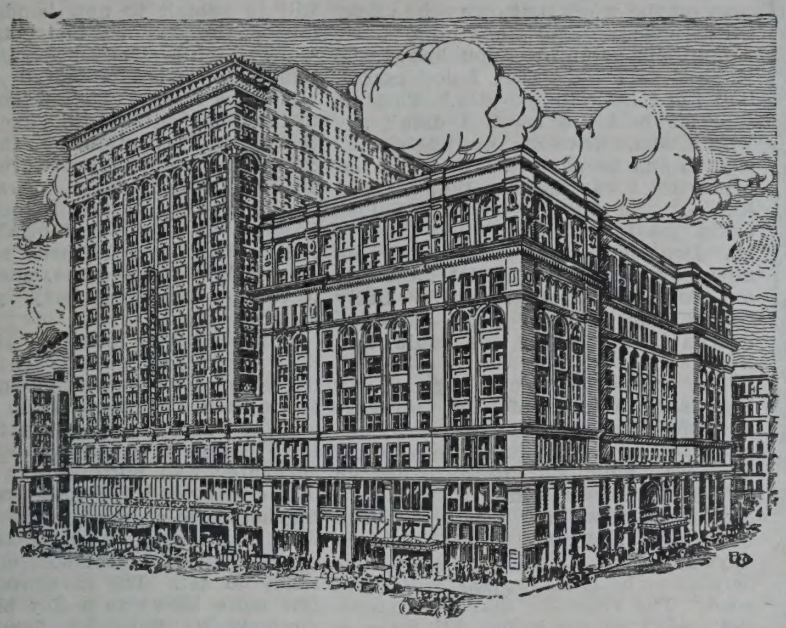
It is our hope and desire to make THE MISSOURI FARMER better and more interesting this winter than ever before—and yet the extent to which we will be able to do this will depend in no small degree upon the help and co-operation we receive from our readers. The other day I had occasion to deliver an address at a farmers' meeting in central Missouri—and after I left the platform a lot of farmers gathered about me and almost the first thing each man said was that he "wouldn't do without THE MISSOURI FARMER for anything"—that they "valued it more highly than any other farm paper," etc. Just as a matter of curiosity I jotted down the names of the most of these men and when I got back to the office I found that **all but three were in arrears on their subscriptions!**. I have no doubt that these farmers meant what they said about the paper—but evidently it has not occurred to them **that it takes money as well as appreciation** to print 50,000 copies of THE MISSOURI FARMER twice each month.

If every **sincere** friend of THE MISSOUR FARMER would send us a dollar bill or check for a renewal of three years subscription—**and do it today!**—there isn't any sort of question but what we could give you a far greater and finer paper during the coming winter months than ever before—and hence this **personal appeal to you to help us make this realization possible!** Just as an extra inducement, we have concluded to make the following offer: To every reader of the paper who sends us a dollar for three years renewal between now and October 15th we will present free a handsomely printed Booklet containing the best "AFTER-THOUGHT STORIES" which have appeared in THE MISSOURI FARMER during the last four or five years. We, however, make this reservation—that should the interest in the "AFTER-THOUGHT STORIES" be so slight as to not warrant the cost of printing a quantity of the booklets, we reserve the right to refund your money. While THE MISSOURI FARMER is young and poor, it tries to be honest—and hence this reservation. If you can't spare the dollar now and want the "AFTER-THOUGHT STORIES," drop us a postal card and tell us when you will be able to send it so we can reserve a copy for you to be delivered later. We think the paper is easily worth the 33⅓ cents it will cost you at one dollar for three years—but if the hearts of any considerable number of our readers have been touched in the past by the sentiment expressed in "AFTER-THOUGHTS" we will be glad to send you a copy of them in neat booklet form. **Now please don't forget!** We need your dollar and we need it **now!**—and every penny of it will go to give you a better paper—a paper by Missourians for Missourians. If there are growing boys in your family these stories will make mighty wholesome reading for them when they grow up. Again, maybe you have a friend somewhere to whom you would like to send them— so if you want to take advantage of this offer please let us know **at once!** William Hirth, Publisher,

THE MISSOURI FARMER,
Columbia, Mo.

P. S.—The occasional policy of permitting banks to send the paper to their customers was discontinued over a year ago. There will therefore be no more free subscriptions.

Make This Great Store Your Headquarters When You Come to Saint Louis



We Occupy an Entire City Block

If you are coming to the Saint Louis Agricultural Fair—October 4th to 9th, inclusive—or if you visit the City on any other date, we most cordially invite you to make your shopping headquarters at our store, which for the past 65 years has been known for the excellence of its merchandise and its fair and square dealings.

Our establishment covers an **entire City block** and, with its more than 100 Specialty Shops, it is the most complete store West of the Mississippi River.

At the present time, our stocks of Fall Apparel for Men, Women and Children, Household Goods, etc., are complete and at their best, and if you will do your shopping at this store you are certain to secure the best goods for the price no matter what the price.

You are invited to make use of our many conveniences, which include a Ladies' Waiting Room, Men's Lounging and Smoking Room, Postoffice, Telephones, Telegraph Station, Indoor Golf Course, Bank, etc. Special attention is called to our Soda Fountains on the First Floor and in the Basement.

You will find—here—the world's most beautiful Piano and Victrola Shops, a complete Store for Men, a Floral Shop, Hair Dressing Shop, and America's greatest Shop devoted to Women's, Misses' and Children's Ready-to-Wear Apparel, as well as others too numerous to mention.

ESTABLISHED 1850

You Will Find Our Tea Room is a Delightful Place to Eat Your Luncheon. Excellent Food and Prompt Service.

Scruggs-Vandervoort-Barney

OLIVE and LOCUST from NINTH to TENTH

The best goods for the price no matter what the price

Railroad, Trolley or Steamboat fare will be refunded in accordance with the rules of the Associated Retailers of St. Louis.

BUCKSHOT BY THE PROFESSOR

"Teddy" and the "Elephant" are looking "soft and mushy" at each other again.

I hope we'll have some real nice, old-fashioned sunshine next Fourth of July—and a little rain.

The average "hound dog" is the best hog cholera "spreader" in the Universe. Therefore, "swat" the hound dog.

A lawsuit is a good deal like a prize fight—only not quite as fair because in a prize ring you are not allowed to hit below the belt.

I always like to have the stable and the pig pens far enough away from the open windows of the dining room so I can smell one thing at a time.

I don't know what's going to break loose next year—but I'll bet this summer's old chilled straw hat that it won't be chinch bugs or army worms.

Worry is a disease which has sent more men to premature graves than all the "germs" in Christendom—and the worst of it is that no doctor can cure it.

Some men are never satisfied. After they've kicked the dog around and licked the mules—then they turn around and try to "pick a fuss" with the women and children.

When some hog serum "peddler" comes around, see that he stays out of the hog lot—for the chances are there is more hog cholera on his boots than his "dope" could kill in six months.

It's mighty hard to ask Uncle Sam to "recognize" a bunch of whiskers like this Mexican fellow Carranzy—and before I did it I'd make him go and get a shave and a hair cut because I'd want to have some idea of what the animal I was "recognizin" really looked like.

If the mortgage has been paid off and if you have a good silo, a manure spreader, plenty of other necessary farming implements and a piano which can help to soothe you after the day's work and worry—why then, so far as I am concerned you can light in and buy an automobile.

Old "Josh" Simpson got tangled up with a keg of hard cider the other day and it took the town marshal and the whole bunch at the livery stable to get him and the keg "disentagled." It's powerful hard to keep old "Josh" from getting familiar with anything that's got any "kick" in it.

I saw where a couple of prize fighters divided up a pot of $35,000 the other day. That's a whole lot more money than United States senators get—but maybe a prize fighter is worth more than a statesman. Or maybe it's because a prize fighter really tries to do something and the average statesman doesn't.

Do you enjoy the "After-Thought Stories?" Well, if you will take advantage of the special offer made on page 8 you can get a beautiful booklet containing all the best "After-Thought Stories" which have appeared in The Missouri Farmer during the last four or five years free. It will make an inspiring book for the whole family to read. If there are any boys in your family why not get a copy of these beautiful stories for them to read when they grow up?

In the good old days a general could say, "Now, boys, get your corn knives and a bunch of rocks and let's mop up the enemy"—but in these days when a general commands a million men scattered over several hundred miles of front he has to send his subordinates a lot of "night telegrams" and tell them what he would like to have them do to the million "Huns" and "Savages" on the other side. Truly this modern war game is a "land office" proposition.

Every reader of THE MISSOURI FARMER should at once provide himself with the great new booklet entitled, "Stamping Out Hog Cholera" which is described elsewhere in this issue. If you will send in a dollar for three years renewal to THE MISSOURI FARMER they will send you a copy of this splendid booklet free of charge—but this offer will hold good for a short time only and there is therefore no time to lose. Not only is it the finest thing on Hog Cholera ever published but the two chapters on "Hog Breeding and Feeding" make it invaluable to every hog raiser.

Come to the St. Louis Fair

We want to extend a cordial and special invitation to every Missouri farmer and his "whole family" to attend the great **St. Louis Agricultural Fair** from October 4th to 9th—for it's going to be a great big jolly crowd and everybody, big, little, old and young are going to have the "time of their lives." There will be a magnificent Horse Show every day—participated in by some of the most famous blue ribbon winners in the Country. There will also be a great exhibit of Dairy Cattle, Swine and Sheep selected from some of the greatest "blue blood" herds in this section of the United States. Then there will be the greatest array of Farming Implements you have had a chance to see for a long time—and last but not least, a big "Tractor Demonstration" where you will have an opportunity to see all the leading 'Iron Horses" plowing ground and performing a lot of other "farm stunts" that will make your eyes open with wonder. In short, the business interests of St. Louis will fire the "opening gun" on October 4th of a great "Agricultural Fair" which is, in effect, a revival of the old St. Louis Fair which used to be famous all over the Country—and that, in a year or two, the new Fair will be the most popular enterprise of its kind in this section of the United States is a foregone conclusion. What our directors are striving after is a Fair **which the farmers will like!**—and hence we are going to give you a chance to see the things in which the average farmer is interested **and mix up a pile of fun and entertainment along with it!**

You and your family have worked hard all summer long and are entitled to a little recreation—for "all work and no play makes Jack a dull boy." So take two or three days off and bring the "whole bunch" with you. St. Louis is crowded with good hotels that charge a reasonable price for rooms—and you can eat where you please and pay as much or little as you like. During the day you can go to the Fair and in the evening, for a dime or a quarter you can see some of the finest picture shows and theatres in the Country. Then the show windows of the Big Stores look their best this time of the year—and they offer a world of real bargains. Last but not least, remember this gives you a chance to see the "Veiled Prophets Parade"—a sight worth going many miles to see within itself. Altogether, we promise you the most enjoyable "little vacation" you have had in years and we therefore hope you will come. Why not make up a party of neighbors and all stay at the same hotel? Surely a visit of two or three days to this great **Agricultural Fair** and the myriad interesting sights of a great city is a prospect which should appeal to every farmer family in Missouri.

(Advertisement) ST. LOUIS AGRICULTURAL FAIR ASSOCIATION.

The Plunderer

By ROY NORTON

Author of "The Garden of Fate"

(Continued from last issue)

She laughed again in her clear, mezzo voice, and then with a resumption of gravity gathered her reins into a firmer grip, and ,as her horse lifted his head in response to the summons, said: "Anyway, I thank you for volunteering to rescue me, Mr. Townsend, and wish you lots of good luck, but please don't start any more bowlders down the hill, because if you do I shall be robbed of my most enjoyable trip each day. Good-by."

"Don't be afraid," he called to her, as she started away. "There are no more bowlders to roll."

He stood and watched her as she rode, masterfully seated on the black horse, around a crag that stuck out into the trail.

"'Faith in anything is the first requisite for success,'" he repeated to himself, striving to recall whether or not it was, as she had intimated, a hackneyed proverb for the young; yet there was something bracing in it, coming from her calm, young, womanly lips. "That's it; she has it," he again said to himself. "'Faith.' That's what I need." And he resumed his tramp up the mountainside with a better courage and more hope for the Croix d'Or. He was still vaguely troubled when he made his way back past the power-house, in a sliding, scrambling descent, his boots starting tiny avalanches of shale and loose rock to go clattering down the mountainside.

The new men were proving competent under the direction of a boss pipeman who had been made foreman, and Dick trudged away toward the mine, feeling that one part of the work, at least, would be speedily accomplished.

Bill was still striding backward and forward, but devoting most of his attention to cleaning up the mill, and declared, with a wry smile, that he never felt better in his life, but never liked talking less.

When the noon whistle shrieked its high, staccato note from the engine-house, they went up to the mess, and seated themselves at the hend of the table. As a whole, the men were fairly satisfactory. Bill stared coldly down the table, and appeared to be mentally tabulating those who would draw but one pay-check, and that when their "time" was given them, but Dick's mind persisted in wandering afield to the chance encounter of the morning.

The men had finished their hasty meal, in hasty miner's fashion, silently, and tramped, with clumpy feet, out of the mess-house to the shade of its northern side before Bill had ended his painful repast. Whiffs of tobacco smoke and voices came through the open windows, where the miners lounged and rested on a long bench while waiting for the whistle.

"Don't you fool yourself about Bully Presby," one of them was saying. "It's true he's a hard man, and out for the dust every minute of his life, but he's got nerve, all right. He'll bulldoze and fight and growl and gouge, but he's there in other ways. I don't like him, and we quit pretty sudden, yet I saw him do somethin' once that beat me."

"Did you work on the Rattler?" another voice queried.

"No," the other went on, "I worked for him down on the Placer Belle in California. It was under the old system and was a small mine. Kept all the dynamite on the hundred-foot level in an old chamber. Every man went there to get it when it was time to load his holes. I was startin' for mine one evenin', whistlin' along, when I smelled smoke. Stopped and sniffed, and about weakened. Knowed it was comin' from the powder room down there. It wan't more'n twenty feet from the shaft, and there was two or three tons of it in that hole. Ran back and gave the alarm bell to the engineer, then ducked my head and went toward the smoke to see if anything could be done before she blew up the whole works. On his hands and knees, with all that was left of his coat, was Bully. He'd got the fire nearly smothered out, and we coughed and spit, and drowned the rest of the sparks from the water barrel. He'd fought it to a finish all alone, and I had to drag him out to the cage that was slidin' up and down as if the engineer was on a drunk, and every time it went up I could see the boys' faces, kind of white, and worried, and hear the alarms bangin' away like mad. But he'd put the fire out there with all that stuff around him. That took some nerve, I tell you!"

"What did he do for you?" asked another voice.

The narrator gave a heavy laugh, and chuckled.

"Do for me? When he got fresh air in him again, up in the hoist, he sat up and opened his hand. In it was a candlestick and a snipe, burned on the side till the wick looked about a foot long 'Who owns this candlestick?' says he. No one spoke, but some of us knowed it belonged to old Deacon Wells, an absent-minded old cuss, but the deacon had a family of nigh on to ten kids. So nobody answered. 'Some fool left this here,' Bully bellowed, tearing around. 'And that's what started the fire. I'll kick the man off the work that owns the stick.' Still nobody said anything. He caught me grinnin'. 'You know who it was,' says he. 'Sure I do,' says I, 'but I'm a little tongue-tied.' Then he told me he'd fire me if I didn't say who it was. 'Give me my time-check,' says I, and he gave it. He found out afterward I was the man that dragged him out, and sent a letter up to Colusa askin' me to come back, but I didn't go. Don't s'pose he'd remember me now, and don't know as I'd want him to. Any man that works for Bully comes about as near givin' away his heart's blood as any one could, and live."

The voices went rumbling on, and Dick sat thinking of the strange, powerful man of the Rattler.

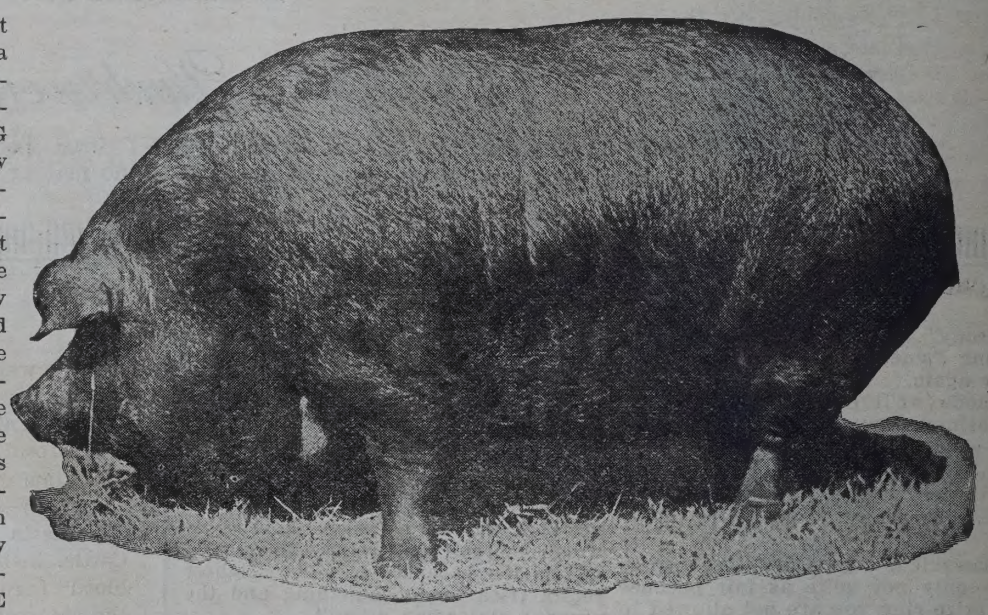
"Three of the millmen know their business," mumbled Bill, as if all the time he had been mentally appraising his force. "Two are rumdums. The chips isn't bad. He could carpenter anywhere, and if he's as smart a timberman as he is millwright, will make good. The engineer that's to relieve Bells ain't so much, but I'll leave it to Bells to cuss him into line. That goes. Two of the Burley men are all right, and I fired the third in the first hour because he didn't know what was the nut and which the wrench. Smuts is a gem. He put the pigeon-blue temper on a bunch of drills as fast as any man could have done it."

Dick did not answer, but concentrated his mind on the work ahead. The whistle blew, and he compelled Bill to submit to new bandages, following the doctor's instructions, and smiled at his steady swearing as the wrappings were removed and the blisters redressed. They walked across to the hoist, entered the cage, and felt the sinking sensation as they were dropped, rather than lowered, to the six-hundred-foot level. The celerity of the descent almost robbed him of breath, but he thought of sturdy old Bells' boast, that he had "never run a cage into the sheaves, nor dropped it to the sump, in forty years of steam."

Lights glowed ahead of them, and they heard hammering. The suck of fresh air under pressure, vapored like steam, whirled around them in gusts, and the water oozed and rippled beside their feet as they went forward. The carpenter was putting in a new set of timbers, and his task was nearly finished, while beside him waited a drill man and a swamper with the cumbersome, spiderlike mechanism ready to set. The carpenter gave a few more blows to a key block, and methodically flung his hammer into his box and hurried back out through the tunnel toward the cage, intent on resuming his work at the mill.

Bill tentatively inspected the tim-

"STAMPING OUT HOG CHOLERA"



We have just finished printing a new booklet entitled "STAMPING OUT HOG CHOLERA" by Dr. J. W. Connaway of the Missouri Experiment Station and we believe it is easily the finest and best thing of the kind ever published in the Country. The booklet contains the recent splendid articles from Dr. Connaway which have appeared in THE MISSOURI FARMER—supplemented by a diagnosis of Cholera symptoms and a description of the results accomplished through the organization of neighborhood "Anti-Hog-Cholera Clubs." In other words, when a farmer has read this splendid booklet he knows what he should do in order **to prevent Cholera from getting a foot-hold on his premises** and also how he and his neighbors may join hands to stamp out this pestilence which is costing the farmers of Missouri six million dollars annually. Just how to proceed in the organization of an "Anti-Hog Cholera Club" is fully explained and we suggest that all our readers supply themselves with a copy of this great booklet **at once**—not only for their **individual protection** but also in other that they may help to lead in the organization of a movement which will permanently **wipe out this scourge in their communities!**

How to Make Hogs Pay

In addition to the powerful discussion of Hog Cholera by Dr. Connaway there are two splendid chapters on "Hog Breeding" and "Hog Feeding" by Prof. F. G. King of Purdue University, Indiana, and Prof. L. A. Weaver of the Missouri Experiment Station which make the booklet of **inestimable value to every farmer who raises hogs!** The money you can make out of your feeding operations depends very largely upon **what it costs you to get your hogs ready for market**—and these two well-known authorities tell you how, through balanced rations and the use of forage feeds you can enormously cheapen the cost of pork production. In short, this hand book on "Hog Cholera," "Hog Breeding" and "Hog Feeding" **should be in the hands of every thinking farmer in Missouri!** It contains 80 pages, is profusely illustrated, handsomely printed and bound and the retail price is 50c.

How You Can Get It Free!

For a limited time we will send a copy of "STAMPING OUT HOG CHOLERA" **free** to every reader of THE MISSOURI FARMER who sends us one dollar to renew his subscription for three years. When you see and read the book **you wouldn't take a dollar for it alone**—saying nothing about the three years renewal to the paper. If you don't come to this conclusion **we will refund your money!** Surely all our readers will want to take advantage of this great offer and we suggest you act promptly **before our supply is exhausted!**

THE MISSOURI FARMER, - - - Columbia, Mo.

bers, tapped the roof with a pick taken from the swamper's hands, heard the true ring of live rock, and backed away. The drill was drawn up to the green face of ore.

"About there, I should say," Dick directed, pointing an indicatory finger, and the drill runner nodded.

The swamper, who appeared to kow his business, came forward with the coupling which fed compressed air to the machine, the runner gave a last inspection of his drill, turned his chuck screw, setting it against the rocky face, and signaled for the air. With a clatter like the discharge of a rapid-fire gun, the steel bit into the rock, and the Cross was really a mine again. Spattered with mud and satisfied that the new drift was working in pay, the partners trudged back out.

They signaled for the cage, shot upward, and emerged to the yard near the blacksmith's tunnel in time to see a huge bay horse, with a woman rider come toiling up the slope. There was something familiar about the white hat, and as she neared them they recognized The Lily. Before they could assist her to dismount, she leaped from the saddle, landing lightly on her toes, and dropped the horse's reins over his head.

"Good-day—never mind—he'll stand," she said, all in a breath, striding toward them with an extended hand.

Dick accepted it with a firm grip, and lifted his hat, while Bill merely shook hands and tried to smile. It was to him that she turned solicitously.

"I'm glad you are out," she remarked, without lowering her eyes which swept over the bandages on his face. "You're all right, are you?"

"Sure. But how's that girl? It don't matter much about an old cuss like me. Girls are a heap scarcer."

The owner of the High Light looked troubled for a moment, and removed her gloves before answering.

"Doctor Mills says she will live," she said quietly, "but she is terribly burned. She will be so disfigured that she can never work in a dance hall any more. It's pretty rough luck."

Dick recoiled and felt a chill at this hard, cold statement. The girl could never work in a dance hall any more! And this was accepted as a calamity! Accustomed as he was to the frontier, this matter-of-fact acceptance of a dance-hall occupation as something desirable impressed him with its cynicism. Not that he doubted the virtue of many of those forlorn ones who gayly tripped their feet over rough boards, and drank tea or ginger ale and filled their packets with bar checks to make a living as best they might, but because the whole garish, rough, drink-laden, curse-begrimed atmosphere of a camp dance hall revolted him.

Mrs. Meredith had intuition, and read men as she read books, understandingly. She arose to the defense of her sex.

"Well," she said, facing him, as if he had voiced his sentiment, "what would you have? Women are what men make them, no better, no worse."

"I have made no criticism," he retorted.

"No, but you thought one," she asserted. "But, pshaw! I didn't come here to argue. I came up to tell you that the dance-hall girl will recover and has friends who will see that she doesn't starve, even if she no longer works in my place. Also, I came to see how Mister—what is your name, anyway?—is."

"Mathews, ma'am. William Mathews. My friends call me Bill. I don't allow the others to call me anything."

The temporary and threatening cloud was dissipated by the miner's rumbling laugh, and they sauntered across the yard, the bay horse looking after them, but standing as firmly as if the loosened reins were tied to a post instead of resting on the ground. A swamper, carrying a bundle of drills, trudged across the yard to the blacksmith shop, as they stood in its doorway.

"I sent you the best men I could pick up," The Lily said. "You did me a good turn, and I did my best to pay it back. That blacksmith is all right. Some of the others I know, but I don't know him. Never saw him before. You'd better watch him."

She pointed at the swamper as cooly as if he were an inanimate object, and he glared at her in return, then dropped his eyes.

"I told you I didn't run an employment agency," she went on, "but if any of these fellows get fresh, let me know, and I'll try to get you others How does the Cross look, anyway?"

They turned away and accompanied her over the plant above ground, and heard her greet man after man on a level of comradeship, as if she were but a man among men. Her hard self-possession and competence impressed the younger man as a peculiar study. It seemed to him, as he walked beside her thoughtfully, that every womanly trait had been ground from her in the stern mills of circumstance. He had a vague desire to probe into her mind and learn whether or not there still dwelt within it the softness of her sex, but he dared not venture. He stood beside the bandaged veteran as she rode away, a graceful, independent figure.

"Is she all tiger, or part woman?" he said, turning to Mathews, whose eyes had a singularly thoughtful look.

The latter turned to him with a quick gesture, and threw up his unbandaged hand.

"My boy," he said, "she's not a half of anything. She's all tiger, or all woman! God only knows!"

CHAPTER VII

THE WOMAN UNAFRAID

They were to have another opportunity to puzzle over the character of The Lily before a week passed, when, wishing to make out a new bill of supplies, they went down to the camp. The night was fragrant with the spring of the mountains, summer elsewhere—down in the levels where other occupations than mining held rule. The camp had the same dead level of squalor in appearance, the same twisting, wriggling, reckless life in its streets.

"Fine new lot of stuff in," the trader said, pushing his goods in a brisk way. "Never been a finer lot of stuff brought into any camp than I've got here now. Canned tomatoes, canned corn, canned beans, canned meat, canned tripe, canned salmon. That's a pretty big layout, eh? And I reckon there never was no better dried prunes and dried apricots ever thrown across a mule's back than I got. Why, they taste as if you was eatin' 'em right off the bushes! And Mexican beans! Hey, look at these! Talk about beans and sowbelly, how would these do?"

He plunged his grimy hand into a sack, and lifted a handful of beans aloft to let them sift through his fingers, clattering, on those below. The partners agreed that he had everything in the world that one could crave in the way of delicacies, and gave him their orders; then, that hour's task completed, sauntered out into the street.

Dick started toward the trail leading homeward, but Bill checked him, with a slow: "Hold on a minute."

The younger man turned back, and waited for him to speak.

"I'd kind of like to go down to the High Light for a while," the big man said awkwardly. "We ought to go round there and see Mrs. Meredith and patronize her as far as a few soda pops, and such go, hadn't we? Seein' as how she's been right good to us."

Dick, nothing loath to a visit to The Lily, assented, although the High Light, with its camp garishness, was an old and familiar sight to any one who had passed seven years in outlying mining regions.

The proprietress was not in sight when they entered, but the bartenders greeted them in a more friendly way and the Chinese, who seemed forever cleaning glasses, grinned them a welcome. They nodded to those they recognized, and walked back to the little railing.

"Lookin' for Lily?" the man with the bangs asked, trying to show his friendliness. She ain't here now, but she'll be here soon. She's about due. Go on up and grab a box for yourselves. The house owes you fellers a drink, it seems to me. Can I send you up a bottle of Pumbry? The fizzy stuff's none too good for you, I guess."

He appeared disappointed when Dick told him to send up two lemonades, and turned back to lean across the bar and hail some new arrival. The partners went up and seated themselves in one of the cardboard stalls dignified by the name of boxes, and, leaning over the railing in front between the gilt-embroidered, red-denim curtains, looked down on the dancers. Two or three of their own men were there, grimly waltzing with girls who tried to appear cheerful and joyous.

Shrill laughter echoed now and then, and when the music changed a man with a voice like a megaphone shouted: "Gents! Git pardners for the square sets!" and the scene shifted into one of more regular pattern, where different individuals were more conspicuous. Some of the more hilarious cavorted, and tried clumsy shuffles on the corners when the raucous-voiced man howled: "Bala-a-ance all!" and others merely jigged up and down with stiff jerks and muscle-bound limbs, gravely, and with a desperate, earnest endeavor to enjoy themselves.

A glowering, pockmarked man, evidently seeking some one with no good intent, pulled open the curtains at the back of the box, and stared at them in half-drunken gravity; then discovering his mistake, with a clumsy "Beg pardon, gents," let the draperies drop, and passed on down the row.

Across from them, in the opposite box, some man from the placers, with his face tanned to a copper color, was hilariously surrounding himself with all the girls he could induce to become his guests, holding a box party of his own. He was leaning over the rail and bellowing so loudly that his voice could be heard above the din: "Hey, down there! You, Tim! Bring me up a bottle of the bubbly water—two bottles—five—no, send up a case. Whoop-ee! Pay on seventeen! This is where little Hank Jones celebrates! Come on up, girls. Here's where no men is wanted. It's me all by my little lonely!"

Some one threw a garland of paper flowers round his neck, which he esteemed as a high honor, and shook it out over the floor below, where all the dancers were becoming confused in an endeavor simultaneously to watch his antics, and keep their places in the dance.

"The most disgusting object in the world is a man who drinks!" came a cold voice behind them, and they turned to see The Lily standing back of them, and frowning at the scene across.

Bill turned to greet her, holding out his hand, and his broad shoulders shut out the view of Bacchanalia.

"The bartender says you drink nothing stronger than lemonade," she said, looking up at the giant, "and I am glad to hear it. It is a pleasure to meet men like you once in a while. It keeps one from losing faith in all."

She sat down in one of the chairs—a trifle wearily, Dick thought, and he noticed that there were lines under the eyebrows, melancholy, pensive, that he had not observed before in the few times they had met her. As on the occasion of their meeting at the mine, she appeared to sense his thoughts, and turned toward him as if to defend herself.

"You are asking yourself and me the question, why, if I dislike liquor, and gambling, and all this, I am owner of the High Light?" she said, reverting to her old-time hardness. "Well, it's because I want money. Does that answer you?"

"I didn't ask you a question," he retorted.

"No, but it's just like it always is with you! You looked one. I'm not sure that I like you; you look so devilsh clean-minded. You always accuse me, without saying anything so that I can have a chance to answer back. It isn't fair. I don't like to be made uncomfortable. I am what I am, and can't help it."

She turned her frowning eyes on Bill, and they softened. She relented, and for the first time in the evening her rare laugh sounded softly from between her white even teeth.

"You see," she said, addressing him, "I can't help being angry with Mr. Townsend. I think I'm a little afraid of him. I'm a coward in some ways. You're different. You just smile kindly at me, as if you were older than Methuselah, and had all the wisdom of Solomon or Socrates, and were inclined to be talerant when you couldn't agree."

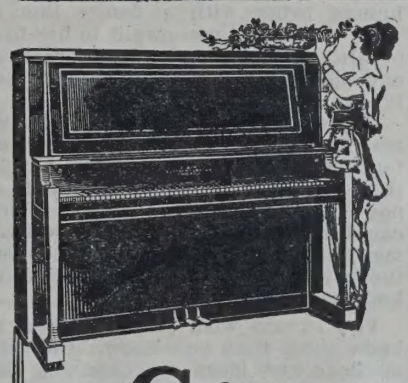
"Go on," Bill said. "You're doin' all the talkin'."

"I have a right to exercise at least one womanly prerogative, once in a while," she laughed. And then: "But I am talking more than usual. Tell me about the mine and the men? How goes it?"

(Continued in next issue)

This is a good time to organize a farm improvement club. Write us if you are interested.

What Shall I Pay for a Piano?



First make up your mind to buy a good piano. This does not necessarily mean the highest priced piano, but, naturally, a good piano cannot be made to sell at the price of a poor one. However, it is possible to buy a high grade piano at a reasonable price.

Prove this yourself—investigate the

Crown Piano

Scientific factory organization and large volume of business enable us to produce a high grade, artistic instrument at a price only slightly higher than pianos of medium quality manufactured under less favorable conditions.

How Can I Know A Good Piano?

Send for the complete set of our books. They tell you just how to test pianos—how to recognize true musical value; what to look for. These are points you ought to know and you are welcome to them whether you decide upon a Crown or not. Follow the advice in these books and you will get a good piano.

Mail the Coupon TODAY

Geo. P. Bent Co.

Makers of Geo. P. Bent Grands, Crown Uprights, Concord Uprights, Crown Combinola and Concord Player-pianos

214-16 S. Wabash Ave., Chicago

Geo. P. Bent Company, Chicago, Ill.

Please send me without charge the booklets before which I have marked X.

☐ Tone ☐ Touch
☐ Music in the Home ☐ Care of a Piano
☐ Construction ☐ Piano Catalog

Name.....

Address.....

A..... M. F.

Home Makers' Conference

This Department is Edited by Miss Alice Kinney, New Franklin, Mo.

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ROPY OR SLIMY BREAD

"During the last few weeks we have had trouble with our bread. It gets so sticky that when a knife is run through it the knife comes out sticky and white. The bread also smells badly. We have been cooking four loaves, medium size and the first two will be all right but the third will begin to get sticky and off in flavor."—V. M.

In answer to the above statement of troubles one of our readers has been having with bread making the following reply is made by Addie D. Root of the Agricultural Extension Service, College of Agriculture, University of Missouri:

Ropy or slimy bread may become a great trial to the housewife and preventative measures should be taken at the first appearance of the difficulty. The condition is caused by the action of a certain group of bacteria known as potato bacillus. The organisms are given different names but may be the same organism grown under different conditions in different parts of the country. They are a spore producing bacteria and are difficult to kill on account of being able to resist an intense heat. They are able to withstand a boiling temperature, for three or four hours. The best temperature for their growth varies with different organisms, being between 95° and 107° Farenheit, but they grow best in bread at about 77° Farenheit. They are not ordinarily killed in baking because the inside of the loaf does not get hot enough. This is especially true when the bread is not baked in single pans. These organisms also grow best in a soft dough or one which is not too stiff and in a dough which is quite moist.

The effect of these organisms upon bread is very noticeable. The bread becomes sticky and has a very disagreeable odor. The starch content of the bread is decreased from about 62 to 59 per cent. The starch is broken down into sugar and thus the sweet sticky substance. The protein is decomposed into alcohols, aldehydes and esters and this combination gives off odors. Thus the action of these organisms upon the bread completely spoils it as a palatable food. The source of these bacteria in bread is difficult to discover. They are common in the soil, therefore they may come from dust from the hands of the worker. They may be carried by flies. They might come from using dry yeast cakes that have stood for some time on dusty shelves or from dusty flour.

Sanitary surroundings are the best preventative. Tables, floors, boards, dishes and hands must all be kept very clean and sterile. This condition may be obtained by the use of scalding water. Washing everything with borasic acid, all that will dissolve in water; also wiping up with vinegar is good to get rid of the infection. The growth of the bacteria in the bread may be prevented by making the bread using whey for the liquid or by the addition of a little less than 1½ tablespoon of vinegar to one quart of flour. It may be added to the sponse in mixing, making no appreciable difference in the bread. Keeping the bread after baking below 68° Farenheit will aid in preventing their growth.

Fried Apples

Core and cut in circles, either with a knife or an apple-parer, put into a pan with a little water and allow to cook on the top of the stove until tender, add sugar and butter, but do not stir; put in the oven until browned and serve hot.

Canned Apples

Peel, core and cut apples into halves then cook in sufficient water to cover the fruit; when they begin to get tender sprinkle with sugar to taste and price; after the sugar has entirely dissolved fill the cans carefully, so that the shape of apples is retained. They are equal to canned pears or peaches.

If glass jars are used the fruit could be placed in the jars before cooking. pour over them a heavy boiled syrup hot, place the filled jars in steamer or wash boiler with cold water and allowed to remain over the fire until the low to remain over the fire until the and seal tightly. Mrs. S. W. Ravenel,
Rivercene Farm.

Let us hear from more of our Missouri Apple Consumer's League with their favorite way of serving this queen of fruits.

You who love flowers, and you must grow them to really love them, can appreciate the rest that comes in caring for their wants.

Just what name to give this subtle power is a problem, but since color plays so important a part in the beauty and harmony of nature's scheme, cannot it be that our sleeping souls respond more fully to the brightness and cheer of their color rather than their form or perfume?

Try planting a few bulbs this fall in some nearby spot where you can see them as you move about in your daily duties.

One of the most successful home conservatories can be built just out from the kitchen, it may be only a few feet, but the steam from the kitchen stove helps to keep the atmosphere moist, thus increasing the growth and blooms.

EFFICIENCY IN THE HOME

Efficiency—the ability to get things done—woman's liberation from drudgery lies not so much in tools as in her own improved methods of work.

The end and aim of home efficiency is not a perfect system of work or a scientific scheduling or ideal cleanliness and order, it is the general happiness, health and progress of the family in the home.

Its very purpose is more liberty, more leisure, a shrewder sense of values and the elimination of wasted energy.

So long as the whole question of disbursement lies in the average household on the shoulders of women, the sooner they can shoulder the burden intelligently the more time and strength they will be able to give to all the other movements which so increasingly interest them.

Remember your daughter is a human being with a fienite line of work in life and you owe it to her first of all to give her the best practical and theoretical training for her future life-work.

Every woman is inherently a homemaker and the best thing you can do for her happiness is to train her in this work of homemaking, which is not a simple kind of knowledge which can be left to choice, but a serious, many-sided study, brimful of opportunity to apply the highest kind of knowledge.

You should wish your daughter to know more than you know. Old-time methods and ideas are changing and the school will teach your daughter new methods and new housekeeping which means less drudgery and effort than you have put into your work all your life.

Great national issues and political battles of every description may rise and fall, but the duty and privilege of maintaining the structure of the family upon which foundation all modern civilization is based and which remain today where it has always been, in the hands of women.

The greatest woman in the world is the wife of a farmer who does her own cooking, washing, ironing, sewing, brings up a family of boys and girls to be useful members of society, and still finds time for intellectual improvement. Mrs. M. D. Norton,
Rt 4, Sedalia, Mo.

Going to Buy a Piano?

If you are thinking of buying a Piano, write to the Geo. P. Bent Co., 214 S. Wabash Ave., Chicago, and ask them to send you their literature about the Crown Piano. You will find the advertisement elsewhere in this issue.

Best heat for farm home

Put June warmth in every room

A farm mother deserves and ought to have all the comforts and conveniences that the city mother enjoys. First of all she needs a warm, evenly-heated house free from drafts, chill and dampness. She must also be freed from the back-breaking drudgery of "tending stoves." Old fashioned heating methods wear women out, and even then only heat the house in "spots," spout dust, gases and dirt, and use up far more fuel than necessary. With radiator heating every nook and corner of the whole house is made cozy. The strongest wind or fiercest blizzard cannot stop the steady flow of comfortable heat all over the house from

AMERICAN RADIATORS & IDEAL BOILERS

These splendid heating outfits are no longer considered "luxuries for the rich." The smallest farm cottage or largest farm house can be equipped at very reasonable cost. At present low iron market the cost will surprise you. In thousands of farm houses IDEAL-AMERICAN Radiator heating is saving fuel every year and giving the families a world of comfort and health. These outfits heat the whole house with one fire and require no more care-taking than to run a stove for one room. Best of all, they last forever and a repair bill is almost unknown. They increase the value of your property to more than their cost.

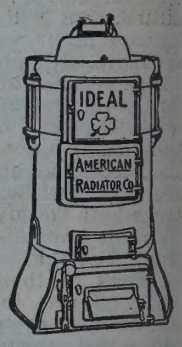
IDEAL Boilers and AMERICAN Radiators bring no dust, ashes or coal-gas into the rooms. Wild blizzards only make them more active in keeping the cold out of the house. They are noiseless, absolutely safe (a child can run them), and can at any time be put in new or old houses with ease without disturbing anything or tearing out walls or partitions. They protect the farm house against fire risk and run independently of the water works supply or water mains, as same water is used over and over again for years.

The IDEAL Boiler may be put in cellar or side room and will burn any local fuel—wood, oil, gas, lignite, hard or soft coal, (even cheap grades of pea coal, slack, run of mine, screenings, etc.) If warm cellar interferes with storing vegetables, boiler and pipes may be covered and *all* heat then goes to upper floors.

Bankers and real estate men will back our statement that it is a paying and permanent investment and not an expense.

A No. 1021 IDEAL Boiler and 262 sq. ft. of 38 in. AMERICAN Radiators, costing the owner $185, were used to heat this cottage, at which price the goods can be bought of any reputable, competent Fitter. This did not include cost of labor, pipe, valves, freight, etc., which vary according to climatic and other conditions.

Let us tell you all about it and give you special information so you can judge for yourself. *Write today—now—for free booklet* "Ideal Heating." You will not be asked to promise or obligate yourself in anyway, but send for this book at once.



IDEAL Boilers have large fuel pots in which the air and coal gases thoroughly mix as in a modern gas or oil mantle or burner, thus extracting every bit of the heat from the fuel. Easier to run than a stove and no parts to wear or rust.

Sold by all dealers. No exclusive agents.

AMERICAN RADIATOR COMPANY

Write to Dept. F32 Chicago

Worth Every Farmer's Thought

Elsewhere in this issue will be found an advertisement of the American Radiator Co., and while it is not our custom to urge readers to buy this or that thing unless they desire to do so of their own volition—yet the heating of farm homes is an important problem which vitally affects modern farm life and we suggest that those of our readers who are interested drop a line to this high-class concern and ask for a copy of "Ideal Heating"—a booklet which will be mailed free of charge and which contains, to say the least, a lot of very valuable information.

The old-time heating stove is a nuisance which should be tolerated not a day longer than the farmer can help. To begin with, it requires unremitting attention—and unless it receives it, it persists in "going out." One moment it is blazing hot while the next it is cold—thus subjecting the inmates of the household to a rapidly changing temperature which is responsible for much sickness. What manner of farmer is it who doesn't hate to get up in the early morning to "build the fire"—and who but can recall the cold waves and blizzrads of other days when, despite the old stove, everybody shivered with cold while everything in the kitchen and pantry froze as hard as a rock? Added to all this is the fact that it is a constant menace of fire—and thus, if for two or three hundred dollars you can solve this situation for years to come—if you can provide every room in your home with an even, healthful temperature—if you can do away with the drudgery, danger of fire and save money on fuel bills besides—then surely it is a matter worth looking into carefully and if you act promptly you will have plenty of time to install one of these modern heating plants before winter sets in.

Anybody who says that the life of the farmer is all sunshine and really believes it would get the best of it if he swapped brains with the average mule. It is only when we compare farm life with the smut and grime of a city that it stands out to advantage but even at that it is by no means a bed of roses and the chump who says so is a chattering ignoramus.

WATER WORKS $37.80

For Country Homes

Complete and ready for use, anyone can set up. Complete system, enabling you to have hot and cold running water, sanitary plumbing.

HEATING PLANTS easily installed by anyone at low cost.

FREE Write today for big FREE BOOK of Plans and complete Catalogue. Explains how we supply you at factory cost and guarantee you can install or money refunded. Thousands of happy users. Get our low prices on pumps, engines, washing machines, tanks, plumbing goods, all farm machinery.

MISSOURI WATER & STEAM SUPPLY CO. 2351 S. 6th St., ST. JOSEPH, MO.

Bridges Bros.' Poland Chinas

There is a Reason why we can please Missouri Farmer readers who are needing a strictly big type Poland China spring boar. We have about twenty extra good ones sired by BIG BOB WONDER, LONG JUMBO 2nd, LONGFELLOW SAMPSON, WONDER EX., etc., and out of our carefully selected sows. Our herd boar is

KING JOHN 72135

Long Kings Equal's greatest son. Everything immune. Prices reasonable.

BRIDGES BROS., Slater, Mo.

BAKER'S REAL BIG-TYPE POLANDS

Our winnings at the State Fair proves that we "have the goods." Spring boars and gilts of excellent breeding and individuality at very reasonable prices. Also a number of fall boars; big, stretchy kind.

W. A. Baker & Sons, Butler, Mo.

Linhardt's Polands

Choice spring boars and gilts. Fall boars and gilts. All sired by Giant Mammoth, Governor Hadley and Mammoth Wonder. Satisfaction is guaranteed. Have shipped to 23 states.

H. O. LINHARDT, LOHMAN, MO.

Dooley's Spotted Polands

Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pairs and trios no relation. Also registry furnished. Send check with first letter.

EDGAR DOOLEY, ETTERVILLE, MO.

BIG BONE SPOTTED POLAND BOARS

I have a number of splendid Registered, big bone Spotted Poland China boars for sale—some mature and others ready for service. Prices from $20 to $35.

GLENN G. DAVIS, 1415 Paris Road, Columbia, Mo.

CHESTER WHITES

RAUSCHER'S CHESTER WHITES!

Big, stretchy, heavy boned, March and April boars and gilts sired by Combination Giant, Mo. First and others. Pairs, trios or more. Prices reasonable and pigs must satisfy.

H. Rauscher & Son, Kahoka, Mo.

O.I.C.'s or Chester Whites

Express prepaid on O. I. C. and Chester White spring boars. Write for prices.

W. P. DOOLITTLE
WOODLAND, MARION CO., MO.

100 Prize-Winning O.I.C's

Our herd is headed by grand champion and champion boars of 1914 shows. Sows of equal merit. All backed by long line of prize winners. Early pigs, singles, pairs or more not akin, at rock bottom prices. We can please you. Write or come.

S. D. & B. H. FROST,
Box H Kingston, Mo.

Shorthorn Bulls and Heifers

PEABODY FARM now offers 12 choice young bulls and 20 heifers. Good individuals; reds and roans. Priced to sell. Also 20 open BERKSHIRE gilts. Get our prices.

June K. King & Son Marshall, Mo.

THOMAS E. DEEM
AUCTIONEER

Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased.

Dependable service at a reasonable charge. Address, Cameron, Mo.

Harry W. Graham
AUCTIONEER

PURE BRED LIVE STOCK

Seventeen years experience with America's best breeders.

Chillicothe, Missouri

W. D. ROSS
Auctioneer

Pure bred live stock. Sales made anywhere on reasonable terms. Write for dates.

Otterville Missouri

McPherson, Columbia, Mo.

J. E. McPherson, Columbia, Mo., is offering an unusually attractive lot of early February and March boars with exceptional size and quality. His prices are reasonable.

Live Stock Notes

R. P. ROYCE, Fieldman

COMING SALES

SPOTTED POLAND CHINAS

H. T. Dickerson, Jameson, Mo., Oct. 6.
Andrews Stock Farm, Lawson, Mo., Oct. 14

POLAND CHINAS

N. R. Riggs, Lawson, Mo., Oct. 7.
Ed. Cook, Pattonsburg, Mo., Oct. 7.
L. L. Freeman, Kearney, Mo., Oct. 15.
J. B. Gurthet, Pattonsburg, Mo., Oct. 29.

O. I. C. and CHESTER WHITE

J. H. Harvey, Maryville, Mo., Oct. 5.
F. B. Goodspeed & Son, Maryville, Mo., Nov. 3.

ABERDEEN-ANGUS CATTLE

J. W. Austin, Carrollton, Mo., Oct. 5. M. A. Judy, West Lebanon, Ind., Sales Mgr.

Last Call for Cook's Poland China Sale

This is to remind our readers that on Thursday, October 7, Ed. W. Cook will hold a sale of very high class Poland Chinas, at his farm adjoining Pattonsburg, Mo. This sale will offer a rare opportunity for the purchase of breeding stock of the very highest order. For several years past Mr. Cook has been carefully putting a herd together that would stand without a superior and in order that every foundation animal would stand the "acid test" he selected only such individuals as were conceded by competent judges to be among the best. It is perhaps true that no herd in Missouri contains as many really good sows as will be found in the Cook pastures. They are not only good individuals but they are good producers and are backed up with pedigrees that show nothing but big type blood.

Mr. Cook had planned to hold two sales —one in October and one in February, but about two weeks ago he reached a decision not to hold a February sale and consequently he is putting into this offering about fifteen head of tried sows and yearling gilts that otherwise would have gone over until the second sale.

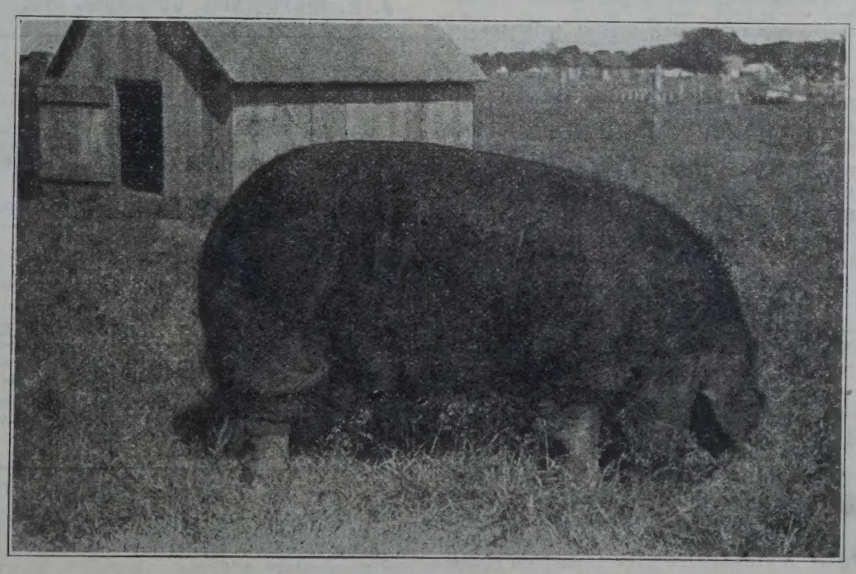
Space forbids a detailed mention of all the good things to be cataloged, but we will mention a few to give an idea as to the quality of the offering. Belle Jumbo, by Big Jumbo II sells with a litter by King Joe. Belle Jumbo is a sow that will look good in any herd in the country. She is an extremely large sow, a real 800-pound sow we should say, and is good in every way—just the type of brood sow every breeder wants. Now here is a point to keep in mind, Belle Jumbo, and several other sows will sell with litters and this fact will prevent them from being offered in high condition, indeed, some of them will be thin and the chances are that they will not bring as much as they would otherwise. Don't let that fact keep you from buying them. Jumbo Wonder 2nd, by A. Wonder out of a Jumbo dam, is a litter sister to the sow U. S. Bynu paid $400 for—she sells with a litter by Bob The Wonder.

Big Lady Jumbo is one of the sensational litter that sold in Walter's sale for $1530. She is by Long Jumbo and out of Big Lady Wonder. These are just a few of the good things in store for those who attend the sale. Among the yearlings are several that give every promise of developing into A No. 1 brood sows. The same can be said of the nineteen early spring gilts—they are poppers for size and quality.

Among the fall boars—all of which are by King Joe—are several very attractive herd boars that should go to good herds. The spring boars were just as good—only a little younger.

Most of the offering represents the get of the great young boar King Joe, by King of Wonders. King Joe is one of the most talked of Poland China boars in the state and his ability as a sire will be demonstrated very forcibly sale day when his get is seen. Some of the younger stuff is by Bob the Wonder a good son of the great sire, Big Bob.

Send for catalog and arrange to be at this good sale. R. P. Royce will be glad to handle any bids for our readers who are unable to attend. In writing please mention this paper.



King Joe, by King of Wonders, the 1000-pound two-year-old boar in Ed. W. Cook's herd. At 20 months old he weighed 825 pounds

Dickerson Sells Spotted Polands, October 6th.

Our readers are reminded that on Wednesday, October 6th, H. T. Dickerson will offer at public sale at Jameson, Mo., 60 head of old-fashioned spotted Poland Chinas. The sale will include ten extra good summer and fall yearling gilts, 25 spring boars and 25 spring gilts.

Mr. Dickerson is one of the young progressive breeders of this state, and the offering he is preparing for sale would do credit to any herd. Everything cataloged is bred in the most popular spotted bloodlines and a review of the pedigrees shown in the catalog discloses many of the noted boars. Among the yearling gilts, most of which are sired by Spotted Mike, by the great breeding boar Lamar Chief, are several that are particularly good and are the kind that will fit into any herd.

The spring pigs are of early farrow and from the first have been handled in a very intelligent manner and consequently they will have plenty of size and at the same time will be sold in just the right condition to do the buyer some good.

Most of the spring stuff is sired by Mr. Dickerson's two good herd boars, Spotted Chief 65306 by old Pawnee Pete, and Spotted King 66978 by Longfellow, a son of Hoppe's Big Chief. There are other litters by Lucky Judge and Good Enough —the well known Faulkner boars, and by Cainsville Boy, one of the best boars in the Corn Belt.

Mr. Dickerson's herd sows are of strictly spotted breeding and represent such famous boars as Budweiser, Clipper, Lamar Chief, etc.

Our representative has seen this offering and takes pleasure in recommending this sale to those of our readers who are interested. Mr. Dickerson will be glad to mail his catalog to any one who writes for it. Please mention this paper.

Gurthet Will Sell Polands October 29

On Friday, October 29th, J. B. Gurthet, Pattonsburg, Mo., will hold his second annual sale of strictly big type Poland Chinas. Mr. Gurthet will offer 55 head, consisting of 8 tried sows, 15 fall gilts, 18 spring gilts, 9 spring boars, and 3 fall boars. This is one of the good herds of North Missouri and the offering this year is such that breeders and farmers will be interested in.

Mr. Gurthet has gone pretty deep into his herd in getting material to make this sale an attractive event and many of the sows cataloged would be hard to buy privately. Among the tried sows to be sold are daughters of A. Wonder, Colossal, Major Blain, Excellent Wonder, and other noted breeding boars. Most of the yearling boars and gilts are by Long King's Equal II, by Long King's Equal, and out of an A. Wonder dam. The spring stuff is largely the get of Orange Wonder 74005 by Big Orange, and out of an A. Wonder dam.

The offering is very desirable in every way and we take please in urging our readers to attend. We have been familiar with Mr. Gurthet's herd for the past three years and know that the herd today is better in every way than it was three years ago. Write now for the catalog and watch this paper for further announcement and more details concerning the offering.

Acid Stomach Claims Millions Of Hogs!

An enormous percentage of all hog losses is due to stomach disturbances and stomach disturbances are largely due to acidity, which interferes with the digestive juices and thereby impairs digestion. Result—thin, scrawny hogs that seem half-starved no matter how much they eat. Millions die. Thousands of hog raisers have proved that the safe and reliable way of neutralizing this acid and preventing its forming again is to mix just a little

MERRY WAR LYE

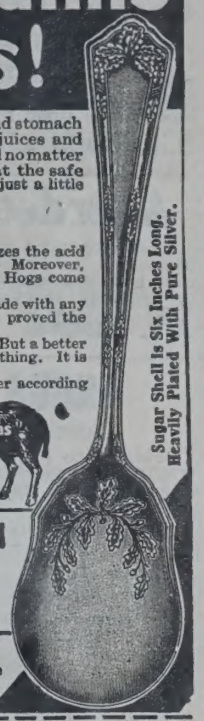
in swill, or with the drinking water, if the hogs are on dry rations. It not only neutralizes the acid but also sweetens the swill, thereby preventing the fermentation that causes the acidity. Moreover, it adds weight to hogs because it helps thorough digestion, leaving no waste food. Hogs come right up, under this simple treatment which produces amazing results.

There's as much difference in Lyes as there is in Doctors, so don't count any trial made with any other than Merry War Powdered Lye. The experience of thousands of hog raisers has proved the value of Merry War Lye. Its use is *not* an experiment.

Send for free booklet filled with letters from hog raisers. They will convince you. But a better way to be convinced is to give it a trial on your own hogs. The cost is practically nothing. It is absolutely safe to feed to hogs according to plain, easy-to-follow directions on label.

Keeps Poultry Healthy Merry War Powdered Lye mixed with feed or water according to directions on label, helps to make poultry sturdy and better able to resist White Diarrhoea, Diarrhoea from Indigestion, Cholera, Roup, Limberneck, Gapes, Worms, etc.

"There Are No Substitutes"



GENUINE GUARANTEED Wm ROGERS & SON **FREE** OAK DESIGN SUGAR SHELL

Send Only 3 "Merry War" Lye Trade-Marks

There are so many practical, every-day uses for Merry War Powdered Lye in the house and on the farm that we have made this remarkable gift offer to induce you to give it a common-sense trial. Don't send the entire labels—just cut out the trade marks—the large words "MERRY WAR" printed in red on the face of the label and send 3 trade-marks with coupon.

We will at once send you the Sugar Shell—one to a family on this special offer *and tell you how easy it is to get a complete set of this beautiful silverware absolutely free*—sufficient to last a lifetime.

For Sale Everywhere *None genuine without the words "MERRY WAR" and the picture of hog on the label.*

At grocers', druggists', and feed dealers'—10c a can. If your dealer will not supply you, we will see that you are supplied at $1.20 per dozen cans, all charges prepaid, and if requested we will take off 3 trade-marks and send Sugar Shell as offered also full particulars for obtaining full set *free*.

E. Myers Lye Co., St. Louis, Mo.
Premium Department 38

E. Myers Lye Co., St. Louis, Mo.
Premium Department 38

Enclosed find 3 "Merry War" trade-marks. Send me, *absolutely free, prepaid*, Wm. Rogers & Son Oak Design Sugar Shell and list of full set to match.

Name.....

Postoffice.....

R. F. D..... State.....

Write your own and dealer's name and address plainly.

Dealer's Name.....

Dealer's Address.....

RAMS

Chandler's Shropshires are reliable because they have the breeding and feeding to make them money-makers.

27 2-yr., many over 200 lbs., well wooled, blocky fellows, good enough for any breeder; your choice, $25.00.
14 2-yr., hardly so much covering, deep bodied, good fleece; your pick, $22.50.
17 yearlings (some by Big Butter Ram), mature better than 200.; $22.50 each.

Also a bunch at $18 and $20—all worth the money. Registered and crated light as possible.

Order from this ad. Can ship tomorrow. Just above St. Joseph.

C. W. CHANDLER, Kellerton, Iowa.

ANGUS CATTLE

ChoiceAberdeen-Angus

Established 30 years. 100 head in herd. We are offering good useful Bulls, and Heifers of excellent individual merit and breeding. Prices reasonable. Our customers make them popular.

D. L. Sutherland & Sons Windsor, Mo

Aberdeen-Angus

I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.

J. D. Blackwell Fayette, Mo.

ANGUS CATTLE

HERD FOUNDED 1904

Seven early calves—3 BULLS and 4 HEIFERS, sired by Dean's Eric 139686. Every one the right kind, and priced to sell.

V. E. LAWRENCE, SALISBURY, MO.

Angus Bargains

Registered bulls and heifers. The market topping kind. Leading families represented. Priced worth the money and satisfaction guaranteed.

Also Poland China Hogs

J. M. JONES, R. F. D. 3, EVERTON, MO

BROWN'S ANGUS

Choice young bulls; two heifers 2 yrs. old; several good cows. Also four extra Poland boars ready for service.

All Stock Registered

K. H. BROWN, - - BOLIVAR, MO.

HOLSTEIN CATTLE

Dutchland Sir Hengerveld Rag Apple 99771

A few choice bull calves out of heavy producing dams sired by the above famous bull for sale.

BLACK AND WHITE FARM
Baden Station, Mo.

Tel. Colfax 1812 R. R. 30

IN MISSOURI

Eight bulls, 2 to 8 months, $100 to $175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.

S. W. COOKE & SON, MAYSVILLE, MO

Holstein Bull Calves

Registered sons of Sir Missouri Josephine Chief 72328 and Wauseona Royalton Korndyke 117165 from high producing cows. All stock tuberculin tested. For prices write Wm. J. Salts, Steward.

MISSOURI STATE SANATORIUM,
Mt. Vernon, Mo.

HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndyke Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

M. E. Moore & Co., Cameron, Mo.

JERSEY CATTLE

JERSEY CATTLE

Bulls ready for service. They are sired by the Owls Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

Jersey Cows

I want to sell 20 head of registered cows and heifers that are either fresh or soon will be. Also four young bulls.

J. B. SMITH Platte City, Mo.

Sunset "Correct Type" Jerseys

Do you want a trio of the famous line bred Blue Belle-Golden Rosebay Jerseys? I have two magnificent heifers, both bred, and a young bull to go with them, almost ready for service. Price of the trio, $300—just half their value. Write for breeding, description of herd, production, etc. They will please you. The Ennis Stock Farm, Horine Station, Mo. (Just south of St. Louis).

RED POLLED

RED POLLED CATTLE

HERD ESTABLISHED 16 YEARS

Young stock for sale at all times.

Young bulls for sale sired by Logan 13500. The duel purpose kind.

M. L. Snyder - Polo, Mo.

Last Call for the Austin Angus Dispersion Sale

This is the last opportunity we will have to call attention to the J. W. Austin Angus dispersion sale to be held at the Fair Grounds near Carrollton, Mo., Tuesday, October 5th. This sale is an absolute dispersion of this old established herd and will afford an excellent opportunity for breeders and farmers to secure breeding cattle of exceptional merit.

The herd is being dispersd for the reason that Mr. Austin's eyesight has failed and he finds it no longer practical to give his attention to the business.

There are 115 head listed for sale and represent five of the most popular and useful families of the breed—Blackbirds, Prides of Aberdeen, Queen Mothers, Drumin Lucys, and Nosegays.

The herd has always been handled for profit along conservative and progressive lines. Bulls of the most approved type and bloodlines have always stood at the head of the herd and the present herd bull, Blackbird Monarch A., a grandson of the mighty Prince Ito, will make some breeder a good buy.

Twenty-seven younger bulls, ranging in age from 8 to 20 months are catalogued and in the lot are several very nice, thick-fleshed herd bull prospects. The 87 cows and heifers are the kind that Missouri farmers must come to if they are to make the most of their farming and feeding operations. Every one of the cows is a regular breeder and none of them are old cows whose future usefulness is open to question. Several of the cows will have calves at foot and everything of breeding age sells bred to Blackbird Monarch A.

There will be no Angus sale at the Royal this year and as this sale occurs on the second day of the show those of our readers who had planned to buy at the association sale will find it convenient to run down to Carrollton.

Write at once for the catalog and kindly mention this paper.

Report of J. F. Richards & Son's Sale

As announced last issue the sale of Poland China bred sows, gilts and boars, held by J. F. Richards & Son, at their Pen-Yr-Hyl Farm, near Bevier, Mo., on Wednesday, September 8th, was almost a flat failure from Messrs. Richards' standpoint.

The offering was a high class one in every way, and ordinarily was worth an average of $50 or $60. Perhaps, the fact that it occurred at a time when most every one was busy mitigated against its success to a certain extent, but no one was prepared for a slaughter. Just before noon a very threatening cloud came up and in a few minutes rain was pouring in torrents, naturally, the local buyers were kept away and when Col. H. S. Duncan opened the sale there were few on hand to buy. Another factor that kept the average down was the loss of Pawnee Price, the senior herd boar that had done so much to put the Richards' herd to the front. Just two days before the sale Pawnee Price got with another boar and as usually happens the good one was killed. Had the buyers seen what a great individual he was they would have shown keener appreciation for sows bred to him.

Bidding was very indifferent and the best that could be done was an average of about $33 on the bred stuff. The average on the entire lot was $29—at least $25 under the real worth. Messrs. Richards proved themselves game to the core and refused to stop the sale as long as there was any bidding, even after it was apparent that the crowd had about all the hogs it wanted. Col. Thos. E. Deem assisted Col. Duncan. Following is a list of buyers who paid over $25:

No. 2.	Bridges Bros., Slater, Mo.	$60.00
No. 4.	R. F. Baldwin, Rocheporte	37.50
No. 5.	E. T. Davis, St. Joseph	25.00
No. 6.	Herschel Osborn, Moberly	32.50
No. 7.	Herschel Osborn	27.50
No. 8.	Bridges Bros.	40.00
No. 9.	Herschel Osborn	55.00
No. 10.	P. A. Goodall, Bevier	70.00
No. 14.	N. R. Riggs, Lawson	27.50
No. 15.	S. McBride, St. Catherine	52.50
No. 18.	H. Osborn	37.50
No. 19.	E. F. Davies	25.00
Nos. 21, 22, 23, 24, 25, 26, John Hill, $25 each.		
No. 27.	Clark Blackburn, Bevier	27.50
No. 28.	John Murphy, Callao	40.00
No. 29.	John Murphy	27.50

Meat Packers to Convene

St. Louis, Mo.—The American Meat Packers' Association will hold their 10th annual convention here October 11, 12 and 13. With one exception this is the first time in the history of the organization that any meetings have been held outside

POLAND CHINAS

Smooth Columbus Boars and Gilts. Bennett Bros.

75 extra choice March and April boars and gilts sired by SMOOTH COLUMBUS, the record sire of the state, LONG JOE, and BAKER'S HADLEY. Big type Polands with quality. All immune. Satisfaction guaranteed.

BENNETT BROS. R. 5, LEE'S SUMMIT, MO.

PAWNEE PRICE IS DEAD

You will want some of his blood in your herd because it makes for size and quality. We have a few extra good spring boars sired by Pawnee Price for sale at reasonable prices. First come, first served.

J. F. RICHARDS & SON - - - - - - - - - - Bevier, Mo.

Spring Boars by the Giant

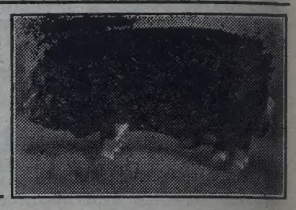
A desirable lot of early spring boars by The Giant, acknowledged to be one of the greatest young Poland China boars of the breed. Prices within reach of all.

WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

Poland Chinas & Shorthorns

Spring boars and gilts, pairs, trios or more. A few sows and gilts bred for fall farrow. Several choice young bulls and heifers. Satisfaction guaranteed.

H. S. Williamson, Route 6 Centralia, Mo.



POLAND CHINA BARGAINS

I have some good Big Type Poland China hogs; some tried sows, one aged boar, some spring gilts and spring boars. Registered stuff. Cholera immune. Come and see them or write me. LOU LE FEVRE, Collins, Mo.

BALDWIN HEIGHTS BIG POLAND CHINAS

Spring boars by King Jumbo, by King of All, and out of sows bred in the purple. Satisfaction guaranteed.

R. F. BALDWIN, Rt 1, ROCHEPORT, MO.

SPOTTED POLAND CHINA BOARS

The big boned, thrifty kind. We have a number of boars now ready for service. A choice lot for only $25 each, f. o. b. Rocheport.

HALL & RAPP - - - - - - - Rocheport, Mo.

MEGOWN'S SPOTTED POLANDS

No matured stock for sale but booking orders for pigs to be shipped later. Have length, bone, size and big spots. Sired by two of the biggest boars in the State for their age.

B. B. MEGOWN, - - - - - - NEW LONDON, MISSOURI

DUROC JERSEYS

Select Col. II Litter mate to Illinois Champion 1912

White's Durocs

Choice spring pigs by a champion and out of well bred sows! Stretchy, big bone, well grown. A few bred sows.

A WHITE, Jr. Box 422 PALMYRA, MO

Crimson Col. I Am Junior Champion American Royal 1912

Forty Duroc Boar and Gilt Bargains

We are offering 40 choice spring boars and gilts sired by Col. Wonder II, litter mate to the champion sow at Missouri State Fair 1914; Beauty's Col.; Col. Wonder, a champion; Col. Enough I Am; and Belle's Col. Pairs, twos or more of unrelated stock. Priced to sell and guaranteed to please.

W. H. & GEO. E. THOMSON - - - - - - Columbia, Missouri

Durocs With Size and Bone

I am offering a choice lot of early spring pigs with unusual size, bone and quality. Bred right and priced right. Visitors welcome.

A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

DUROCS and SHORTHORNS

Immune bred gilts and tried sows $20 to $50; also some choice serviceable boars and spring pigs. A pair of good bulls 16 months old at reasonable prices and well bred. Will sell any of above stock worth the money. Write and tell me what you want to buy. Stock sold in 61 counties in Missouri. I believe I can please you.

J. E. WELLER, - - - - - - - - - FAUCETT, MO.

150 Duroc Boars and Gilts

February, March and April boars and gilts sired by Golden Tat, Bob's Col. Wonder, Col. Wonder and Professor's Col. Stretch, size, bone and quality. Priced for quick sale. Write or come.

J. E. McPherson, Columbia, Mo.

75 Duroc Spring Boars and Gilts

Seventy-five (75) good boars and gilts. Rich breeding, and plenty of size and bone. Pairs, trios or more. Priced to sell.

J. C. Garrard & Son, McBaine, Mo.

Hazelwood Durocs

Seventy choice spring boars and gilts sired by HAZELWOOD CHIEF, by CRIMSON COL., and out of OHIO CHIEF bred sows. Get our prices.

E. P. POWELL & SON, Maryville, Mo.

Col Wonder Durocs

A few yearling boars. Spring pigs either sex. Write or come.

CHAS L. TAYLOR - OLEAN, MO.

Prize Winning Blood Predominates.

Big type hogs with quality, plenty of bone, very prolific and early maturing, are found in

ADENHILL FARM DUROCS

Twenty big March, 1915, open gilts by the great Col. Wonder II from big, prolific sows, now selling. They will prove profitable additions to any herd.

R. L. HILL, Adenhill Farm Columbia, Missouri

A. NO. 1 DUROC SPRING BOARS

I am offering a few extra choice spring boars sired by ILLUSTRATOR and out of TATTLETALE 39th, junior champion International 1913. A few by CRIMSON CHIEF AGAIN. Write or come.

W. C. WATSON. - - - - - - - NEW LONDON, MO.

Duroc Herd Headers For Sale

Beauty's Model 152503, 1st Prize Senior Yearling, Missouri State Fair, 1914, a sire of unusual merit, Beauty's Model Again, a junior yearling of much promise, sired by Beauty's Model and out of Top Col dam, and a good line of spring pigs. For particulars address W. O. & B. A. SMITH, Thompson, Mo.

COOK'S GREAT POLAND CHINA SALE, PATTONSBURG, MO., OCTOBER 7

Fifty head of guaranteed attractions. Tried sows, spring and fall yearling boars and gilts. Missouri's greatest offering from Missouri's greatest herd. Get my catalog.

ED. W. COOK - - - - - - - - - PATTONSBURG, MO.

of the city of Chicago. St. Louis packers and butchers are therefore planning a royal entertainment for the visitors.

The association represents an industry with an aggregate capital investment of one and one-half billion dollars. Including all phases of production and manufacture it is the largest single industry in the country. A feature of the association is the increased interest manifested in it each year by the smaller packers and butchers scattered throughout the United States.

St. Louis is planning to entertain 1500 delegates and visitors to the convention. The official program for the meeting will be announced shortly. A subject that will receive careful consideration by the association, is that of arousing more interest in beef cattle production throughout the United States, an industry that for various reasons has not kept pace with the increase in population the past decade.

Riggs Sells Poland Chinas October 7

One of the most attractive Poland China offerings to be sold this fall is the one scheduled to sell Thursday, October 7. The offering is from the Crystal Springs herd owned by N. R. Riggs, Lawson, Mo.

The sixty head of boars and gilts to be sold are all of February and March farrow. Most of them are by Jumbo Orr 178083, the great breeding son of Missouri Lad. Jumbo Orr is counted among the best boars of the state and he has gained this reputation through the sheer merit of his pigs. I have seen a bunch of good stuff this summer but I have yet to see a more uniform lot of pigs than Mr. Riggs is preparing for sale. Several other boars of strictly big type breeding are represented in the offering and buyers will have a chance to select boars and gilts sired by Iowa King, Big Superior's Equal, Long, Superior, and Hale's Missouri Lad. The dams of these pigs are excellent big, heavy boned, motherly sows, of exceptional prolificacy.

No breeder that I am familiar with has given the subject of feeding more careful study than Mr. Riggs and by sale day he will drive out a bunch averaging around 220 pounds in good thrifty growing condition.

Send for the catalog and kindly mention this paper.

Andrews' Annual Spotted Poland Sale

Remember that on Thursday, October 14, the Andrews' Stock Farm will hold their annual sale of old-fashioned spotted Poland Chinas, at Lawson, Mo.

These sales are so well known to our readers that little more need be said, but for the benefit of those who are not familiar with these events we will say, that the Andrews Stock Farm maintains one of the best herds of spotted Poland Chinas owned in Missouri and that each year the top selections from the spring farrow are offered at public sale. This year Mr. Andrews is putting in 14 summer and fall yearling gilts and as very special attractions he has catalogued two tried daughters of the famous Budweiser, besides these, there will be offered 20 spring gilts and spring boars.

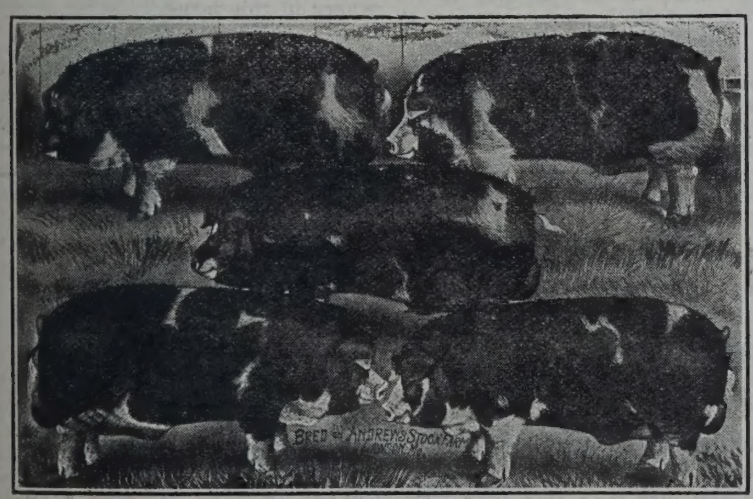
We have been in close touch with this herd for the past several years and are familiar with the class of hogs that are being produced, and furthermore, we have watched this blood in other herds, and know that it makes good.

The offering this year is quite up to the standard of the past and we do not hesitate to recommend that our readers attend.

The two tried sows, Budweiser Lady and Budweiser Girl are among the best producing sows in the herd and are being sold only because so many of Mr. Andrews customers have been daring him to give them a chance to buy some of his older stuff. One of the sows, Budweiser Girl, sells bred to Spotted Clover, the other sells open. The summer and fall gilts that are listed are among the best that Mr. Andrews has raised, they are all sired by Spotted King and Spotted Jumbo, the two herd boars that have contributed so much to the success of this herd. Several of them are real outstanding brood sow prospects of high order. The spring boars and gilts are, for the most part, a bit younger than Mr. Andrews usually puts in, but at that, they are mostly of March and April farrow and for their age, possess plenty of size, and we believe a trifle more bone than the spring stuff showed last year.

A point of more than passing interest is the fact that Spotted Jumbo, one of the best boars in the state, died this spring and this is the last chance to get his blood.

Write at once for the catalog and plan to be there when the sale starts.



The kind of Spotted Polands produced by the Andrews Stock Farm

Watson Offers Real Duroc Bargains

W. C. Watson, New London, Mo., is offering the readers of this paper some genuine bargains in Duroc spring boars.

Mr. Watson is one of the progressive breeders of Northeast Missouri who is doing much to put this state in the front rank as a Duroc center.

The boars he is offering are sired by Crimson Chief Again, an excellent Crimson Wonder bred boar that Mr. Watson purchased in partnership with Kennet Keithley of New London, from Henry Russell of Iowa. Two exceptionally good prospective herd boars are the two out of the great sow Tattletale 39th, and sired by the great boar Illustrator. Buy one of these boars and you will have as good blood as the breed affords.

Angus Bulls and Heifers for Sale

Look up the advertisement of K. H. Brown Bolivar, Mo., in which he offers a number of useful young Angus Bulls and Heifers for sale at prices that the average farmer can afford to pay. Mr. Brown is thoroughly reliable to deal with. Mention this paper when you write for prices.

ANDREWS STOCK FARM

Annual Sale of Spotted Poland Chinas

Lawson, Mo., Thursday, October 14, 1915

50 Tried Sows Yearlings Spring Gilts Spring Boars

50 Tried Sows Yearlings Spring Gilts Spring Boars

Following my usual custom I will offer at public sale a superior lot of old-fashioned, big boned Spotted Poland Chinas from my well known herd. Fifty head will be cataloged and will include 14 SUMMER AND FALL YEARLING GILTS; 20 SPRING GILTS; 15 JANUARY, FEBRUARY and MARCH BOARS. Sired by the great boars, SPOTTED JUMBO and SPOTTED KING. In addition, I am putting in for attraction 2 TRIED DAUGHTERS OF OLD BUDWEISER. SEND FOR HANDSOME CATALOG

ANDREWS STOCK FARM - - - Lawson, Mo.

P. M. GROSS, CHAS. R. THOMPSON, Auctioneers R. P. ROYCE, Fieldman

Gurthet's Annual Poland China Sale

Pattonsburg, Mo., Friday, October 29

A great lot of tried sows, yearling and spring gilts A toppy bunch of fall and spring boars. Best of breeding. Watch this paper for further announcement. Send for catalog.

J. B. GURTHET ∴ ∴ Pattonsburg, Mo.

Clydesdale Horses, Jacks and Jennets

Clydesdale Stallions, Mares and Colts, with quality and breeding, for sale at lowest prices. We also breed Jacks and Jennets and sell them as low as the lowest.

HIGHVIEW FARM F. L. CROSBY, Prop., Mexico, Mo.

GALLOWAY-MESSER FARMS, WATERLOO, IOWA

HOLSTEINS Young bulls from our heaviest producing cows sired by King Segis Pontiac Combination. Better producing blood never breathed. Also cows and heifers. State your wants and how much you can afford. Detailed correspondence a pleasure. Call on us if possible.

AYRSHIRES A few splendid Ayrshire young bulls and heifers at lowest prices, quality considered. Every animal in this herd is specially selected. Start now—start right—in Ayrshires. Dairymen profits now greater than ever.

GALLOWAY-MESSER FARMS WATERLOO, IOWA

FOR SALE—350 Single Comb White Leghorn hens, trap-nest bred 11 years for egg production; winners in America's largest shows. Annual "make room" sale. $1 to $1.50 each; cockerels 75c up. Ackerman Poultry Farm, Bolivar, Mo.

PRODUCTIVE lands, crop payment or easy terms along the Northern Pac. Ry., in Minn., N. D., Mont., Idaho, Wash. and Ore. Free literature. Say what state interests you. L. J. Bricker, 164 Northern Pac. Ry., St. Paul, Minn.

MOLASSES Best Feed for Pigs and Calves

St. Louis Molasses Co., Dept. MF., 400 S. Broadway, St. Louis.

ALFALFA Hardy, non-irrigated, northern grown pure seed of high germination. All varieties, alfalfa and clovers. Fall catalog, samples, and our book on alfalfa free to all. Address

GALLOWAY BROS. & CO. WATERLOO, IOWA

AGENTS If you make less than $1200 a year, you should get in touch with us, the largest manufacturers of transparent handled Knives and Razors in U.S. and we will show you how to make more. Special outfit offer. **$100 a Month Sure**

NOVELTY CUTLERY CO., 258 Bar St., CANTON, OHIO

NEED BETTER PUBLIC SENTIMENT FOR GOOD ROADS

The Missouri Farmer:

I have my own little notions about the road question and they may be hot air notions too, but if several others agree with me and we all will have our say it may do some good after all. Is it not the law that any laid out road in Missouri shall be 40 feet wide? Also when a road has been laid out for a number of years and a grade established does the land owner along the road have a right to set his fence out in the road? I do not think one-half the roads in our county are wide enough to make a grade and have dirt enough to hold it. But what am I to do? If I make complaint about our neighbor's fence being in the road then we have a lawsuit on our hands right away. There is a case of that kind now in our neighborhood. When you take a foot or two of worn-out soil, or weed infested soil from one of these moss-backs it makes him sick like a boy who has eaten green apples—he wants to throw up.

Too many men want good roads at the expense of some one else. When the overseer or some neighbor calls him out and asks him to donate a little work to grade down a hill or put in a culvert along his own road, he is "just so awful busy" he can't take time to help." We need a law to widen our roads and a direct tax levy high enough to give enough money to build some good roads.

A. Farmer, Brashear.

The statutes of this state provide that public roads shall be not less than thirty nor more than sixty feet wide. A penalty is provided for obstructing a road by setting the fence out or by throwing brush into the road, or other obstructions, but the court would have to determine from the records as to the proper width of the road and then from evidence as to whether there was obstruction. What we need to get roads of proper width, and to get sufficient funds is not so much more law as it is better public sentiment. We have laws now for widening roads and for raising money to build roads but these laws can be enforced only in communities where the majority of the people are united and working together. The more nearly unanimous this sentiment is the easier it will be and the less troublesome the opposition. Sometimes one "moss-back," "skin-flint," "tight-wad" farmer who owns a lot of land can cause a lot of trouble but in most cases where public sentiment is very strong for a public improvement these "tight-wads" gradually get ashamed of themselves and give away to the progressive plans of the community.

Sometimes it is necessary to handle these cases by force of law but as a rule it is better to use diplomacy, persuasion, and a good example. If you can not do better let every man who favors good roads see that his fence is back the right distance, that the weeds are cut along his own farm, that the road is dragged and the ditches cleaned and the force of good example may make a road enthusiast out of Mr. Mossback. If it does not you will have to wait until he dies or sells out or else resort to law which should be about the last thing to do.

LAUGHLIN'S MUSINGS

I am sure all good farmers have visited the local fairs and got acquainted with new ideas, seen new plants that have been introduced in the last year that will benefit agriculture and visited with old friends. As an instance of the value of the right adaptation of crops we mention this: Soft wheat was tried in Kansas in the short-grass counties and many we know just came back home, starved out. But with the hard wheat and alfalfa introduced many have gone back and succeeded. Everyone should realize that there are many new things and plants to learn about. Old ways soon become obsolete. About the first thing when inside the gates we must look for the good old friends. (I mean humans) and get acquainted with new ones. Men of worth come and go as plants and to be up to date we must keep up with the men or with new ideas at least as well as with new plants.

Many of our farmer friends claim these local fairs are good places for an outing but while I try to make it a joy still work and close study has always been my aim at the fair. An outing to me is a relaxation from the first and last of my business—to make the contrast as great as work and sleep. We have for years tried to do this often. In the primitive man we come as near to no thinking and worry as possible to have, so for our outing with an invitation to one of those old friends, or a new one, as our fancy goes, we invite them to take a bonfire supper in the back pasture, or we meet at some bridge. This is not one of those clothes basket affairs, with so many good things to eat but the simplest we can think of. Did you ever try it. Let me give the menu:

The congenial good spirit,
Laughter sprinkled and thoroughly stirred with giggles.
Bread and butter sandwitches
Slices of bacon to broil on the end of a 3-foot switch (optional)
Relish in season
Pie or cake (compulsory)
Old and new stories

If I could not get a good liver squeezer by this short outing I believe I would try another way. I would just enjoy telling of the many "giggly" "smiling" or "rip-roaring" times I and mine have had, without the before worry and the after bad taste. But the editor would not stand for personal horn-tooting.

E. E. Laughlin, Bates County.

Suggestions on Seed Corn Selection

Because of unusual conditions this year, many farmers will find it desirable to practice early field selection of seed corn.

Seed corn may be safely selected the stiff dough stage; if properly cured. The vitality of corn selected earlier than this is likely to be uncertain.

Early picked seed corn must begin drying rapidly at the earliest possible moment. If left lying in a pile for as much as a few hours the growth of mold is likely to start.

In drying immature corn, it is important to keep the ears from close contact.

While drying, rain-proof buildings which provide a free circulation of air and a temperature above freezing are highly desirable.

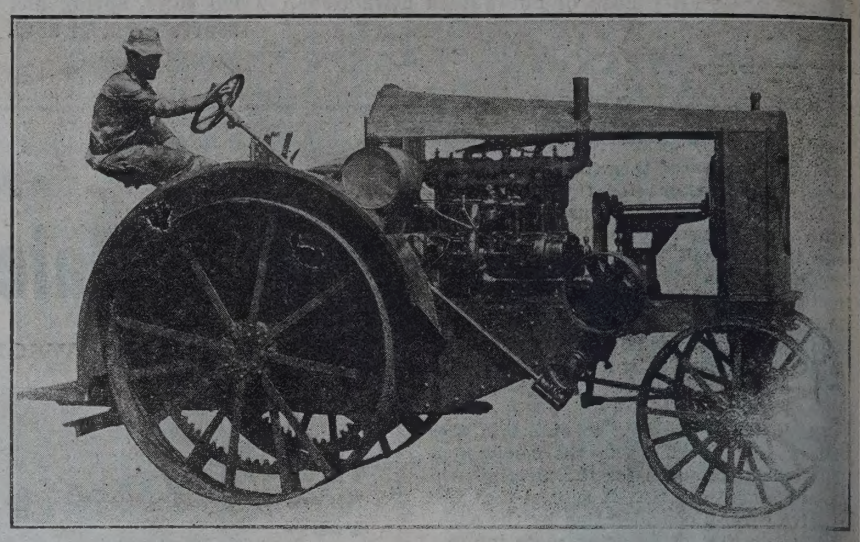
Well-preserved seed corn a year old is very satisfactory.—Department of Experimental Agronomy, College of Agriculture, Nebraska.

A New Harrow

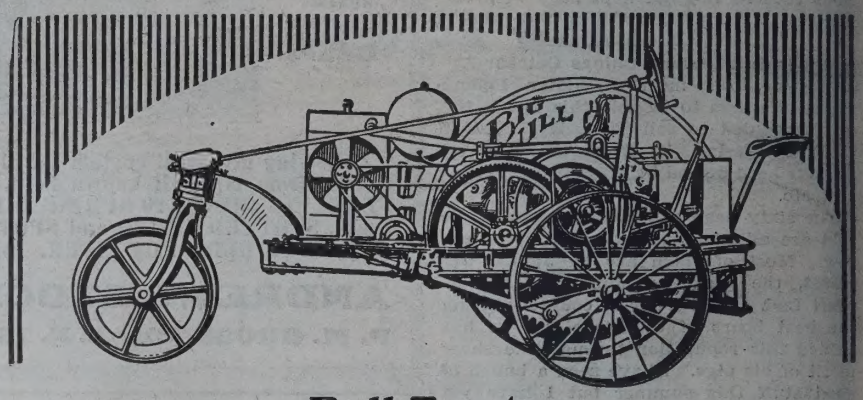
Whether you are in the market for it at this time or not, it will pay you as a matter of information for the future to drop a line to the Kramer Rotary Harrow Co. of 145 Main S. Morton, Ill., and ask them for their literature. They are on the market with a small rotary harrow which can be attached to any sulky plow. It doesn't require any extra horse draft and enables you to plow and pulerize the ground at the same time—thereby preventing clods and conserving moisture. It is an idea worth any farmer's investigation. Mention The Missouri Farmer when you write.

All of our readers should take advantage of this opportunity to get a beautifully printed copy of "After-Thoughts" free. See the announcement on page 8.

MURPHY HAS THEM



Twin City Tractor



Bull Tractor

The above Tractors will be shown in actual operation at the St. Louis Agricultural Fair from October 4 to 9, doing the many different kinds of farm work. Come and see these wonderful time saving, money making machines that will speak for themselves, and we will be glad to meet you and have you make your headquarters at our tent. If you can't come, write us, and we will be glad to give full particulars and best prices on anything in our line.

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Drain Your Lands

The Owensboro Ditcher & Grader Co., Box 837, Owensboro, Kentucky, is on the market with an inexpensive ditcher which enables farmers to cut a "V"-shaped ditch up to four feet in depth and thus drain their lands—carrying off the water, preventing erosion, etc. This ditcher costs little and is sent out on trial. Better write for full information and mention The Missouri Farmer.

Surely every thinking farmer wants to know how to protect himself against Hog Cholera. That's why you ought to get a copy of "Stamping Out Hog Cholera" which is described elsewhere in this issue.

A dollar bill sent at our risk will renew The Missouri Farmer for three years and we know you will get your money back several times.

The "Garden Spot" of Missouri

This Is a Designation Richly Deserved by the "Drainage District" of Southeast Missouri

Here is where farmers produce 40 bushels of wheat and 100 bushels of corn per acre, and the reason of it is that it is impossible to conceive of a soil more rich than ours. Never has Southeast Missouri presented a picture of greater opulence than this year. Everywhere the eye is greeted by great piles of wheat straw and jungles of corn. Truly this is a "Land of Plenty"—a land where Corn, Wheat, Alfalfa, Cotton, Watermelons, etc., flourish as nowhere else in the Mississippi Valley. What's the use of farming on worn-out land when you can get hold of a farm down here that will produce as much in one year as your worn-out farm will in four? We have a lot of fine farms for sale in the Malden District and every one of them will double in value during the next five years. This district is as healthy as you can find anywhere and you will have good schools and good neighbors. Write and tell us what size of farm you want to buy when we will give you the full particulars. Write to any Malden Bank about our honesty.

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THE MISSOURI FARMER

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Time to Wake Up!

That the time is here when, following in the footsteps of the banker, merchant, professional man and the skilled laborer, farmers must organize in order that they may more effectively co-operate with each other is so apparent that added emphasis is almost criminally superfluous. It is, in truth, a fact which stands out like a light house in the whole field of American Agriculture—the overshadowing and overwhelmingly necessity of the hour. By this I do not mean a "Farmers' Trust" or an organization which shall seek to bring about conditions contrary to the normal laws of supply and demand—but simply a co-hesive amalgamation of farmers by communities which will make intelligent co-operation possible in those things which so vitally effect the Agricultural interests and upon which every farmer's individual prosperity and well-being so much depends.

A case in point is the Land Bank Law which was enacted by the last Legislature and which means more to the farmers of Missouri than any other act ever passed in the history of the state. If this measure becomes a law, it means that henceforth our farmers will be rescued from excessive interest rates and from embarrassing short-time loans. Under its provisions, farmers may borrow to the extent of 50% of the value of their farm lands for periods of from 5 to 25 years. The first $500,000 will be loaned at 4.8% (four and eight-tenths per cent) and subsequent loans at such a rate as the debenture bonds issued against farm notes will sell for in the open money market. That it means cheaper and longer time money than the farmers of this state have ever known before is true beyond the slightest question—but before it can become a law we must first carry a Constitutional Amendment at the polls in 1916. If a measure which meant as much as this one does to the farmers of Missouri had been passed in the interest of any other class of citizens they would be up in arms for it from one end of the state to the other—and yet to all outward appearances, the average Missouri farmer is "asleep at the switch" and unless this attitude changes quickly and powerfully the chances are the Amendment will be lost.

The other day we received a letter from a farmer up in Macon County saying, "Myself and neighbors have 15,000 or 20,000 bushels of apples for sale—and not a buyer in sight." We at once sent an inquiry to 40 or 50 apple buying concerns—and this illustrates again the deplorable lack of co-operation which exists for the sale of farm products. So, a case has come to our attention where a farmer up in Northwestern Missouri recently bought a couple of loads of feeders which a few days later he discovered had been raised within five miles of his farm. Here was a needless freight charge to the Kansas City Stock Yards and back again—and two needless commissions to a Live Stock Commission firm. Is it any wonder that under these circumstances there are so few farmers who are making any money—that the mortgage which hangs over thousands of farm homes is no nearer paid off today than it was five years ago?

While, ordinarily, I believe in supporting the home merchant, yet on such items as commercial fertilizer, tankage, cotton-seed meal, feed, etc., and other things which cannot be purchased advantageously in the smaller towns, thousands of dollars could be saved if the farmers of a given school district had some kind of an organization through which they could buy these things collectively. I know of one school district "Farmers' Club" which saved nearly $200 on binder twine during the recent summer—and so there are many other things which intelligent co-operation makes possible but which can never be realized so long as farmers pursue the present policy of "everybody for himself and the Devil take the hindmost." We have just prepared a circular on the organization of "Farmer Clubs" and we hope our readers will send for it at once. **The time is here to act!**

WILLIAM HIRTH, Publisher Missouri Farmer.

Don't forget our offer of a beautifully printed booklet containing the leading "After-Thought Stories" to all who send one dollar for three years' renewal to The Missouri Farmer.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VII OCTOBER 15, 1915 NO. 20

WILLIAM HIRTH
PUBLISHER

REDUCING THE COST OF FEEDING

In the early days, with land low in price, pasturage abundant, and feed and labor cheap, making a profit from live stock farming was comparatively easy, even though one possessed little knowledge of the principles governing the feeding and care of stock. Conditions have now changed. The great western prairies no longer offer rich fields free for the taking, and hence throughout the country fertile land has advanced in price. No less marked has been the increase in the cost of labor and of feeding stuffs. But the price of live stock products has also advanced, so that satisfactory profits may still be realized from farm animals. However, present conditions call for a more intelligent type of stock farming than has ruled in the past. Good profits are possible only when all the operations are planned intelligently and with good judgment, and there is a thorough appreciation of the requirements of the various classes of animals for food and care.

In the pioneer days of our country the feeds commonly used for live stock were restricted to the grains and forages grown on the farm. Knowledge of the value of these farm-grown products is not now sufficient for intelligent feeding. The problem is complicated by the host of by-products resulting from the manufacture of articles of human food which are offered on the markets as feeding-stuffs for stock. Many of these are valuable and economical supplements to the feeds raised on the farm. However, such products vary considerably in price and even more markedly a nutritive value. Most economical feeding is therefore possible only when the relative value of these different products compared with each other and with the farm-grown crops is clearly understood. In seeking a knowledge of feeds and of feeding we must first consider the plant substances which provide the nourishment for farm animals and study the manner in which these compounds are built up in the living plant. Next we should learn how the food consumed by animals is digested and utilized within the body for the production of meat, milk, work or wool, and should also study the requirements of each class of animals for food, water, shelter and exercise. Only then are we in some measure in a position to understand the value and merits for each of the farm animals of the many different feeds, and finally to consider the principles of care and management, the constant observance of which is essential to the highest success in animal husbandry.

The most important factor of all, for the farmer who must depend on the profits from his stock for his income, is the cost of the ration. In securing a ration which provides the nutrients called for by the standards and meets the other conditions previously discussed, lies a great opportunity for exercising foresight and business judgment on every farm where animals are fed. The wise farmer-feeder will consider the nutrient requirements of his animals in planning his crop rotations. Through the use of grain from corn or the sorghums, legume hay and such cheap succulence as silage from corn or the sorghums, it is possible in most sections of the country to go far toward solving the problem of providing a well-balanced, economical ration.

The feeds selected for any animal should be such that they will not injure its health or the quality of the product yielded. Feeds which are suited to one class of farm animals may not be adapted to others. Again, a given feed may give satisfactory results when combined with certain other feeds, yet in other combinations it may prove unsatisfactory. A few examples of such conditions are furnished in the following: Cottonseed meal in moderate amount is an excellent feed for cattle, sheep, and horses, yet it is so frequently poisonous to pigs that feeding the meal, as at present prepared, to these animals cannot be advised. While there is always danger from using feeds damaged by mold, such material may often be eaten by cattle when it would poison horses or sheep. Timothy hay, which is the standard roughage for the horse, is unsatisfactory for the dairy cow, and may cause serious trouble with sheep on account of its constipating effect.

Feeding cows a heavy allowance of ground soybeans produces unduly soft butter, while an excess of cocoanut meal makes the butter too hard. Peanuts and soybeans produce solt lard when forming too large a part of the ration of fattening pigs.

It is often highly beneficial to add wheat bran or linseed meal to the ration on account of their slightly laxative effect. On the other hand, when animals are already receiving such laxative feeds as silage, pasture grass, ad legume hay, the use of bran or linseed meal may be unwise.

With the horse and with young ruminants the ration must contain some roughage to distend the digestive tract properly. Futhermore, for the best results the proportion of concentrates and roughage in the ration should be regulated according to the kind and class of animal to be fed and the results sought. Cattle, sheep, and horses can be wintered satisfactorily on roughages alone, if of suitable quality. Even brood sows may be maintained chiefly on legume hay, when not suckling their young. In the rations for growing and fattening animals and those at work or in milk, a considerable part of the ration should consist of concentrates.—W. A. Henry and F. B. Morrison, Wisconsin Experiment Station .

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In Dr. Hess Poultry Pan-a-ce-a you have a scientific preparation that puts vigor and health into your flock—it will aid their digestion, build them up, give your hens the vitality to ensure quick feather growth, tone up the dormant egg organs and help them lay.

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My Pan-a-ce-a contains tonics, blood builders and internal antiseptics; it is formulated after a prescription of mine which has had a successful record for 22 years. In this prescription I have combined scientific knowledge with poultry culture; behind it is my long experience as a veterinarian, doctor of medicine and successful poultry raiser.

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1½ lbs. 25c; 5 lbs. 60c; 25-lb. pail $2.50 (except in Canada and the far West). Pan-a-ce-a costs only 1c per day for thirty fowl.

Dr. Hess Stock Tonic Expels Worms

It's almost a certainty that your hogs are wormy right now. I guarantee that my Stock Tonic will positively rid your swine of worms, tone them up and help them put on fat. I advise you also to feed my Stock Tonic to your horses, sheep and cattle as they go from pasture to dry feed. It will keep them in fettle, enrich their blood, keep the bowels regular and is a splendid aid to digestion. But especially as a hog worm expeller it will pay you to feed my Stock Tonic now and all winter. 25-lb. pail $1.60; 100-lb. sack $5.00. Smaller packages as low as 50c (except in Canada and the far West and the South). Why pay the peddler twice my prices?

Dr. Hess Instant Louse Killer

Kills lice on poultry and all farm stock. Dust the hens and chicks with it, sprinkle it on the roosts, in the cracks, or keep it in the dust bath, the hens will distribute it. Also destroys bugs on cucumber, squash and melon vines, cabbage worms, etc., slugs on rose bushes, etc. Comes in handy, sifting-top cans, 1 lb. 25c; 3 lbs. 60c (except in Canada and the far West). I guarantee it.

DR. HESS & CLARK
Ashland, Ohio

SHEEP, A PROFITABLE INDUSTRY

Missouri farmers are apparently overlooking a bet in failing to get back into the sheep business.

The demand for breeding ewes at the St. Louis market the past two months has been the greatest ever known in the history of the trade being far in excess of supplies. Those in close touch with the situation say that the native sheep supply in Missouri today is less than 50 per cent of normal.

While Missourians have had every incentive to buy breeding ewes this summer they failed to get into the game and as a result the larger proportion of ewes going back to the country from this point have been purchased by Kentucky farmers.

Kentucky and Tennessee, like Missouri, have been going out of the sheep business the past few years, being forced to this by drouth also by fear OCT 15—FOUR of cheap wool, due to the tariff change, etc. This year, however, Kentucky and Tennessee farmers are showing a keen desire to get back into the bandwagon and are picking up breeding ewes wherever they can be found.

Breeding ewes that went to Kentucky early this season sold around $5.70 per 100 pounds and that looked high at that time. However, the demand was so great that the market went up continually and recent purchases of breeding ewes here by Kentuckians were as high as $7.75 per cwt. A few days ago a well known Kentucky stockman, who already has about 1,000 sheep on hand placed an order with his local commission firm for two more cars of breeding ewes and wrote that he must have this stock and if forced to would pay anything up to $8.50 a head.

This indicates the favor in which the sheep business is regarded in those two southern states. Missouri ought to be one of the best sheep states in the Union but for various reasons her farmers have failed to grasp their opportunity.—Live Stock Reporter.

Incubators for Seed Testers

The state seed laboratory of Minnesota under W. L. Oswald, has demonstrated that the ordinary incubator used in the hatching of chickens is the very best kind of a seed corn tester.

"The advantages of the incubator as a seed tester are numerous. The most important of all is the fact that with an incubator almost ideal conditions can be maintained at any time in the winter. With a small incubator, therefore, a farmer may, in the winter months, test practically all of his seed and know just what he is going to put into the ground in the spring. If he has more than a sufficient supply of seed for himself he is able to put upon the neighborhood market seed of known value.

"It has been suggested that in communities where there are no incubators, farmers' clubs might unite in the purchase of an incubator to be used largely for seed testing."

The Missouri Farmer

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Why Some Farmers Fail

By Geo. B. Ellis, Managing Editor

Not quite one-half the people of this country live on farms but they lack a very great deal of owning half the wealth of the Nation. The farmer certainly works as long hours as any other class; the plain life of the farmer is surely as economical as that of any other calling or profession; then why can it be that farmers do not possess their legitimate share of the wealth of the Nation? Farming is one of several industries which actually create wealth. From $9,000,000,000 to $10,000,000,000 of new made wealth—riches created from the soil, the air, the rain and the sunshine—is produced every year by the tillers of the soil but for some reason there are thousands of farmers who fail to enjoy many luxuries and some even the necessities which every industrious toiler is by right entitled to have. Out of the whole number of farms in Missouri operated by owners 57.6 per cent were free from debt in 1900 but ten years later, covering a period of unprecedented agricultural prosperity we find that only 53.7 farms out of every hundred were free from mortgage. This is pretty fair evidence that quite a number of farmers do fail to make enough to supply the wants of their families and to provide a home for their old age.

But why do some farmers fail? In a recent article in The Missouri Farmer a prominent farmer of Knox County, Mr. Henry Funk, said that farmers fail "because they do not realize that they are bound together in a society where their interests are all mutual. They do not avail themselves of the benefits derived from co-operation to increase production and to assign to each individual the labor for which he is best fitted. They do not avail themselves of the natural agencies. They profit by the muscular power of the horse, the gravitating power of water and the expansive power of steam and then turn down with impunity a good book on farming. They will go many miles to hear themselves flattered by some itinerant orator, but will refuse to attend a gathering intended to do them good, where the main speakers are right from the school of instruction which he helps to maintain." The above strikes two vital points. The first is the farmer's failure to avail himself of the benefits of co-operation and the second is the prejudice which so many farmers show towards the experiment station, the agricultural paper and other sources of information.

The Missouri Farmer has from time to time pointed out the value of co-operation along various lines and there is no good reason why the farmers in every school district in the state should not be firmly united for legitimate co-operation. But how many such societies are organized and at work? There are a great many things farmers can do better by co-operative effort. A few days ago we saw three farmers, small farmers, unloading a car of shorts and mill feed which they were taking out to feed young hogs. We learned that by co-operating these three farmers had saved twenty cents a hundred—$4 a ton, or about $60 on one car load of feed. The same day neighbors of these farmers were buying an inferior quality of shorts to feed for the same market and were paying the advance of $4 a ton. During the past two or three drouth years we have had throughout Missouri and the Central West, thousands of tons of hay and grain have been brought into Missouri and bought by farmers at from $3 to $5 a ton above what it could have been bought for under a system of co-operation. Is it any great wonder that some farmers fail?

Last week we visited a neighborhood in a good county in this state and we met up with two farmers who were keeping ten or twelve cows each and on both these farms there was a grade bull costing probably $50 when only a year old. For the same money these farmers by practicing co-operation could have had a splendid registered bull that would have added from $5 to $10 a head to the value of twenty calves, and still some farmers wonder why they fail!

For a number of years the experiment stations have taught that it was very expensive of feed to try to grow or to fatten animals without balancing the ration. Extensive experiments carried on at the Missouri, Nebraska, Iowa and other stations have shown the great saving in feeding hogs by supplementing the corn with tankage, oil meal, etc., but in face of these facts thousands of farmers are feeding the same old way on corn alone. When corn was valued at 50 cents a bushel and tankage at $44 a ton there was a saving in the cost of producing a hundred pounds of pork of 76 cents by feeding the two in comparison with corn alone. For several years The Missouri Farmer has been preaching the good things about alfalfa, rape, clover and oats for cheapening pork production, but in the face of it all a trip through the country will show a greater number of hogs being fed without these crops than those fed with them. Most farmers have accepted some form of pasture supplement for hogs, but too many of them are sticking to bluegrass, timothy and other common pasture grasses instead of trying to grow the better hog-forage crops such as alfalfa and rape. A bushel of corn fed on bluegrass produced 74 cents worth of pork when hogs were selling at 6 cents a pound, while a like bushel fed on alfalfa made $1.09, on rape $1.22 and on a combination of rape, oats and clover, $1.36. Will the readers of The Missouri Farmer tell us in the face of these demonstrated facts why it is that so many farmers refuse to accept them and possibly change the operations of the farm from failure to success? The answer must be "too much prejudice.." There are hundreds of facts useful to some farmers or to many farmers but they are not found in common farm practice because prejudice against book knowledge, farm paper knowledge and experiment station knowledge has shut them out. The remedy is to keep an open mind towards sound farm practice and scientific truths no matter from what source they come.

Another cause of failure among farmers is the lack of necessary capital to carry on the business in a large enough way to make a good saving out of it. Aside from the money that has been made from increased values of land few farmers have made money except they used capital enough to employ more than their own labor. One cause for the high rate of interest on farm loans has been the uncertainty of crops and unstability of prices, but as the country grows older and farming is reduced to a better system these causes will gradually disappear. But the primary cause for too high interest rates to farmers is that they have failed to co-operate and to mobilize their credit which has long been used to advantage by the farmers of European countries. And yet we call them slow, nonprogressive and flatter ourselves to believe that we are ahead of them in good farm practice.

In discussing the high rate of interest the farmers must pay on their loans, Dr. E. H. Bullock, a prominent Knox County farmer, recently made this statement: "That the average farmer has not been making a fair rate of interest on his investment has long been an established fact. The farmer knew this was the condition, but how to remedy it he did not know. Often the banker was compelled to refuse his farmer customer money, when the farmer's very existence seemed to depend upon the loan of the money for which he was asking.

"The conditions which exist in the loan business of our country are far from just to the farmer. He is compelled to pay the highest rate of interest of any class of men and at the same time he furnishes the best possible security. Why is this condition? Simply because the farmer can and does stand for it and not because it is just. What line of business could exist, but the farm busines of this country, add ten billions of wealth to the nation, do it on borrowed capital to the amount of six billions of dollars, on which was paid an annual sum of five hundred and ten million dollars interest? This is the condition that exists in the United States today. The farm wealth of this country is forty billions of dollars. We add ten billions to the wealth every year, on a borrowed capital of six billion dollars for which we pay a rate of eight and one-half per cent interest. The lender getting for his service and the use of his capital almost seven times the value of the loan. Do these figures stagger you fellow farmers? Well they are true. True as it is possible to make state and government reports. No wonder we are astounded when we stop to think of it, when we stop long enough to take an inventory of ourselves.

"Stupendous as all these figures are, and although the farmer adds twenty-five per cent of all there is invested in farm interests to the wealth of our Nation

Co-operation is the key note to farm community success. The individual may possibly succeed without co-operation but the community can not. Without co-operation there can be no good schools, live churches, dependable roads and a cultured society.

Prejudice is the cause of more farmer's failures than any other one thing. Prejudice closes the mind to progress, to new and improved methods for farm operations without which farmers can not succeed under twentieth century conditions. The farmer must seek knowledge from every source—from other farmers, from good books, from farm papers, from the experiment station—wherever truth may be found.

Farmers fail for want of sufficient capital to make needed improvements, to drain and clear the land, to buy better live stock and to increase the fertility of the soil. They fail because interest rates are too high when measured by the meager profits in the farm business. The greatest need just now to remedy this condition is the establishment of a system of rural credits that will give farmers long-time loans at a reasonable rate of interest.

Many farmers fail because they crop the land too heavily without returning any fertility to the soil. It costs more to cultivate a poor soil than it does a good soil and the owner of the poor soil comes out in debt at the end of the season. The remedy is more live stock, more pastures and more leguminous crops. Live stock consume feed that would otherwise go to waste—this feed is turned into cash and much of its value reproduced in future crops when it is returned to the land in the manure from the barn lot.

There may be other reasons why farmers fail but these are worth while thinking about.

annually, we are only making between three and four per cent annually on our investment. Where does the other twenty-one per cent go? And echo answers where. Will some of our business men, from banker to barber, tell us where it goes? Why don't the other fellows call us business men? It must be because we let the other fellow get nearly eighty per cent of the wealth we farmers produce."

The Missouri Farmer has for several months been trying to get this subject of better rural credits before its readers but we fear that many of them do not yet see the great and vital importance of the subject. For years land values have been on a speculative basis and the man who had a small margin to pay on the price of farm had a good chance to sell it at good profit in a few years even though he had not been able to show much profit in operating it. But in the future land prices will settle down to a producing value as they should, and the price of cultivated lands will be based on their earning power. When the opportunity is closed for a ma to buy a farm, hold it a few years, then sell it for enough to buy a cheaper farm further west—and that time is here now to a great extent—then there will be plenty of farm failures unless farming can be reduced to a more stable system and unless money can be borrowed at a rate that the profits of the farm will pay. For these reasons every farmer should study the Gardner Land Bank measure that is to be voted on in 1916 that he may be in a position to cast an intelligent ballot.

The last cause of failure we will have space to consider in this article is letting the fertility of the lad run down so that the crop will not pay a profit. There are some men who seem to fear that if they make their land rich and grow big crops that the price will go down and they will therefore have no more money than if they raise a poor crop. But we have noticed that the farmer who gets along best in the world is the one who keeps up the fertility and grows big crops. If possibly there should be danger of overproduction that is a matter that should be controlled by organization and co-operation and by reduced acreage and not by lessened yields.

One of the successful farmers of Pettis County in discussing this subject says, "The time is here when no farm can be successfully handled without a sufficient amount of live stock to consume all the feed stuff raised on the farm. The time is here and always will be, when any kind of good live stock will pay well to breed and grow on the farm. There is good money in breeding and raising cattle; there is good money in breeding and raising horses and mules; there is good money in breeding and raising hogs and sheep." Another successful farmer, D. L. Southerlnad of Johnson County, says, "I have bought several farms that had been used as exclusive grain farms and everything sold from the land until nothing could be made in farming it. Then by putting the land to grass and clover, and grazing and feeding on the land in a few years it became profitable to farm again. I have been feeding cattle and hogs for thirty-five yeasr and with the proceeds of this stock I have usually bought land and by this method I have paid for twenty-five hundred acres of land."

And so it goes, the man who would avoid failure must follow the systems that have proved successful with other men.

HEALTHFUL HOUSING FOR HOGS

The common ailments that are caused by weather changes and undue exposure to cold and wet, are just as liable to occur in hogs as in other animals. They contract "colds," influenza, sore throat, bronchitis and diarrhoea just as children, calves and lambs do when "chilled through and through" by exposure to cold and wet. The thick coat of fat of hogs furnishes them fuel for heat, and gives some protection from cold; but it is neither healthful for the hog nor economical for the owner, to burn too much hog fat to keep the herd halfway comfortable on cold nights. It is quite important to prevent, as much as possible, the common ailments mentioned above, in order to more successfully combat hog cholera. The congested and inflamed condition of the air passages, and the alimentary tract produced by exposure to winter storms, are conditions, especially favorable to contracting cholera, if the herd should become exposed to that disease. The resistance of the body is not only lowered so that the hog contracts cholera more readily, but serious complications are more liable to result, such as rupture of blood vessels in the lungs or bowels, and the development of an extensive pneumonia, or a severe type of bloody dysentery that will prove fatal to the animal.

Nothing can be much worse than to allow the hogs to sleep on manure piles and around straw stacks. The overheating of some of the hogs and the subsequent exposure to cold, can hardly fail to give them a severe attack of peumonia. Anti-hog-cholera serum will not prevent deaths from cholera in such cases. Proper housing and sanitation will in most cases save the hogs and prevent the expense of the serum bill The financial losses from lack of proper shelters, in many instances greatly exceed the cost of providing these essentials to successful hog raising.

The practical requirements in supplying shelters for swine on the average farm are that the shelters shall be comfortable and sanitary as well as convenient and not too expensive. The first two requirements relate particularly to the health of the animals. The hog shelters for winter should be constructed so as to prevent cold winds and rain from blowing in upon the hogs. A leaky roof, wet floors and cracks in the walls, on the windward side, that permit cold draughts to blow directly on the hogs, invite lung troubles and losses from hog cholera. Wherever it is possible, advantage should be taken of natural windbreaks in locating the winter shelters. A strip of timber or an orchard, at the north, and a sloping southern exposure of the grounds are advantageous.

The shelters should be built so as to permit good ventilation and access of sunlight in abundance to all parts of the interior. The aim should be to ensure a moderate degree of warmth, dryness, and a proper supply of fresh air. The shelters should also be constructed so as to be easily cleaned and disinfected; otherwise they will not be kept in a sanitary condition. If the essentials mentioned which are necessary for the maintenance of health are kept in mind, it does not matter so much about the style of the hog house or the materials used. Cheap structures that have been used for other purposes can at times be converted into comfortable hog sheds without much expense. Plans and detailed specifications for the different forms of movable and permanent hog houses that have found favor with practical hog raisers, can be obtained from the Animal Husbandry Department or from the office of the Agricultural Extension Service.

Summer Shelters: Hogs suffer quite as much from excessive heat as from cold, possibly more so; and their discomfort is great in midsummer in open fields where no shades are available. Even moderate exercise on hot days has in many instances caused death from "heat stroke." Hogs thus exposed suffer loss of vigor and resistance to disease, and are more liable to contract cholera if exposed to it. Under the conditions mentioned the hogs root out deep beds in the soil in their efforts to find a cool spot. These beds become in time very dry and dusty; and the inhaled dust sets up irritation of the bronchial tubes. The dust moreover may become infected with disease germs that produce coughs and bronchitis, or even pneumonia and cholera.

Movable shades can be provided at small expense that will give the hogs great comfort. These shades can be set at any convenient place in the fields that have been sown to rape, or other green forage crops for summer hog pasture. And if deemed advisable the shades can be moved about from time to time. A water barrel with a self-water device can be put under one corner of the shade, preferably the northeast corner, which is least exposed to the sun during the hottest part of the day.

A comparatively cheap and good hog shade is made by sharpening four fence posts at one end and driving them into the ground a foot or more deep at the corner of a twelve foot square. A fence board 1x6 12 ft. long is nailed near the top, joining the two posts on the north, and another board is nailed a foot lower, joining the two posts on the south, so as to give some slope to the roof. Boards are then nailed from the front to the back posts at the east and west sides. These boards are set on the slope so that the top edge comes even with the top of the front and back boards. A 2 x 4 scantling is nailed across east and west at the center between the sloping boards, so as to prevent sagging of the roof. Rough boxing or fence board can be tacked over the top. Straw may also be thrown over the top to further break the heat rays The sides are left open to allow currents of air to pass over the hogs. If the hogs show an inclination to root up the dirt floor under the shade, two strips of heavy chicken wire should be stretched over the floor after the soil has been smoothed down. The edges of the wire can be tacked to fence boards and these nailed to the bottom of the fence posts so as to hold the wire firmly in place. A layer of dirt an inch or so deep can be put on top of the wire and tamped down. An occasional sprinkling of the dirt floor to keep down the dust is advisable. An improved sprinkler may be made from an old tin bucket or a quart tomato tin by punching small holes in the bottom if a sprinkling can or hand spray pump is not available.

A simple pole-and-straw shade while not so durable and lets rain through makes a good sun break and should be provided if better materials are not convenient.

The cool shade supplied by these temporary summer shelters is far better than mud wallows to keep hogs comfortable and healthy.

J. W. Connaway, D. S. V., M. D.,
Missouri Experiment Station.

NOW AND THEN IN AGRICULTURE

Not long ago where Mr. Wright and I held a farmers' institute of two days and an evening, giving five talks each, the now and the then in agriculture were both in evidence. I never saw so many old gentlemen at an institute before. They never missed a session and were always on the front row of seats. The situation impressed me greatly for the majority of the gentlemen referred to do not farm actively any more, and the question as to why these men came night and day caused a line of thought that may be the answer. They were young farmers in the day of $1.25 an acre land, and the children that were there, possibly their grandchildren and great-grandchildren, who are to be the farmers of tomorrow are living in the day of $125 an acre land, and in the same neighborhood and on the same farms where these same gray-haired men began.

I could not but contrast these fine old men with some others I have met. These men had the intelligence to grasp the situation of sixty years ago and now. They were glad to lend every possible thing they could to help the young folks "make good" on $125 land, the very same on which they "made good" on the land costing them from $1.25 to $15 an acre.

These old gentlemen welcomed any who could give the young folks some farm information they themselves did not have. How often do we see the reverse of this even among old men. No good word for the College of Agriculture, the institute man, nor the county agricultural agent, all of which are primarily to help the young folks "make good" on high-priced land. It most certainly looks to me like such men should hang their heads for shame. They seem to forget that Uncle Sam paved the way for them, giving them cheap virgin soil and easy terms of payment. Yet when Uncle Sam and the State of Missouri seek to help under modern conditions these fellows object, and point out how they "made good." One way, a common one, is about like this: A man of my acquaintance has 800 acres of fine land that about the year 1898 cost him $35 an acre. He has refused $115 an acre and wisely, too, I think. An increase of $80 an acre that he did not earn, or $64,000 richer by the increase in the price of land alone, or $64,000 better off than if land had not "come up." Clear money, too, mind you. Do you reckon he made as much farming the land as the rise amounted to? $4,000 a year on 800 acres clear profit would be pretty good. Wouldn't it sound becoming to hear him "blow" about his fancy work on the farm? I know a man who owns great tracts of land that most of it cost him less than $1 an acre. He is selling it now at from $35 to $125 per acre. Wouldn't it sound fine to hear him brag about being a great farmer?

I have found at least two great classes of objectors to what they call "book farming." Listen to his remarks and look up some records as I have done, and you will commonly find the one who cannot point to a single act of his own that was to better his community unless the law compelled it, and the other is a "grand stander" nine times out of ten over his ears in debt.

Try it once. Listen to his clamor; then look him up, and if he has a dollar see if it does not look to him as big as a wagon wheel, or see if it really does not belong to somebody else.

Sam Jordan.

WHEN WE COME BACK

When our forefathers crossed the mountains in the East and got in touch with the fertile land of the upper Mississippi and Missouri valleys they thought that here was a land so deep, so fertile, so mellow that it would never fail. Our southern farmers have never imagined such a thing of any soil in the South, yet they did what was worse. They imagined that when they had worn out one farm there would be another one ready at hand. The amount of land which has been so reduced in fertility as to no longer pay for cultivation, by farmers who have entertained such ideas, would stagger the imagination of a conservative man.

A long time ago it might have been cheaper to sandbag nature and take away her wealth than to conserve the fertility of our soil. But good land has risen so in price, and the population has increased so that it behooves those who have good land, to keep it so and those who have not, to make it so.

The settlers in the wonderful Corn Belt country after years of constant cropping with corn found their yields failing. Then began to be worked out a system of rotation. The first and simplest rotation was a two-year one of corn and oats. This increased the yield for a few years but oats were not very profitable and the yields began to fail again. Then came the three-year rotation of corn, oats and clover. A slight variation of this—a rotation of corn, corn, oats and clover, giving one-half the land in corn instead of one-third, together with the three-year rotation, are the most popular cropping systems now.

The Southern man, on the other hand, soon found his land exhausted by constant cropping with cotton and corn. And it seemed that somebody had hogged all these new farm he was looking forward to. At any rate he found them harder to get than he had anticipated. What did he do? Why he commenced soil improvement work.

Unlike the level lands in the Corn Belt, the land that has had constant cropping in the South is usually cut into shreds with gullies. It seems no land washes so easily as the southern loam, when the timber is removed. In addition to being soft the soils are usually very unlevel. The southern man who has kept up the single cropping system for a number of years finally wakes up to the fact that his farm is not making him a profit and that every winter a large percent of his soil is washed down to the Gulf. The first thing he must do is to stop that everlasting washing. I am not in favor of terracing unless the land is so steep a cover crop will not hold it. By keeping our land in cover crops in winter and running our rows nearly level we are generally able to avoid expensive terracing.

In view of this fact it seems a popular rotation would be corn, oats, followed with cowpeas and cotton, using a winter cover crop of some kind every year. The farmer who rotated corn and cotton has long ago been lost in the shu e and is no more considered. And such will be the fate of the man who rotates corn, cotton, and oats. This rotation adds not an atom of plant food to the soil. On the other hand it is constantly depleting it. The rotation that will maintain or build up the fertility of your soil must include something that will put plant food into the soil as well as rest the land. The farmer who does not use legumes is a back number and must fall behind the procession of progressive farmers.

If you have ever examined the rooting system of your crops you found that the grain crops were usually shallow rooted. Cotton goes a little deeper but even so it does not penetrate into the subsoil. Then you found that the legumes were deep rooted plants—that they possessed deep, long tap-roots as well as long healthy lateral roots. Then why not take advantage of the knowledge you thus gained and plant a deep-rooted crop in rotation with your shallow rooted grain crops? If you fail to do this you are going to have a subsoil almost impervious to water and below the depths of the corn roots you will find hard-pan. Legumes overcome this difficulty. They sink their roots down where no roots have been before and lay hold on the supply of potash and phosphorous locked up there. There is in most all soils more potash and phosphorous in the subsoil than in the surface soil, but legumes seem to be the only plants that are able to take advantage of it. Only a very small per cent of it is available even to them. When they are turned under, however, the added humus exerts a refining influence on these minerals and breaks them down, making them more soluble. The roots, when they rot, leave passages through which the water and air are allowed to circulate freely thus hastening the availability of the potash and phosphorous.

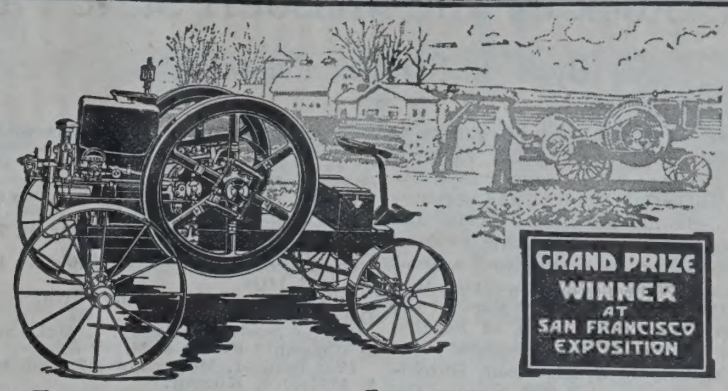
I once knew a man who had grown corn on the same land for twelve years. The land had been poor when he got it yet he built it up and got a crop of corn every year. He made his corn rows six feet apart. He planted peanuts between the rows and sowed peas in the rows. The peanuts and corn were gathered but the peas and stalks were left for the hogs and cattle. When the hogs and cattle got through with them each fall he sowed a winter cover crop and let the stock graze the land all winter. Thus he saved the expense of feeding hogs and the trouble of spreading his manure. The last crop he raised was not the best one but it was very much better than the first. He used a like method on his cotton—planting peas and peanuts in the rows and then planting a winter cover crop and grazing.

Just at this time you ought to decide how you are going to increase the productivity of your land. Plan a sensible rotation as the first step, using in it as much legumes as you can. The other steps of adding live stock to your farm economy, and using the best means obtainable for preventing erosion, will come naturally.

Make the rain and the atmosphere your friends. With such partners as these, your possibilities on the farm are unlimited. Why, even the water that falls on your land contains nitrogen, in an available form, too. It is estimated that about five per cent of the nitrogen available on your land each year comes down in the rain. Make an honest effort to co-operate with nature next year and see what the partnership will do. If you do not co-operate with her you will be certain to arouse her jealousy, and when this is done you are lost.

Kolb Perkins, Cushing, Tex.

(Mr. Perkins is a Missouri-raised farmer and is still operating a Missouri farm. His advice to co-operate with the natural elements and to grow more legumes and raise live stock is the salvation of our future prosperity. Soil fertility is the foundation of all successful agriculture and without clover, alfalfa and other legumes raised and fed out on the farm it is a costly process to maintain fertility.)



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A Real Farmers' Club

The farmers of the Grindstone school district in Boone County have a "Farmers' Club" that is doing things. Last summer its members saved nearly $200 in buying binder twine—but co-operation in buying certain things which cannot be purchased advantageously in the local markets is only one part of the Club's activities. During the coming winter a weekly meeting will be held and on each meeting night some vital farm subject will be discussed. At the last meeting the Land Bank Law was explained—while "How to Grow Alfalfa," "Cowpeas, Soybeans and Rape," "Silos," "Soil Fertility," "Community Sires," "Better Public Roads," "Feeding Live Stock," "Controlling Hog Cholera," "Co-Operative Creameries," "Our District School" and other similar subjects are on the roster for the winter's discussion. A "leader" is appointed to lead the discussion on each meeting night after which there is a "free for all" exchange of ideas. "Our farmers are getting more keenly interested all the time," remarked the president to a represetative of this paper some days ago. "We are taking a deeper interest in our farm problems than ever before and every member declares he is getting much profit and enjoyment out of the weekly meetings."

Why shouldn't the farmers of hundreds of other school districts in Missouri do likewise? The Missouri Farmer has just issued a circular on which will be sent free for the asking which will be sent free fo rthe asking—and it contains the most vital discussion of co-operation among farmers that has ever appeared in print. Send for it today.

Selecting Seed Potatoes

The time to select seed potatoes is just as they are being dug. The only practicable method for selecting the seed for improvement is the hill method. It is no advantage to select the best tubers from the big pile after the potatoes are all dug. Where the potatoes are dug by hand each hill should be piled alone and then go along with a basket and take only those hills for seed which have a goodly number of smoothe even sized potatoes. Be guided in your selection by the whole number of potatoes in the hill and not by one or two potatoes no matter how fine they may chance to be.

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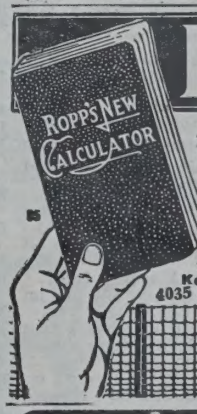

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Live Stock at The Missouri State Fair

By R. P. ROYCE, Fieldman

With about half as many animals of the four beef breeds showing as were entered, the beef cattle show was a disappointment. One hundred and seventy-eight Shorthorns, Herefords, Angus and Galloways is not a good showing for Missouri. Cattlemen were expecting a great show in all breeds. It was assumed that most of the herds that would show at the American Royal would meet at Sedalia, and most of them were entered and planned to ship to Sedalia from Hutchison, Kan., but at the last minute the Missouri fair management overlooked a bet and failed to have a representative at the Kansas show to round up the exhibitors, and as a consequence the secretary of the Oklahoma State Fair succeeded in diverting a number of herds that would otherwise have competed at Sedalia.

While the Missouri show was woefully lacking in numbers the quality of the show was above criticism. Among the exhibits were some of the greatest herds of the various breeds. Much credit is due Superintendent R. M. Brown for the management of the show. Mr. Brown was almost alone responsible for getting what cattle were there. Heretofore Mr. Brown had the assistance of N. H. Gentry, a member of the state board of agriculture and director in charge of the beef cattle department of the fair. Mr. Gentry is the best known livestock breeder in Missouri and his sincere interest in the success of the state fair has always been sufficient to secure a representative show of all breeds. However, Mr. Gentry was dropped from the board this summer by Governor Major, and the man who succeeded Mr. Gentry as director in charge of beef cattle is a local politician, who is not in a position to induce breeders to show at Sedalia, even if he was disposed to build up a great show. It is truly unfortunate that politics is not sufficient to put across a great state fair—if it could be done by this method Missouri would have one of the greatest agricultural and livestock exhibitions in the country, for surely no fair is more surfeited with politics than Missouri.

THE BEEF CATTLE SHOW

The Shorthorns

It has been a long time since such a small showing of the red, white and roans has been made at Sedalia. Four exhibitors with thirty-six animals made up the Shorthorn show. In several classes there was little or no competition, in the aged bull class and again in the junior yearling bull class only one entry was led out. The quality of the entries was of state fair caliber in most classes, but the small number shown detracted from the interest. The Kilgour herd was the top-heavy winner, and aside from several first and seconds, won the junior champion bull, senior champion cow, and junior and grand champion female. The Uppermill Farm herd had the senior and grand champion bull in Sultan's Last.

Exhibitors: J. W. McDermott, Kahoka, Mo.; Joseph Miller & Sons, Granger, Mo.; J. A. Kilgour, Sterling, Ill.; Uppermill Farm, Wapello, Iowa.

Judge—Jno. E. Robins, Horace, Ind.

Bull, 3 or over—Uppermill Farm on Sultan's Last.

Bull, 2 and under 3—1, Uppermill Farm on Village Crest; 2, McDermott on Cainford Marquis 2nd.

Bull, senior yearling—1, Kilgour on Champion Goods; 2, Miller on Choice Cumberland.

Bull, junior yearling — McDermott on Golden Count 2nd.

Bull, senior calf—1 and 5, McDermott on Village Marshal and Golden King; 2, Miller on Correct Cumberland; 3, Uppermill Farm on Village Ordens; 4, Kilgour on Bessie's Monarch.

Bull, junior calf—1, McDermott on Scottish Marshal; 2, Kilgour on Fair Acre's Victor; 3, Uppermill Farm on Village Excellence.

Heifer, 2 and under 3—Kilgour on Fair Acre's Nell; 2, Uppermill Farm on Maxwelton Crown Rose; 3, McDermott on Blanche.

Senior yearling heifer—1, Kilgour on Bonnie Belle 14th; 2 and 3, McDermott on Fair Star and Fair Gift; 4, Miller & Sons on Oakdale Mayflower.

Junior yearling heifer—1, Kilgour on Silver Nell; 2 and 3, Uppermill Farm on Village Adelaide and Village Blythesome 3rd; 4, Miller & Sons on Oakdale Jealousy.

Senior heifer calf—1, McDermott on King's Gift; 2, Uppermill Farm on Village Violet; 3 and 5, Kilgour on Sweet Main 21st and Gloster's Duchess; 4 and 6, Miller & Sons on Gipsy Cumberland and Roan Queen.

Junior heifer calf—1 and 3, Uppermill Farm on Village Clara 6th and Village Venus 2nd; 2, McDermott on Roberta's Image; 4, Miller & Sons on Oakdale Augusta 3rd.

Senior champion—Uppermill Farm on Sultan's Last.

Junior champion bull—Kilgour on Champion Goods.

Grand champion bull—Uppermill Farm on Sultan's Last.

Senior champion cow—Kilgour on air Acre's Nell.

Junior champion cow—Kilgour on Bonnie Bell 14th.

Grand champion cow—Kilgour on Bonnie Bell 14th.

Aged herd—1, Uppermill Farm; 2, McDermott.

Young herd—1, Kilgour; 2, McDermott; 3, Uppermill Farm; 4, Miller &Sons.

Calf herd—1, McDermott; 2, Uppermill; 3, Miller; 4, Kilgour.

Four animals, either sex, get of sire—1 and 5, Kilgour; 2, McDermott; 3 Miller; 4, Uppermill.

Two animals either sex produce of 1 cow—1, Kilgour; 2, Miller; 3, McDermott; 4, Uppermill.

The Herefords

The show of Herefords was high class in every way. Six herds from Missouri, Iowa and Kentucky furnished twice as many entries as any other breed. The herds of O. Harris & Son and J. M. Curtice have been fighting it out all summer at the leading shows and naturally furnished the same battle at Sedalia for first honors that they had staged before. The championship honors were evenly divided between these two herds, the former annexing the senior champion bull and the junior champion female while the Curtice herd had the senior champion cow and junior champion bull. The Dallmeyer herd from Jefferson City and the Roe herd from Kentucky made keen competition for the lower places.

Exhibitors: W. H. Roe, Shelbyville, Ky.; W. Andrew & Sons, Morse, Iowa; W. A. Dallmeyer, Jefferson City, Mo.; O. Harris & Sons, Harris, Mo.; L. J. Smith, Pleasant Hill, Mo.; J. M. Curtice, Kansas City, Mo.

Bull, 3 or over—Harris on Repeater 7th.

Bull, 2 and under 3—1, Andrews on Bonnie Brae 60; 2 and 5, Curtice on Don Perfect 2d and Don Perfect 1; 3 and 4, Harris on Gay Lad 16th and Harris Standard.

Bull, senior yearling—1, Curtice on Don Perfect 4th; 2, Harris on Repeater 29th; 3, 4 and 5, Roe on May's Perfection 3d and Roohampton 2nd and 3d.

Bull, junior yearling—1 and 3, Curtice on Don Perfect 5th and Don Perfect 6th; 2 and 5, Dallmeyer on Premier Dare and Donald Dare; 4, Andrew on Bonnie Brae 84th.

Bull, senior calf—1 and 2, Harris on Repeater 57th and 66th; 3 and 6, Roe on Roehampton 11th and 10th; 4 and 5, Curtice on Don Perfect 9th and 11th; 7, Dallmeyer on Washington; 8, Smith on Stram Coli.

Bull, junior cal—1, 3 and 4, Curtice on Don Perfect 12, 13 and 14; 2 and 7, Andrews on Bonne Brae 93 and 90; 5, Dallmeyer on Roland Dare; 6, Roe on Roehampton 13; 8, Smith on British Swell, Jr.

Cow, 3 and over—1 and 3, Harris & Sons on Defender's Lassie and Miss Repeater 11; 2, Curtice on Donna Perfect 9th.

Heifer, 2 and under 3—1 and 2, Curtice on Vivian McDonald and Michief Maker; 3, Harris && Son on Miss Gay Lad.

Heifer, senior yearling—1 and 3, Harris & Sons on Miss Repeater 29th and Miss Perfection 9th; 2 and 7, Dallmeyer on Mildred Dare and Mary Dare; 4 and 6, Curtice on Bell Perfect and Donna Perfect 8th; 5, Andrews & Son on Miss Brae 58th.

Heifer, junior yearling—1, Curtice on Donna Perfect 10th; 2, Andrews & Son on Miss Brae 59th; 3, Harris & Sons on Miss Perfection 10th; 4, Dallmyer on Dorothy Dare; 5, Roe on Dorothy Donald 6th.

Heifer, senior calf—1, Harris & Son on Miss Gay Lad; 2 and 4, Curtice on Donna Perfect 16th and Betty Perfect; 3 and 7, Andrews & Son on Miss Brae 6th and Miss Brae 71st; 5, Dallmeyer on Rose Dare; 8, Roe on Dorothy Tampton.

Heifer, junior calf—1, 5 and 7, Harris & Son on Miss Gay Lad 37th, Miss Repeater 56th and Miss Repeater 59th; 2, Roe on Dorthy Hampton 13th; 3 and 4, Curtice on Donna Perfect 17th and Donna Perfect 18th; 6, Andrews & Sons on Miss Brae 70th; 8, Smith on Lady Teresa.

Senior champion bull—Harris & Son on Repeater 7th.

Junior champion bull—Curtice on Don Perfect 12th.

Grand champion—Harris & Son on Repeater 7th.

Senior champion cow—Curtice on Vivian Donald.

Junior champion heifer—Harris on Miss Gay Lad 32.

Grand champion cow—Curtice on Vivian Donald.

Aged herd—1, Harris & Son; 2, Curtice.

Young herd—1, Harris & Sons; 2, Curtice; 3, Dallmeyer; 4, Andrews & Sons; 5, Roe.

Calf herd—1 and 4, Curtice; 2, Harris & Sons; 3, Roe; 5, W. Andrews & Sons; 6, Dallmeyer.

Four animals, get of 1 sire—1 and 2, Harris & Son on get of Repeater and Gay Lad 6th; 3 and 6, Curtice on get of Don Perfect; 4, Dallmeyer on get of Paragon 12th; 5, Roe on get of Rothampton.

Two animals, produce of 1 cow—1 and 3, Harris & Sons on Harris Princess 31st and Harris Princess 65th; 2, Andrews & Sons on Miss Brae 19th; 4, Curtice on Lulu Perfect; 5, Andrews & Sons on Belle of Oak Grove; 6, Dallmeyer on Princess Camillus.

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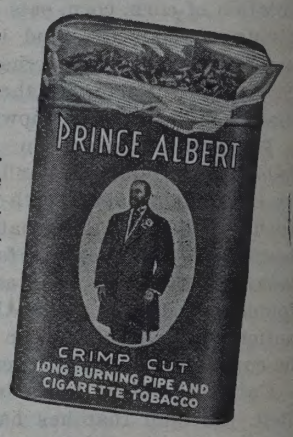
We say to you: Lay down a nickel or a dime for a supply of Prince Albert, because it will please you more than any tobacco you ever smoked, it is so cool, and tasteful, and fragrant.

Prince Albert is sold everywhere in toppy red bags, 5c; tidy red tins, 10c; handsome pound and half-pound tin humidors, and in that fine crystal-glass humidor with sponge-moistener top that keeps the tobacco in first-class shape.



R. J. REYNOLDS TOBACCO COMPANY, Winston-Salem, N. C.

The Angus

The only criticism that could be offered on the showing of Angus was the lack of numbers. The quality of the show was never better and the two herds that competed are conceded to be the two best herds of the breed. These two herds have made the circuit together and usually at each fair several of the placings have been reversed. The Caldwell herd, the Missouri entry, won three of the championships. The show was easily one of the best ever seen in Missouri.

Exhibitors: C. D. & E. D. Caldwell, Burlington Junction, Mo.; Chas. Excher, Jr., Botna, Iowa.

Bull, 3 or over—1, Caldwell on Evreux of Harviestoun; 2 and 3, Escher on Ben Hur and Prince Felzer.

Bull, 2 and under 3—Caldwell on Black Cap Star.

Sennor yearling bull—Caldwell on Black Cap Bertram and Black Cap Star 2nd.

Junior yearling bull—Caldwell on Every Time and Quarters.

Senior bull calf—1 and 2, Escher on Promoter E and Black Right; 3, Caldwell on Caronial.

Junior bull calf—Caldwell on Evistos.

Cow 3 or over—1 and 3, Caldwell on Pride Petit and Erito; 2 and 4, Escher on Myra of Rosemere and Ley of Indianapolis.

Cow 2 and under 3—1 and 3, Caldwell on Erito and Esthonia; 2 and 4, Escher on Eulina 28th and Black Bird of Rosemere.

Senior yearling heifer—1 and 3, Escher on Bell Eclipse and Elassoma Erina; 2, Caldwell on Pride of Autumn.

Junior yearling heifer—1 and 4, Caldwell on Black Bird. Jan 2nd and Black Bird 156; 2 and 3, Escher on Enlotte and Blue Ribbon Lady.

Senior heifer calf—1, 2, 3 and 5, Escher on Black Bird Perfection, Pinky Pride, Kensington Lady E. and Elino E.; 4, Caldwell on Eloveta 4th.

Junior heifer calf—1 and 2, Caldwell on Erotus 2nd.

Senior and grand champion bull—Caldwell on Evereux of Harviestoun.

Junior champion bull—Caldwell on Black Cap Bertrano.

Senior and grand champion cow—Caldwell on Pride Petite.

Junior champion cow—Escher on Belle Eclipse.

Aged herd—1, Caldwell; 2 and 3, Escher.

Young breeder's herd—1, Escher; 2, Caldwell.

Calf herd—1 and 3, Escher; 2, Caldwell.

Four animals either sex, get of one sire—1, Caldwell; 2, Escher.

Two animals, either sex, produce of one cow—1 and 3, Caldwell; 2, Escher.

The Galloways

Missouri came to the front this year with a new Galloway entry. The firm of Swigart & Son, Salisbury, Mo., have again entered the show ring and only a few days before the fair purchased the show herd of G. E. Clark, Topeka, Kan. The other entry was the well-known Croft herd from Bluff City, Kan. These two herds furnished all the competition in the various classes and made a show that in point of quality ranked with any of the other breeds.

Exhibitors: C. H. Swigart & Sons, Salisbury, Mo.; M. & G. Croft, Bluff City, Kan.; G. E. Clark, Topeka, Kan.

Judge—Dr. H. M. Brown.

Bull 3 or over—1, Croft on Choice Master; 2 and 3, Swigart & Sons on Othello of Avondale and Marquis.

Bull 2 and under 3—1 and 2, Swigart & Sons on Echo of Capital View and Lord Othello 2nd.

Senior yearling bull—1, Croft on Enus; 2, Swigart & Sons on Nettie's Medalist.

Junior yearling bull—1 and 3, Swigart & Son on Othello Junior and Minnie's Medalist; 2, Croft on Omar.

Senior bull calf—1 and 2, Croft on Clarence th and Ross of Greenbush; 3, Clark on Chancy of C. V.

Junior bull calf—1, Clark on Captain 4th; 2, Croft on Kingsley Jr.

Cow 3 or over—1 and 3, Swigart on Nelly Melville and Dora 2nd of Kilquhanity; 2, Croft on Lady Love of Maples.

Cow or heifer, 2 or under 3—1, Croft on Pet of Green Bush; 2 and 3 Swigart on Sunflower Maid of C. V. and Baroness 2d of Avondale.

Senior yearling heifer—1, Croft on Es-

sie M. 2d; 2, Swigart on Mola's Pride of C. V.

Junior yearling heifer—1, Swigart on Lady Like of C. V.; 2 and 3, Croft on Lady of Greensbush and Ellen Brosn 2d.

Senior heifer calf—1, Swigart on Nettie's Best; 2 and 3, Croft on Owendaline and Lady 2d of Greensbush.

Junior heifer calf—1 and 3, Croft on Flo of Greensbush and Floss 6th of Greensbush.

Senior champion bull—Croft on Choice Master.

Junior champion bull—Swigart & Sons on Worthy Medalist.

Grand champion bull—Croft on Choice Master.

Senior champion cow—Swigart & Sons on Nellie Melville.

Junior champion heifer—Croft on Essie M. 2nd.

Grand champion cow—Croft on Essie M. 2nd.

Aged herd—1, Croft; 2, Swigart & Sons; 3, Swigart & Sons.

Young herd—1, Swigart & Sons; 2, Croft.

Calf herd—1, Swigart & Sons; 2, Croft.

Four animals, get of one sire—1 Croft; 2, Swigart & Sons.

Two animals, produce of one cow—1, Swigart & Sons; 2, Croft.

FAT CATTLE

Exhibitors: University of Missouri, Columbia, Mo.; Chas Escher, Botna, Iowa; W. A. Dallmeyer, Jefferson City,

SHORTHORNS

Judge—Dr. H. M. Brown, Hillsboro, O.

Steer or spayed heifer—University of Missouri on Surprise.

GALLOWAYS

Steer or spayed heifer, 2 and under 3—University of Missouri on Redland.

Steer or spayed heifer, senior yearling—University of Missouri on Wildwood.

Steer or spayed heifer, junior calf—University of Missouri on Foreman.

Group of 3 head—University of Missouri.

ANGUS

Steer or spayed heifer, 2 and under 3—1, Escher on The Ford; 2, University of Missouri on Ross of Edgewood.

Senior yearling—1, Escher on Erin's Lad; 2, University of Missouri on Prince of View Point.

Junior calf—University of Missouri on Censor.

Senior calf—Escher on Villi.

Group of 3—1, Escher on The Ford, Erin's Lad and Villi; 2, University of Missouri on Ross of Edgewood, Prince of View Point and Censor.

Champion—Escher on The Ford.

HEREFORDS

Judge—John E. Robbins, Horace, Ind.

Judge—John E. Robbins, Horace, Ind.

Steer or spayed heifer 2 and under 3—University of Missouri on Dispatcher.

Junior yearling—1, Andrews on Bonnie Boy; 2, University of Missouri on High Mark.

Senior calf—1, University of Missouri on Distinction; 2, Dallmeyer on Spinster.

Champion—Andrews on Bonnie Boy.

Group of 3—University of Missouri on Dispatcher, High Mark and Distinction.

Judges—Dr. H. M. Brown and John E. Robins.

Steer or spayed heifer 2 and under 3—1, University of Missouri on Jack; 2, Escher on Bon Ton.

Senior yearling—Escher on W. O. W.

Senior calf—1, Escher on The Kaiser; 2, Gentry & Son on unnamed entry.

Championship—Escher on The Kaiser.

Group of 3—Escher on The Kaiser, Bon Ton and W. O. W.

DAIRY CATTLE

Missouri should have one of the greatest dairy cattle shows in the country, and it is difficult to understand why a better show can not be staged at Sedalia. No state in the Corn Belt is showing more interest in dairy cattle than Missouri, but the fact remains that each year visitors at the State Fair are disappointed in the showing. This year the Jersey division had two very high class herds, both Missouri owned, and either a credit to the state and the breed. No fault can be found with the quality of the Jersey show but the same criticism offered in regard to the beef cattle can be made, namely, lack of numbers. It is to be hoped that the management of the fair will make a special effort to get a larger entry list for next year. It can be done if sufficient interest by the management is taken. Only one herd of Holsteins, and that one from Iowa, was on exhibition. The Missouri Holstein breeders have their state organization now and it is up to them to see that their breed has a creditable exhibit from Missouri herds. The cattle are here, it remains to get them out.

JERSEYS

Exhibitors: Wainscott & Klump, Nevada, Mo.; F. J. Bannister, Kansas City, Mo.; Longview Farm, Lee's Summit, Mo.; R. Y. Gibson, Jacksonville, Ill.

Bull 3 or over—1, Longview Farm on Queen's Raleigh; 2, Bannister on Beatrice Stockwell.

Bull 2 and under 3—Bannister on La Ciana's Den Ramon.

Bull 1 and under 2—1, Gibson on Majesty's Oxford Eminent; 2, Bannister on Flora's Queen Raleigh; 3, Wainscott & Klump on Countess Lad's Enler; 4, Longview Farm on Perfection Raleigh.

Bull calf under 1—1 and 2, Bannister on Golden Fern's Pathfinder and Queen Honeymoon Raleigh; 3 and 5, Longview Farm on Rezel's Raleigh Boy and Crossy's Golden Fern; 4, Gibson on Majesty's Oxford Majesty.

Cow 4 or over—1, Bannister on Beechland's Champion Lily; 2, 3 and 4, Longview Farm on Raleigh's Fairy Glen, Raleigh's Leda and Twodot.

Cow 3 and under 4—1, 2, 4 and 5, Bannister on Agatha's Maiden Fern, Noble's Dair Norissa, Warder's Fern Blossom and New Year's Golden Fern; 3, Longview Farm on Queen's Raleigh's Fontaine.

Heifer 2 and under 3—1 and 2, Longview on Raleigh's Financial Hope and Queen Rose of the Raleighs; 3, Bannister on La Cima's Dolcros; and 4, Gibson on Oxford's Coulisso.

Heifer 1 and under 2—1 and 4, Longview Farm on Raleigh's Majesty Crocus and Raleigh's Stockwell Girl—2, Gibson on Togo's Sultana; 3 and 5, Bannister on Paranas Noble Fern and Nobility's Lady Raleigh.

Heifer calf under 1—1, 3 and 4, Bannister on Cowslip's May Day, Shamrock's Ivy's Nancy and Sultana of Zanzibar; 2, Longview Farm on Raleighs Hopeful Finance; 5, Gibson on Majesty's Oxford Sultana.

Senior champion bull—Longview Farm on Queen's Raleigh.

Junior champion bull—Gibson on Majesty's Oxford Eminent.

Grand champion bull—Longview Farm on Queen's Raleigh.

Senior champion cow—Bannister on Agatha's Maiden Fern.

Junior champion cow—Longview Farm on Raleigh's Financial Hope.

Grand champion cow—Bannister on Agatha's Maiden Fern.

Exhibitor's herd—1, Longview Farm; 2, Bannister.

Breeder's young herd—1, Bannister; 2, Gibson; 3, Wainscott & Klump.

Four animals either sex. get of one sire—1, Bannister; 2, Longview Farm; 3, Gibson.

Two animals either sex, produce of one cow—1, Longview Farm; 2, Gibson; 3, Wainscott & Klump; 4, Longview Farm.

HOLSTEINS

Elliott Bros., Woodward, Iowa, were the only exhibitors of Holstein cattle.

DRAFT HORSES

The draft horse show this year was practically a local show inasmuch as all entries were Missouri horses with the exception of one stable from Iowa. What horses that were shown were very good but there were not enough to fill the classes as they should be filled. It is hard to understand why the Missouri fair management is unable to secure more heavy horses. Other state fairs seem to experience little difficulty in inducing the large importers and dealers to exhibit. Perhaps the Sedalia management is inclined to go a bit top heavy in the effort to attract the light horses. For several years past great pains have been taken to fill the $2500 saddle stake, and we have no quarrel on this feature, but we would like to see equally strenuous efforts made to attract the heavy horse men.

Prof. J. G. Fuller, of Madison, Wis., judged all the draft classes in a manner that brought forth praise from exhibitors and spectators alike.

PERCHERONS

Exhibitors: Smith Bros., Beaman, Mo.; W. E. Files, LaMonte, Mo.; Howell & Dawson, Paris, Mo.; H. A. Rotermund, Lincoln, Mo.; J. F. Roelofson, Maryville, Mo.; P. G. McCully & Son, Princeton, Mo.; A. S. Davis, Green Ridge, Mo.; A. M. Walker, Laclede, Mo.; M. D. Allcorn, Sedalia, Mo.; Crawford & Griffin, Newton, Iowa; W. J. Finley, Higginsville, Mo.; Otto Bros., Kirksville, Mo.

Stallion 4 and over—1, Otto Bros. on Astrakan; 2 and 4, Roelofson on Kroisuer Dynouns; 3, McCully & Son on Gaulois.

Stallion 3 under 4—1, Smith Bros. on unnamed entry; 2, Crawford & Griffin on Bismark; 3, Roelofson on Tableau.

Stallion 2 under 3—1 and 4, Crawford & Griffin on Nogent and Nadaree; 2, Lee Bros. on Brilliant; 3, Walker on unnamed entry; 5, Smith Bros. on unnamed entry.

Stallion 1 under 2—1, Crawford & Griffin on Shady Lawn's Best; 2, Roelofson on Belmont.

Stallion Foal—1, McCully & Son on Bob Dillos; 2, Files on Champagne.

Mare 4 and over—1, McCully & Son on Tong; 2, Allcorn on Kate Ross; 3, Smith Bros. on unnamed entry; 4, Files on June.

Mare 4 and over—1, McCully & Son on Dorothy.

Mare 2 and under 3—1, Howell & Son on Finale; 2, Davis on Hochette.

Mare 1 and under 2—1, Allcorn on Clara; 2, Roelofson on Etsu; 3, Davis on Javette; 4 and 5, McCully & Son on Favorite and Lady Oakland.

Filly foal—1, McCully & Son on Nettie May.

Group of 5 stallions—1, Crawford & Griffin.

Group of 3 mares—McCully & Son.

Stallion and 4 mares—McCully & Son.

Four animals either sex, get of one sire—Roelofson.

Two animals either sex, produce of one mare—1, Allcorn on Clara and Brilliant; 2, McCully & Son on unnamed entry.

Champion stallion—Otto Bros. on Astrakan.

Reserve champion—Crawford & Griffin on Shady Lawn's Best.

Champion mare—McCully & Son on Dorothy.

Reserve champion—Howell & Son on Finale.

(Missouri Bred Classes)

Two animals either sex, produce of one mare—1, Allcorn on Brilliant & Clara; 2, McCully & Son on Dorothy and Favorite.

Champion stallion—Smith Bros.

Champion mare—McCully & Son.

Percheron Specials

Stallion 3 or over—1 and 2, Roelofson.

Stallion under 3—1, Allcorn; 2, Roelofson; 3, Walker.

Mare 3 or over—McCully & Son.

Mare under 3—1, Allcorn; 2, Roelofson; 3, McCully.

Champion mare—McCully.

Get of sire—Roelofson.

Produce of mare—1, Allcorn; 2, McCully; 3, Roelofson.

Champion stud—McCully.

Five stallions owned by exhibitor—Crawford & Griffin.

Three mares owned by exhibitor—McCully.

Champion stallion open class—Crawford & Griffin.

Champion mare open class—McCully.

Stallion 2 under 3—1, Smith Bros. on Gamon; 2 and 5, Roelofson on Dynamo and Tableau; 3, Allcorn on Brilliant; 4, Walker on unnamed.

Stallion 1 under 2—1, Roelofson on Belmont.

Mare 2 or over—1, McCully on Dorothy; 2, Davis on Hochette; 3, Allcorn on Kate Ross; 4, Smith Bros on unnamed.

Mare 1 under 2—1, Allcorn on Clara; 2, Davis on Javette; 3, Roelofson on Elinor; 4 and 5 McCulley on Lady Oakland and Favorite.

Foal either sex under 1—1 and 2, McCulley on Nettie May and Bob Dillon; 3, Files on Champagne.

FRENCH DRAFT HORSES

Exhibitors: P. G. McCulley & Son, Princeton, Mo.; J. H. & H. A. Rotermund, Lincoln, Mo.

Stallion 4 or over—1 and 2, Rotermund on Zadox and Lenoir; 3, McCully & Son on Dexter.

Stallion 2 under 3—1 and 2, Rotermund on Markel and Isador.

Mare 3 or over—1, McCully & Son on Grieve; 2 and 3, Rotermund on Maxine and Carman.

Champion mare—McCully & Son on Grieve.

Champion stallion—Rotermund.

Stallion 2 under 3—1, Smith Bros. on Gamon; 2 and 5, Roelofson on Dynamo and Tableau; 3, Allison on Brilliant; 4, Walker on unnamed entry.

Stallion 1 and under 2—Roelofson on Belmont.

Mare 2 or over—1, McCully & Son on Dorothy; 2, Davis on Hochette; 3, Allison on Kate Ross; 4, Smith Bros. on unnamed entry.

Mare 1 and under 2—1, Allison on Clara; 2, Davis on Javette; 3, Roelofson on Elinor; 4 and 5, McCully on Lady Oakland and Favorite.

Foal either sex under 1—1 and 2, McCully & Son on Nettie May and Bob Dillon; 3, Files on Champagne.

Stallion 1 under 2—Rotermund on Danial.

Mare under 1—Rotermund on Dalmas.

Mare and foal—Rotermund.

Four colts either sex—Rotermund.

Missouri Specials

Stallion 1 under 2—Rotermund on Danial.

Mare under 1—Rotermund on Dalmas.

Mare and foal—Rotermund.

Four colts either sex—Rotermund

BELGIANS

Exhibitors: Crawford & Griffin, Newton, Iowa.

CLYDESDALES

Exhibitors: F. L. Crosby, Mexico, Mo.

JACKS AND JENNETS

Missouri always has a good jack and jennet show and this year was no exception to the rule. Eleven exhibitors showed forty-five head of very superior animals. The Monsees herd which always makes a splendid showing was missed this year.

Exhibitors: R. A. Robertson, Glasgow, Mo.; H. H. Taylor, Sedalia, Mo.; W. J. Finley, Higginsville, Mo.; Otto Bros., Kirksville, Mo.; Murry & Armstrong, Columbia, Mo.; L. W. Hoyt, Barry, Ill.; Bradley Bros., Warrensburg, Mo.; Shoemaker & Wyatt, Leeton, Mo.; M. D. Allcorn, Sedalia, Mo.; Hall Bros. Stanberry, Mo.; A. F. Hughes, Williamsville, Ill.

Judge—James Hamilton, Mexico, Mo.

Jack 4 and over—1, Otto Bros.; 2, Finley; 3, Shoemaker & Wyatt; 4, Taylor.

Jack 3 and under 4—1, Bradley Bros.; 2, Bradley Bros.; 3, Hall Bros.; 4, Taylor.

Jack 2 and under 3—1, Hoty; 2, Robertson; 3, Bradley Bros.

Jack 1 and under 2—1, Bradley Bros.; 2, Allcorn; 3, Hughes.

Jack colts—1 and 2, Bradley Bros.

Jennets 3 or over—1, Bradley Bros.; 2, Finley.

Jennet 2 and under 3—1, Finley; 2, Bradley Bros.

Jennet 1 and under 2—1 and 2, Bradley Bros.

Jennet colts—1 and 2, Finley.

(Continued on page 11)

Acid Stomach Claims Millions Of Hogs!

An enormous percentage of all hog losses is due to stomach disturbances and stomach disturbances are largely due to acidity, which interferes with the digestive juices and thereby impairs digestion. Result—thin, scrawny hogs that seem half-starved no matter how much they eat. Millions die. Thousands of hog raisers have proved that the safe and reliable way of neutralizing this acid and preventing its forming again is to mix just a little

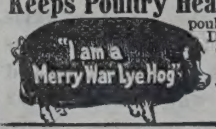
MERRY WAR LYE

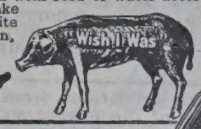
in swill, or with the drinking water, if the hogs are on dry rations. It not only neutralizes the acid but also sweetens the swill, thereby preventing the fermentation that causes the acidity. Moreover, it adds weight to hogs because it helps thorough digestion, leaving no waste food. Hogs come right up, under this simple treatment which produces amazing results.

There's as much difference in Lyes as there is in Doctors, so don't count any trial made with any other than Merry War Powdered Lye. The experience of thousands of hog raisers has proved the value of Merry War Lye. Its use is *not* an experiment.

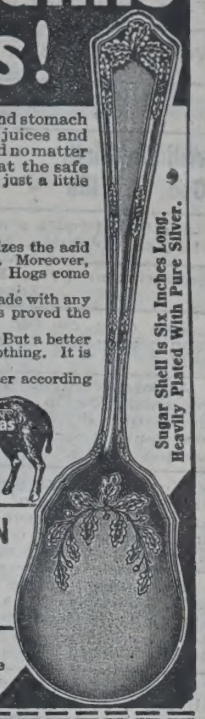
Send for free booklet filled with letters from hog raisers. They will convince you. But a better way to be convinced is to give it a trial on your own hogs. The cost is practically nothing. It is absolutely safe to feed to hogs according to plain, easy-to-follow directions on label.

Keeps Poultry Healthy Merry War Powdered Lye mixed with feed or water according to directions on label, helps to make poultry sturdy and better able to resist White Diarrhoea, Diarrhoea from Indigestion, Cholera, Roup, Limberneck, Gapes, Worms, etc.





"There Are No Substitutes"



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There are so many practical, every-day uses for Merry War Powdered Lye in the house and on the farm that we have made this remarkable gift offer to induce you to give it a common-sense trial. Don't send the entire labels—just cut out the trade marks—the large words "MERRY WAR" printed in red on the face of the label and send 3 trade-marks with coupon.

We will at once send you the Sugar Shell—one to a family on this special offer *and tell you how easy it is to get a complete set of this beautiful silverware absolutely free*—sufficient to last a lifetime.

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Premium Department 38

E. Myers Lye Co., St. Louis, Mo.
Premium Department 38

Enclosed find 3 "Merry War" trade-marks. Send me, *absolutely free, prepaid*, Wm. Rogers & Son Oak Design Sugar Shell and list of full set to match.

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Postoffice.....

R. F. D.....State.....

Write your own and dealer's name and address plainly.

Dealer's Name.....

Dealer's Address.....

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Big Money in Trapping skunk, coon, mink, muskrat, fox, etc. You can trap furs—we teach you how. **Funsten Animal Baits** guaranteed to increase your catch. $1.00 a can postpaid. The **Funsten Perfect Smoker** "smokes 'em out." Price $1.50; parcel post 30 cents extra. Both guaranteed satisfactory or money back. **Traps at factory prices.**

FREE 3 books in one (trapper's guide—game laws—supply catalog). Tells how, when, where to trap, how to remove, prepare and ship skins. Will send you fur market reports, shipping tags and big book **FREE**—Write today. **We tan hides and furs for coats, robes and garments.**

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Look for demonstrations at state fairs. Send $1.50 or write for descriptive circular. Shipped prepaid. Money back if not satisfied. **Dealers wanted.**

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Geo. B. Ellis - - Managing Editor

Published twice a month, on the 1st and 15th, at Columbia, Mo.

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Agents Wanted. We want some one to represent us in every community and make up clubs for which we will pay liberal commissions. Write us for terms and sample copies.

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WHY HAVE CROP REPORTS?

The only valid reason we know for having the Government make a monthly statement of crop conditions and a final estimate of crop yields is that both the buyer and seller may have a reasonably accurate basis for making their deals. The Government is supposed to furnish more extensive and consequently more reliable data than any private agency can furnish and under ordiary conditions we think the reports are trustworthy. But when an unusual condition such as we have this year shows up it seems there is no one in the crop reporting service able to analyze the situation.

The October report of the Department of Agriculture estimates the total wheat crop of the coutry at more than a billion bushels which is 111,000,000 bushels more than last year's record breaking crop. The winter wheat yield this year is about 28,000,000 bushels less than last year but the spring wheat is about 139,000,000 bushels greater. With good crops in most of the great wheat countries these record figures are used very effectively for keeping down the price of wheat and there could be no reasonable ground for complaint if the figures of the Government told a true story but unfortunately they do not. There are millions of bushels of wheat raised this year that have been damaged by wet weather to such an extent that it can not be used for making flour and hence so far as the demand for bread is concerned this damaged wheat might be considered as so much corn or oats. The Government is failing in its duty to the country unless it shows how much of the billion bushels of the wheat crop is in fact wheat.

Throughout the best of the winter wheat belt there has been very great damage to the wheat crop and in some localities it is estimated by millers that as much as one-half the crop is unfit for making flour. One statistician of reputation estimates that at least 150,000,000 bushels of winter wheat is so damaged that it will have to be used for feed. These evidences lead us to believe that the amount of sound wheat available this year will be no more and more likely several million bushels less than last year. The trend of prices in the wheat market the last few days support this view and while we see no great chance for speculation in future wheat prices we see no cause for a panic among those farmers who have sound wheat stored in a good granary and the grain covered with an insurance policy.

PROGRESS IN SILO BUILDING

The great factor in silo building in this country and especially so in the Central West has been the dry years of 1911, 1913 and 1914. Thousands of farmers were driven to the silo as about the last means for keeping their live stock and saving corn in this way proved to be so much better than the old way that farmers are learning that a good silo is a paying investment on any farm where any considerable number of live stock are kept.

The secretary of the board of agriculture of Kansas has recently completed a silo census for that state and reports 9,695 silos which is about 92 for each of the 105 counties. More than one-fourth the whole number now in use, 2,550, were erected last year. The average is approximately five and six-tenths silos for every one hundred farms in the state. Unfortunately we have no means of taking a census in Missouri but applying the same ratio of silos to number of farms in this state would give us 15,950. If the average capacity of all these silos is 100 tons, and if we allow 14 acres of corn to the silo we have only three per cent of the corn saved in this manner.

We have been congratulating the farmers of the state for their activity in silo building the last three years but these figures show that there is room for several thousand more silos in Missouri.

The first cost of a silo is a considerable item for most farmers but when farmers learn more about their construction and learn to buy co-operatively so as to cut out the large middle man's fee a large percentage can be saved in first cost.

We would like for our readers who have been using silos to write us their experiences in building and tell us of the mistakes they have found they have made as well as the profits they have been able to get out of feeding silage.

LATE SOWN WHEAT

The Missouri State Board of Agriculture in the official crop report under date of October 9 states that wheat sowing this year will be unusually late, owing to wet weather, and fear of Hessian fly. On October 1 less than one-fifth the wheat area had been seeded and only about three-fourths of the wheat ground had been plowed. This condition will result in a decreased acreage according to the board's correspondents of about 21 per cent as compared with last year's crop. If this same condition prevails throughout the best of the winter wheat belt it will be an important factor in fixing the price of wheat in the next few months.

The late plowing of wheat ground and the heavy crop of weeds turned under in most fields will make it hard to prepare a good seed-bed for the wheat sown this season. Another handicap for late sown wheat is that it does not have time to tiller like early sown wheat. It is for this reason that it has been found advisable to make a heavier seeding for late sowing than what is found advisable in early sowing. Where the average date of seeding has required five pecks per acre it will be found best to sow around six pecks sown at this late date. Another factor that promotes tillering as well as early ripening is fertility and on the late seeding it is advisable to apply a liberal application of a high grdae fertilizer. A good yield of wheat can not be expected under normal conditions in 1916 unless the crop is started right this fall and the starting right means a good seed-bed, a good quality of seed and plenty of available fertility in the soil.

WAR AND PRICE OF PORK

The seizure and confiscation by Great Britain of several cargoes of meat shipped from America to Scandinavian ports may have a serious effect on the price of hogs and cattle in this country unless our Government can find some way to prevent such seizure in the future. During eight months ending with August, 1914, there were exported from the United States meat products valued at $81,000,000 and for the same eight months ending with August, 1915, the exports of the same articles amounted to $174,482,000, which is considerably more than double the amount. If Great Britain can maintain her policy of confiscating meats consigned to neutral ports under the pretext that it is destined for her enemies, it is sure to have a depressing effect on prices of meat and meat animals in this country.

The Department of Agriculture estimates that we have about 7 per cent greater number of hogs this year than last year and with a much larger corn crop to feed them with it is evident that we will need an outlet for a considerable surplus if prices are to be maintained.

Once more we call attention right here to the need of organization among the farmers of this country so that they might be in a position to guard their own rights. If the farmers of the United States could protest against this policy of Great Britain through some powerful alliance does any one doubt that our Government at Washington would get busy and that it would use the whole power of this great country to maintain our markets wherever we could find a buyer? It might do some good any way for farmers to write their Congressmen and United States Senators and ask them to insist that this policy of Great Britain be changed so as not to interfere with our legitimate rights.

MAKING ROADS WITH THE DRAG

In our last issue we stated that D. Ward King, the father of the split-log road drag, had graded and maintained a dirt road in first-class condition with no other implements than a plow and a road drag. Occasionally we find a man who will dispute this statement in spite of the positive evidence of the road itself. It took Mr. King several years to build up his road to a good crown but when it was done the road-bed consisted of numerous thin layers of clay pounded down by travel that made a much harder road surface than could have been secured by throwing up a high crown at one time. However we are of the opinion that most men will prefer to first put the road-bed in shape with improved road machinery and then use the drag for maintenance.

We would like to have a discussion of this subject in the columns of The Missouri Farmer by those who have had actual experience in road work. We do not want theories but we want actual experience and observation.

1. The best implements for dirt road construction.
2. The best implements for dirt road maintenance.
3. Can you start with the flat earth road and build a good road-bed with a plow and a King Split-Log Drag?
4. Have you built concrete culverts in your district and what has been your success?

FARMERS' CLUBS

The summer's work is over now and there is no better time to think about organizing a farmers' club in every school district in the state. These clubs may be organized at first with all members of society, men, women and children, participating. The first good result will be to foster a feeling of good fellowship and co-operation among the members of the community. As soon as the community is working harmoniously in literary and social lines it will be easy to take up economic subjects. If the roads in the community are not all that is desired a committee of four or five of the most progressive road men (or women) may be assigned the duty of suggesting a plan for improvement of the neighborhood roads. This plan should then be put before the club and discussed and when finally agreed upon the whole community will feel an interest in the work.

Briefly in the same way the improvement of the school, the church, the buying of feed and fertilizers, the finding a market for most any surplus products of the community may be taken up. After the club is working various activities will be found that will keep it busy and help the neighborhood.

TO OUR READERS

In our last issue we announced that we would present a free copy of the "After-Thought Stories" to those of our readers who like these articles and who send us one dollar for three years renewal—a splendidly printed booklet containing the best of these stories which have appeared during the last three or four years. If you want to take advantage of this fine offer there is no time to lose. Should the response not justify the printing we will offer to refund your money.

We are also willing to send a copy of our great new booklet on "Stamping Out Hog Cholera" to all who send us a dollar for three years' renewal—a book which not only tells how to control this pestilence which costs the farmers of Missouri millions of dollars every year but which also contains two invaluable chapters on Hog Breeding and Feeding.

In another part of this issue we also offer a splendid set of Dickens' novels at a ridiculous figure. Look up the advertisement elsewhere. Here is a whole winter's reading for only one dollar extra to the three years' renewal for the paper. These wholesome inducements are held out in order that you may permanently join our "Big Missouri Farmer Family"—that you may contribute your mite toward the fight which this paper is making for happier and more prosperous Missouri farm homes. We need your support and we need it now.

William Hirth, Publisher,
THE MISSOURI FARMER,
Columbia, Mo.

BUCKSHOT BY THE PROFESSOR

"Scrub" farmers and "scrub" live stock seem to like to associate together.

The farmer who puts thought into his work is the farmer who wins. Try it awhile and see.

We keep yelling for peace in Mexico —and yet we keep selling them rifles with which to shoot each other full of holes.

Get your corn out of the fields early. The when you smoke your old cob pipe around the "heatin' stove" it will taste better.

Gov. Major says Champ Clark is the "greatest livin' Missourian." Well, it's all right with me. If the other fellows can stand it, I can too.

I knew Woodrow would get all tangled up sooner or later—for usually when an old widower and a pretty widow meet there's something doing in the Cupid line.

Every farmer who raises hogs should have a copy of "Stamping Out Hog Cholera." By sending a dollar for three years renewal you can get a copy of this great booklet free.

There are a pile of farmers in the World who claim they "haven't got time" to read farm papers—but they are not the kind who own the big red barns and the good looking homes.

This is the time to pick your seed corn if you want a good stand next year. Picking the "good lookin' ears" out of the crib when you get ready to plant in the spring entitles you to membership in the "Hound Dog Farmers' Club."

Wouldn't you like to have a handsomely printed book containing all the best "After-Thought Stories" which have appeared during the last three or four years? If so, send a dollar for three years renewal when we will put you down for a copy. If the response don't justify our printing it we will refund your money.

I know of a little school district "Farmers' Club" in central Missouri where the farmers meet once every week and discuss some specific farm subject—and you have no idea how enthusiastic they are in their work. This summer the members of this Club saved nearly $200 in buying binder twine. The Missouri Farmer has prepared a circular which tells you how to organize a "Farmers' Club" in your district. We will be glad to mail you a copy of it free.

When the President gets through buying engagement rings and things of that sort, I hope he'll take an hour off and tell England that we will no longer stand for her confiscation of American meats consigned to neutral countries abroad. During the last few months she has appropriated $15,000,000 worth of American meat which, in the end, the farmer will have to lose by accepting a lower price for live stock. Surely we don't have to stand for these outrages simply because it's England?

THE GRANGE DOING THINGS

The Grange, which was organized 50 years ago, is a very live, working organization. It is doing more to bring peace, prosperity and harmony to the rural communities than any other farmers' organization. One has to observes only the effect in communities recently organized as an evidence of the above statements. At Derrahs in Lewis County, at Mound College in Scotland, at Clay in Adair, Cottage Grove in Randolph, at Lone Tree in Cass, at Masonic Hall and Salem Church in Johnson, and Railway Park in St. Louis County were carried out programs, recently, such as can only come from some concrete form of organization. The Grange is the farmers' training school and it is filling a long-felt want, that of trained leadership in the country. The farmer, without some concrete organization to assist him to develop his ability to think properly will often use his energy to his own detriment. Emulation is the strongest incentive to a better way of doing things and in no better way can this be developed than in our Grange meetings.

With our school system progressing equal to that of any other state, yet there is a vast work that must be done outside the school room to enable our boys and girls of the farm to get the most out of life. The number that are graduating from our high schools and colleges is daily increasing, but even then there are scores that are left to make the journey through life as best they can. The Grange has enabled many a young man and woman to discover themselves, and they have taken a new hold upon life and passed from that of a mediocre to a position of honor and trust, and the world has been the better for their having lived.

On June 24 I organized a strong Grange in Andrew County with 49 charter member and they selected Mr. Fred G. Howitt, a young man that had taken the Short Course at Columbia, as their Master, and Empire Prairie Grange will be heard from in no uncertain way in the future. It was, indeed, a rural community organized to build up and make better the social and educational conditions in every way possible. On August 23 I organized in Carroll County and the same general feeling prevailed, that of the community interest. Mr. O. P. Turner, a well-to-do farmer, was placed at the head, and that community will be doing things as never before. There seems to be a general feeling among the farmers that they should do something and to maintain an organization, and it is timely for every other business that is not fully organized to take care of its own. Such questions as better roads, better schools, better homes, better neighbors and last but not least, as with it the former things will be more easily secured, is the discussion of the Land Bank Bill passed by the last legislature. Brother Farmer, if you are interested why not call your neighbors together and decide to have a farmers' organization in your community, and if you decide upon a Grange, write me and I will help you to perfect an organization. "In union there is strength." Almost 600 new Grances is the record for the Grange organization of the United States this year. A reserve of $100,000 in the National Treasury and the order in Missouri building on a safe and sane foundation, one that brings pleasure and contentment to boys and girls of the farms as it gives them something to do, in amusement, recreation and the storing of the mind with new and useful ideas, with which to build the future.

C. O. Raine,
Master Mo. State Grange.

Information Every Farmer Needs

There is much of genuine value to the farmer-builder in the advertising literature of the Southern Pine Association, represented regularly in this paper. In its campaign of publicity, designed to emphasize the good qualities of Southern Yellow Pine for general building and repairs, the association has prepared a number of booklets and building plans, the work of experts, which are sent free to anyone who writes for them. There is much in this material to inform and aid the prospective user of lumber, whether he contemplates erecting a barn, silo, hog house or other building, or merely plans a few "odd jobs." The association's silo book, "How to Choose and How to Use a Silo," is, the publishers assert, the most practical work of the kind ever printed. It explains fully just how silage should be handled and fed, with cost estimates and tables of capacity of silos. There is no theorizing or speculating in this book—the information it gives is based on actual experiences of silo users; and while it advocates wood silos the sections devoted to growing, storing and feeding silage will be helpful to users of every kind of silos. The building plans give complete working designs for barns, bins, hog houses, poultry houses, feed racks, tanks and numerous other farm structures, with specifications, lumber bills and cost estimates. The number of these is being added to continually, the purpose beig ultinmately to provide plans suited to the needs of all classes of farmers, big and little. Another feature of the Association's free service is that of aiding and advising any user of Southern Yellow Pine in individual building problems. Requests for these free publications should be addressed to The Southern Pine Association, Inter-State Bank Building, New Orleans, La.

A Pocket Calculator Free

Almost every problem likely to come up in any line of business, office, store, farm or factory, is quickly answered by Ropp's New Calculator, saving hours of work, money and wrangle. This book is a competent and accurate authority. Prevents your own mistakes or the mistakes of others. It will save you many dollars every year. If you want to know the interest on any sum for any length of time at 3, 3½, 4, 4½, 5, 5½, 6 or 7 per cent, you can have the answer at once. The net proceeds of any bill is instantly found.

If your hired man wants to know how much is due him you can give him the figures by month, week or day. The book contains so much of value that it would be impossible to cover it in this space.

If you are a landowner, you can get a copy of this calculator free, by writing to the Keystone Steel & Wire Co., 4025 Industrial St., Peoria, Ill. They are sending this 50 cent book free to all landowners who are interested in better farm fencing and to help advertise their **square deal** fence which is built different from all others. The **square deal** fence book and Ropp's Calculator are both sent **free**, postpaid.

One dollar will renew your paper for three years and get you a copy of our splendid booklet "Stamping Out Hog Cholera."

HIGHEST QUALITY

Galloway made his reputation on high quality farm implements. Every Galloway engine, separator or spreader has sold from one to a dozen more in its neighborhood and this has been the cause of the growth of the wonderful Galloway business which keeps the Great Galloway Chain of Factories running at full speed from one year's end to the other.

Prices have been steadily lowered because of the wonderful volume of business that honest goods has created. The very finest material, the best skilled workmanship, superior finish, improved design, all parts standardized and alike and trued to the thousandth part of an inch—these are a few of the reasons for the high quality built into Galloway goods.

Galloway Engines Mean Horse Power That is Horse Power

26.75 34.75 39.50 77.50 98.75

Just look at this line of Galloway engines—every size and style fom 1¾ h. p. Air Cooled "Chore Boy" to 16 h. p. Portable Heavy Duty rigs that tackle the heaviest, hardest, toughest jobs. Their improved design, few parts, simplicity and finish cannot be improved. They are heavy weight, large bore and long stroke, low speeded, heavy duty engines that could not be built better if we charged twice as much as the new Low 1916 Prices. **Don't be fooled** into buying small bore, short stroke, high speeded engines that rack themselves to pieces in a short time if required to pull loads which their manufacturers claim they will handle.

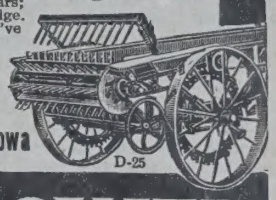
My New Model 1916 Easy Running Sanitary Cream Separator 34.50

Is now being turned out of our Cream Separator Factories. If you knew all there is to know about building cream separators and had one made to your order, it would not be a better machine—would not not run any easier nor skim any closer and could not be built of better material, wear longer, nor would it be more perfectly sanitary. If you built as good a machine you could not sell it at a lower price than my 1916 figure. This separator has not been built down to a price, but built up to a high standard and sold to you at one small factory profit based on tremendous quantity.

Galloway's New No. 8 Low Down Manure Spreader--- 64.75 AND UP

Lighter draft than ever. Eleven specially patented features; all steel gears; flexible rake; built on heavy channel steel frame, trussed like a steel bridge. Sound, honest quality built into Galloway spreaders. That's why they've taken the country by storm. Only 42 inches high at center of box. Endless Force Feed. Beater drives from both rear wheels. Solid bottom. Any Galloway spreader will pay for itself in handling 100 loads.

My new 4-color, 160-page catalog describing these engines, separators and other farm imp'ements free for a postal. Don't buy until you have seen and read it. Full of bargains for every farm and household. Engines, spreaders and separators shipped from Kansas City, Chicago, Minneapolis, Council Bluffs or Waterloo.



WM. GALLOWAY CO., 597 Galloway Sta., Waterloo, Iowa D-25

PRICES STILL LOWER

There Are Certain Improvements You Want to Make

Make them this season and you'll save money for yourself. You'll never find a better time to buy lumber—your home dealer is stocked with particularly fine grades, and prices are more attractive than they have been in years.

There's a reason; The European war has cut off the exportation of millions of feet of American lumber that Europe used, and most of that lumber was of choice quality. Don't wait until the war is over, for Europe will demand every foot of America's surplus stock for rebuilding.

The dealer in your home town is supplied with

SOUTHERN YELLOW PINE

"The Wood of Service"

Ask him about it. Here's what the United States Government, in Agricultural Department Bulletin No. 99 says about Southern Yellow Pine:

Heavy, hard, very strong; tough; grain fine, even, straight; durable in contact with the soil. It may be had in long pieces, free from serious defects, and possesses great strength and stiffness.

Doesn't that description fit the wood you want to use? And the price—ask your dealer, and you'll find that no other lumber of anything like the good quality can be bought for so little.

If we can help you with up-to-date house and barn plans, silo advice, or other building information, FREE, fill out and mail TODAY the attached coupon.

Southern Pine Association
New Orleans

SOUTHERN PINE ASSOCIATION
619J Interstate Bank Building
New Orleans, La.
Send me FREE Your
Barn and Bin Plans ☐
Silo Book ☐
House Plans ☐
Book of Lumber Tests ☐
Name
Town
R. F. D. State

Farm Management

D. H. Doane, University of Missouri

The following taken from the late Elbert Hubbard's magazine, the "Fra," sets forth a sentiment worthy of our consideration:

"The supreme prayer of my heart is not to be learned or "good," but to be Radiant. I desire to radiate health, cheerfulness, sincerity, calm courage and good-will. I wish to be simple, honest, natural, frank, clean in mind and clean in body, unaffected—ready to say, "I do not know," if so it be, to meet all men on an absolute equality—to face any obstacle and meet every difficulty unafraid and unabashed. I wish others to live their lives, too, up to their highest, fullest and best. To that end I pray that I may never meddle, dictate, interfere, give advice that is not wanted, nor assist when my services are not needed. If I can help people I'll do it by giving them a chance to help themselves; and if I can uplift or inspire let it be by example inference and suggestion rather than by injunction and dictation. That is to say, I desire to be Radiant—**To Radiate Life.**"

I was on the train about two weeks ago and among the passengers was a crowd of young men and girls who were having a pretty boisterous time. They were making remarks back and forth that could be heard practically all over the coach and in short, their conduct could hardly be called becoming young ladies and young gentlemen. Practically every passenger was disgusted with the things they were doing and the things they were saying. It was not long before someone suggested a song and they started in on cheap ragtime pieces which was in keeping with their previous actions. Soon some one started to sing "Juanita," and then followed some of the old melodies we all love and cannot think of except with appreciation and reverence. Soon their supply of these songs was exhausted and they started on religious songs. It is hard to describe the effect of these songs on that group of young people. As soon as their selections turned to the fond old melodies we dearly cherish, and when they sang the sacred songs, they quieted down and for the rest of the journey conducted themselves in a very becoming manner. I was never so impressed with the power of song as I was upon that occasion. The thoughts and tunes so wnoderfully expressed in our old masterpieces had a most wonderfully effective power of instilling higher thoughts and more becoming manners. These songs changed rowdyism to good manners; they changed boisterous activities to lady-like manners. The effect could be noticed all over the car, those who had been criticising and passing unfavorable comments, ceased their criticism or commented favorably. It changed the atmosphere and completely turned the attitude of the fifty to seventy-five people in that car from one of criticism to one of tolerance and good feeling. Truly, our old songs have a power we little realize. If we could use them more in our every-day life, if they could form a bigger part of the song life of our young people, it would mean untold good. This example shows that it was impossible for these boisterous, unlady-like girls and boys to carry on unbecoming conduct while singing and expressing thoughts so beautifully written in the civic and religious history of our past song life.

"That's steel"

Wabash steel cars are armor-clad, built of heavy steel plates, bolt-riveted to a massive steel frame of 68 tons—roof, walls, floor, all are steel.

Steel cars not only provide more security, but they ride smoother, because of their heavy weight; and steel construction allows more room in the aisles and between seats, and more ventilation space overhead.

WABASH to Chicago

Four Trains Daily

Lv. St. Louis 9:01 a.m., *1:00 p.m., *9:17 p.m., 11:55 p.m.
Ar. Chicago 4:53 p.m., 8:45 p.m., 7:00 a.m., 7:40 a.m.
(*Steel cars on these trains.)

The 9:01 a.m. and 9:17 p.m. trains leave St. Louis by way of Delmar av. Station, leaving there at 9:15 a.m. and 9:32 p.m.

WABASH TICKET OFFICES:
8th & Olive St. and Union Station
J. D. McNamara, General Passenger Agent, St. Louis.

Results of Cow Test Work

Two of our county agents, Mr. E. A. Ikenberry of Jackson County and Mr. L. V. Crandall of Buchanan County, organized cow test associations. The latter reports, after one month's work in reference to a particular instance as follows:

Mr. C. E. Rocklage, the cow tester for the cow testing association, has completed his first month's work. He found one registered Holstein cow which produced forty-eight pounds of milk which tested 4.8. This cow is producing 2.30 pounds of butterfat per day and the only feed that she is getting is pasture. This cow could have been purchased before the test was made for about two hundred and fifty dollars. The owner stated that he would not take three times that amount for the cow now. He also owns three hiefers from this cow and the cow testing work has materially increased their value. The owner stated that the testing of this one cow had paid for his testing work for the next ten years to come."

Mr. Crandall helped one of the members of the test association change the ration for his cows. This owner stated that this change cheapened the ration to the extent of $22.50 per month for his herd, and increased the milk flow on seven cows four pounds per cow per day. This shows some of the results from co-operation. Every community in Missouri could not successfully maintain a cow test association, but there is scarcely a community but what could work together to an advantage equally as great as that shown here.

The Uneasy Sheep Feeder

Does this heading apply to you? I surely hope not. While feeders have stayed high, still the market on fat lambs has been sufficiently high to justify the price asked for the feeders. Twenty-five cents raise on eight-cent lambs will let a farm management feeder who is following the farm management plan, out with seventy-five cents to a dollar profit per head.

We have had a few cold snaps in the past few weeks that make us a little uneasy. If we have clover or rape to finish up on we need not worry. If we are depending upon cowpeas and soybeans these cool evenings may make restless nights for the man with a considerable investment. Practically the only suggestion that I can make at this time is to utilize the perishable feed as quickly as possible and if the lambs are not finished then but can be sold at a profit, let them go. If there is other available feed that they can be turned onto that will withstand frost, or harvested feed that they will take hold of without a setback, they may be kept and finished. Of course, the finished lambs bring the highest price and under normal conditions make the most profit, but this does not always apply. Each man must size up his own situation and act accordingly. We will be glad to be of assistance in any specific instance if you will let us know.

The breeding ewe situation looks as favorable to me as it has for a good many years. A good class of ewes can be purchased for around six cents. These will bring lambs in the spring that will return the cost of the ewes, and if lamb prices remain high, receipts from the offspring will be greater than the cost of the ewes. The ewe wool clip would pay for the feed of the ewes and this will make over a hundred per cent investment in less than one year for the purchaser of a good bunch of western ewes now. If you are in doubt as to what to put your feed into, I believe that ewes make the best available proposition now.

Mr. Gartin's Clover

For the benefit of a correspondent about Mr. Gartin's clover, I will quote some further information from Mr. Gartin in reference to his fall seeded clover. Mr. Gartin says:

"Our clover in field A of last fall seeding is great. The best stand we ever saw; no open places in it. I enclose a few pictures of same.

"I see in The Missouri Farmer that Mr. L. F. Leyhe is asking about the seeding; for his benefit I would say we have grass seeder attachment on grain drill and we put the clover seed in it and drilled rye, and clover was

seeded in front of the disc and the clover was covered by the drill passing over the clover seed."

Farmers' Week, 1916

We are now starting our programs for the 1916 Farmers' Week. The best possible program is one that fills a need as the audience sees it. If you know of a subject that you would like to have discussed at this time, write us and let us know and we will endeavor to put in the Farmers' Week program this coming year the things that you want. This is a farmers' occasion and the program is made up on the basis of supplying the real needs of the Missouri farmer. You can help us tremendously by a few suggestions at this time.

A number of important things will come up for discussion at Farmers' Week this coming year. The different associations are taking steps to unite into one big organization. The new Land Bank Bill will probably be discussed, and matters of legislation that touch the vital interests of the farmer should be considered. Let us suggest at this time that the farmers take this opportunity to express their voice as a unit.

LIVE STOCK AT MISSOURI STATE FAIR

(Continued from page 7)

Best jack any age—Hoyt on 2-year-old.
Best jennet any age—Bradley Bros. on aged jennet.
Best jack and 4 jennets—Finley.
Jack and 4 jennets under 3—1, Bradley Bros.; 2, Finley.

THE MULES

Missouri's place in the sun as the premier mule state of the Union is in no danger as long as her breeders continue to produce the class of mules shown at Sedalia this year. Old mule men who have watched the shows closely in the past stated that in their opinion Missouri never had a better show. No class of live stock attracts more interest in this state than mules, and if one wants to see competition at white heat he need go no farther than the mule show at the State Fair. The entries this year were all of very high standard.

Exhibitors: M. A. Holloway, Clarksburg, Mo.; R. A. Fitzgerald, Bucyrus, Kan.; C. S. Miles & Sons, Norborne, Mo.; Gooding & Wares, LaPlata, Mo.; M. M. Marshall, Moberly, Mo.; F. M. Flinchpaugh, Kirksville, Mo.; C. J. Irvine, Marshall, Mo.; J. A. Cox, Graham, Mo.; Snyder Bros., Lowry City, Mo.; Otto Bros. Kirksville, Mo.; W. J. Finley, Higginsville, Mo.; H. H. Taylor(Sedalia, Mo.; J. A. Howell, Paris, Mo.

Judge—R. R. Buckner, Mexico, Mo.

Mules 3 and over—1, Marshall; 2, Snyder Bros.; 3, Holloway; 4 Finley; 5, Snyder Bros.

Mules 2 and under 3—1 and 4, Synder Bros.; 2, Gooding & Wares; 3, Gooding & Wares; 5, Irvine.

Mules 1 and under 2;—1, Flinchpaugh; 2 and 3, Fitzgerald; 4, Murry & Armstrong; 5, Snyder Bros.

Mule colt—1, Howell; 2, Murry & Armstrong; 3 and 5, Miles & Son; 4, Snyder Bros.

Pair mules 3 and over—1, Snyder Bros.; 2, Finley; 3, Marshall; 4, Holloway; 5, Miles & Son.

Pair mules 2 and under 3—1, Syder; 2, Gooding; 3 and 4, Irvine.

Pair mules 1 and under 2—1, Fitzgerald; 2 and 5, Snyder; 3, Irvine; 4, Flinchpaugh.

Pair mule cols—1, Irvine; 2, Snyder Bros.; 3 and 4, Miles.

Herd of 5 miles owned by exhibitor—1 and 3, Snyder; 2, Finley; 4, Irvine.

Champion mule—Marshall.

THE SWINE SHOW

"The best swine show Missouri ever had" was the unanimous opinion of all. Furthermore, in the opinion of competent judges Missouri had just about the best show that has been held this year, and the satisfying feature of the show was that most of the winning herds were Missouri owned. All breeds showed an increase except the Duroc Jerseys. The Poland Chinas registered 245 head, the Duroc Jerseys 174, Chester Whites 166, Hampshires 110, Yorkshires 37, Berkshires 23, and Mulefoots 7, a total of 762 head.

The extreme need of a new swine barn was never more forcibly demonstrated than this year when pen room was not sufficient to take care of all the entries. Temporary pens were constructed for several late arriving herds. The lack of room is not the only argument for a new building. The present structure—the poorest one on the grounds, is in no way satisfactory. Made of wood throughout, it is neither sanitary nor substantial. There is not a square foot of cement in the building and the facilities of mixing feed and washing are very bad.

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The Poland Chinas

Poland Chinas set a new mark this year for quality and numbers. Twenty exhibitors, seventeen Missouri men, brought out an exhibit that won favorable comment from all. Every class was well filled, several classes having over twenty head, and one, the junior boar pig class had twenty-seven entries. Much credit is due the futurity for the splendid show of young stuff. In every class the competition was close and for the most part the judging was very satisfactory. The junior yearling boar class was particularly strong, six cracking good boars being shown. The Giant, Will G. Lockridge's remarkable young boar finally won the eye of the judge on account of his extreme size, bone and quality. This boar was afterwards made grand champion, but it was not easy sailing for he had to beat the junior pig shown by Shaw. The Shaw entry was an outstanding pig and when the championship honors were tied he had many friends who would liked to have seen him made grand champion.

For the most part the sow classes were well filled with high class entries. The aged sows and also the junior yearling sows made very attractive shows. M. D. Porter uncovered a surprise in the senior sow pig class and won in a class of twenty with an outstanding entry. The Porter sow was afterwards made grand champion sow.

Exhibitors: P. M. Anderson, Lathrop, Mo.; W. A. Baker, Butler, Mo.; W. Z. Baker, Rich Hill, Mo.; Bennet Bros., Lee's Summit, Mo.; John Belcher, Raymore, Mo.; Belcher & Bennett, Lee's Summit, Mo.; L. C. Burford & Sons, Monticello, Mo.; W. H. Burks & Sons, Bolivar, Mo.; S. Y. Burks, Bolivar, Mo.; T. E. Durbin(King City, Mo.; F. D. Fulkerson, Brimson, Mo.; John Gildow & Son, Jamesport, Mo.; Will G. Lockridge, Fayette, Mo.; M. D. Porter, Vandalia, Mo.;W. O. Pritchard, Walker, Mo.; Mark I. Shaw, Monroe Ia.; Jno. N. Titchenal & Bros., Brigton, Ill.; W. E. Willey, Steele City, Nebr.

Judge—Chas. Marker, Auburn, Ill.

Aged boars—1, Anderson on Iowa King; 2, Baker on Big Look; 3, Burks on H. A.'s Wonder.

Senior yearling boar—Baker & Son on Big Bone's Son; 2 and 3, Burks & Son on Long King's Choice and Royal Model.

Junior yearling boar—1, Lockridge on The Giant; 2, Durbin on Trusty King; 3, Baker on King Blain.

Aged sows—1, Baker & Son on Susie Hadley; 2, Baker on Josie's Best; 3, Willey on Big Lady B.

Sennor yearling sow—1 and 2, Willey on Anna Price 36th and Anna Price 34th; 3, Baker & Son on Pan Lady.

Junior yearling sow—1, Burks on Wonder Maid; 2 and 3, Willey on Big Lady D and Lady Big Orphan.

Senior boar pig—1, Burks on unnamed entry; 2, Porter on Pawnee Price 2d; 3, Baker on King Hadley, Jr.

Junior boar pig—1 and 3, Shaw on unnamed; 2, Porter on unnamed.

Senior sow pig—1, Porter on Smooth Big Lady; 2, Willey on unnamed; 3, Burks on unnamed.

Junior sow pig—1, Belcher on unnamed; 2 and 3, Baker & Son on unnamed.

Senior champion boar—Lockridge on The Giant.

Junior champion boar—Burks on unnamed entry.

Grand champion boar—Lockridge on The Giant.

Senior champion sow—Willey on Anna Price 36th.

Junior champion sow—Porter on Smooth Big Lady.

Grand champion sow — Porter on Smooth Big Lady.

Aged herd owned by exhibitor—1, Willey; 2, Baker.

Aged herd bred and owned by exhibitor—1, Willey; 2, Baker.

Young herd owned by exhibitor—1, Burk; 2, Shaw.

Young herd bred and owned by exhibitor—1, Burks; 2, Shaw.

Get of sire—1, Willey; 2, Burks.

Produce of sow—1, Willey; 2, Burks.

Poland China Futurity

Senior boar pig—1, Burks on unnamed entry; 2, Porter on Pawnee Price 2d; 3, Baker on King Hadley, Jr.; 4, 5 and 6, Baker & Son on Major B Look, 1st, 2d and 3d.

Junior boar pig—1, Porter; 2, Burks; 3, Burks & Son; 4, Baker & Son; 5, 6, 7 and 8, Belcher.

Senior sow pig—1, Porter; 2 and 3, Burks; 4 Baker, 5 Gildow, 6 Baker.

Junior sow pig—1, Belcher; 2 and 3, Baker; 4 and 5, Burks; 6, Baker & Son; 7 and 8, Baker.

Litter of four—1, 3 and 7, Burks; 2, Baker & Son; 4 and 8, Belcher; 5, Baker; 6, Baker.

The Chester Whites

Following the pace set by this breed at other shows this year the Chester Whites made one of the best shows ever seen at Sedalia. One hundred and sixty-six head from the leading herds of Missouri, Iowa, Ilinois and Michigan, furnished competition of very high order. J. J. Wills, who is making his first state fair circuit this year, won the aged boar class with International Boy, a boar that has met with universal approval all along the circuit. In the junior yearling boar class, which was particularly strong, Anderson was given first place on Royal Goods. The senior boar pig class brought out for first honors an outstanding boar, Sudbury, from the Doty herd. Sudbury was very

(Continued on page 13)

The Plunderer

By ROY NORTON

Author of "The Garden of Fate"

(Continued from last issue)

They had but little to tell her, yet she seemed to find it interesting, and her eyes had the absent look of one who listens and sees distant scenes under discussion to the exclusion of all immediate surroundings.

"Have you met Bully Presby yet?" she asked.

They smiled, and told her they had.

"He is a wonderful man," she said admiringly. "He makes his way over everything and everybody. He is ruthless in going after what he wants. He fears nothing above or below. I honestly believe that if the arch demon were to block him on the trail, Bully Presby would take a chance and try to throw him over a cliff. I don't suppose he ever had a vice or a human emotion. I believe I'd like him better if he had a little of both."

Dick laughed outright, and stared at her with renewed interest. He admitted to himself that she was one of the most fascinating women he had ever met, and wondered what vicissitude could have brought such a woman, who used classical illustrations, fluent, cultivated speech, and who was strong grace exemplified, to such a position. She seemed master of her surroundings, and yet not of them, looking down with a hard and lofty scorn on the very men from whom she made her living. He began to believe what was commonly said of her, that her virtue, physical and ethical, was unassailable.

There was a crash and a loud guffaw of laughter. They pulled the curtains farther apart, and looked across at the man who was celebrating. He had dropped a bottle of wine to the floor below, and was beseeching some one to bring it up to him.

Bill leaned farther out of the box to look, and suddenly the drummer saw him, pointed in his direction with a drumstick, and spoke to a girl leaning near by. She, too, looked up, and then clapped her hands.

"There he is!" she called in her high treble voice. "Up there in number five! The man that carried Pearl out and got burned himself."

Some man near her climbed to the little stage and pointed, took off his hat, and shouted: "A tiger for that man! Now! All together! Whooee! Whooee! Whooee! Ow!"

In the wild yell that every one joined, Bill was abashed. He shrank back into the box, flushed and embarrassed, while Dick laughed outright, with boyish enjoyment at his confusion, and The Lily watched him with a soft look in her eyes, and then stared down at the floor below.

Suddenly her figure seemed to stiffen, and the look on her face altered to one of cold anger. She peered farther over as if to assure herself of something, and Dick, following her eyes, saw they were fixed on a man who stood leaning against one of the pillars near the entrance to the dance floor. He alone, apparently, was taking no part in the demonstration in Bill's honor, but glowered sullenly toward the box. It took no long reasoning for Dick to know why. The man was the one who had been the watchman at the mine when they arrived.

The band struck up again, and another dance began, the enthusiasts forgetting Bill as quickly as they had saluted him; but the ex-watchman continued to lean against the post, a picture of sullenness, and in the box The Lily stood with knitted brows, as if trying to recollect him.

"Well," she said at last, "I must go now. Come and see me whenever you can, both of you. I like you."

They arose and followed her out of the box, and down the flimsy stairs that led to the floor below. She paused on the bottom step, and clutched the casing with both hands, then tried to get a closer look at the ex-watchman, who had turned away until but a small part of his face was exposed. She walked onward, still looking angrily preoccupied, to the end of the bar, and the partners were on the point of bidding her good-night, when she abruptly started, seemed to tense herself, and exclaimed: "Now I know him!"

The partners wondered when she made a swift clutch under the end of the bar and slipped something into the bossom of her jacket. She took five or six determined steps toward the ex-watchman and tapped him on the shoulder.

He whirled sharply as if his mind had guilty fears, and faced her defiantly.

Those immediately around, suspecting something unusual, stopped to watch them, and listened.

"So you are here in Goldpan, are you, Wolff?" she demanded, with a cold sneer in her voice.

He gave her a fierce, defiant stare, and brazenly growled: "You're off. My name's not Wolff. My name's Brown."

"You lie!" she flared back ,with a hard anger in her voice. "Your name is Gus Wolff! You get out of this place, and don't you ever come in again! If you do, I'll have you thrown out like a dog."

He glowered at the crowd that was forming around him, as crowds invariably form in any controversy, and then started toward the door, but he made a grave mistake. He called back a vile epithet as he went.

"Stop!" she commanded him, with an imperious, compelling tone.

He half-turned, and then shrugged his shoulders, and made as if to move on.

"Stop, I said!"

He turned again to face a pistol which she had snatched from her jacket, and now the partners, amazed, understood what that swift motion had meant. He halted irresolutely.

"You used a name toward me that I permit no man to use," she said fiercly. "So I shall explain to these men of Goldpan who you are, Gus Wolff! You were in Butte five years ago. You induced a poor, silly little fool named Rose Trevor to leave the dance hall where she worked, and go with you. You were one of those who believe that women are made to be brutalized. But good as most of them are, and bad as some of them are, there is none, living or dead, that you are or were fit to consort with. You murdered her. Don't you dare to deny it! They found her dead outside of your cabin. They arrested you, and tried you, and should have hanged you, but they couldnt' get the proof of what everybody believed, that you—you brute—had killed, then thrown her over the rocks to claim that she had fallen there in the darkness."

She paused as if the tempest of her words had left her breathless, and men glared at him savagely. It seemed as if every one had crowded forward to hear her denunciation.

"Bah!" she added scornfully. "The jury was made up of fools, and men knew it. The sheriff himself told you so when he slipped you out of the jail where he had protected you, and let you loose across the border in the night. Didn't he? And he told you that if ever you came back to Butte he would not turn a hand to keep you from the clutches of the mob;; didn't he? And now you are plain 'Mister Brown,' working somewhere back up in the hills, are you? Well, Mr. Brown, you keep away from the High Light. Get out!"

Some one made a restless motion, and declared the man should be hanged, even now, but The Lily turned her angry eyes on the speaker, and silenced him.

"Not if I can help it, or any of my friends can," she said cooly. "There'll be no mobbing anybody around here. I've said enough. Let him alone, but remember what kind of a blackguard he is. That's all!"

She turned back and tossed the pistol behind the bar, and the crowd, as if her words and the advice of the more contained element prevailed, resumed its play. She looked up and saw the partners waiting to bid her goodnight, and suddenly bit her lip, as if ashamed that they had seen her fury unmasked.

"We're going now," Bill said, reaching out his hand. She did not take it, but looked around the room with unreadable eyes.

"I'll walk with you to the beginning of your trail," she said. "I'm sick of this," and led the way out into the night.

For half the length of the long street she strode between them, wordless and then suddenly halted and held her arms apart appealingly.

"What must you think of me?" she said, with a note of grief in her voice. "Oh, you two don't know it all! You don't know what it takes to make a woman, who tries to be decent, rebellious at everything under the skies. What brutes there are walking the earth! Somtimes, lately, I begin to doubt if there is a God!"

"And that," exclaimed the quiet, steadfast young voice at her side, "is unworthy of you and your intelligence."

She halted again, as if thinking.

"And I," said the giant, in his deep, musical tones, "know there's one. It takes more than men to make me believe there ain't. I know it when I look at them!" He waved his hands at the starlit mountains surrounding them, and towering in serenity high up to the cloudless spaces.

"I'd be mighty ashamed to doubt when I can see them," he said, "and if they went away, I'd still believe it; because if I didn't, I couldn't see no use in livin' any more. It's havin' Him lean down and whisper to you once in a while, in the night, when everything seems to be goin' wrong, 'Old boy, you did well,' that keeps it all worth while and makes a feller stiffen his back and go ahead, with his conscience clean and not carin' a cuss what anybody says or thinks, so long as he knows that the Lord knows he did the right thing."

She faltered for a moment and Dick, staring through the darkness at her, could not decide whether it was because the woman in her was melting after the storm of anger or whether she was merely weighing his partner's words. As abruptly as had been any of her actions in all the time they had known her, she turned and walked away from them, her soft "Good-night" wafting itself back with a note of profound sadness and misery.

"I've decided what she is," Bill said, as they paused for a last look at the lights of the camp. "She's all woman, and a mighty good one, at that!"

CHAPTER VIII

THE INCONSISTENT BULLY

"Them beans," declared the fat cook, plaintively, "looks as if they had been put through some sort of shrivelin' process. The dried prunes are sure dry all right! Must have been put up about the time they dried them mummy things back in Egypt. Apricots? Humph! I soaked some of 'em all day and tonight took one over to the shop and cut it open with a chisel to see if it was real leather, or only imitation. The canned salmon and the canned tripe is all swelled so that the cans is round instead of flat on the ends. I reckon you'd better go down and see that storekeeper. I dassen't! If I did I'd probably lose my temper and wallop him. If somebody don't go, the men here'll be makin' a mistake, blamin' it on me, and I can't exactly see how they could keep from hangin' me, if they want to do justice."

He had stood in the doorway of the office to voice his complaint, and now, without further words walked away toward his own particular section of the little camp village.

"So that's the way that trader down there filled the order, is it?" Dick said, frowning at his companion.

The latter merely grunted and then offered a solution.

"Probably," he said, "that stuff was sent up here without bein' opened, just as he got it. If that's so it ain't his fault. About half the rows in life come from takin' things for granted. The other half because we know too well how things did happen."

He stood up and stretched his arms.

"What do you say we go down and hear what the trader has to say? If he's square he'll make good. If he ain't—we'll make him!"

Taking it for granted that the younger man would accompany him, he was already slipping off his working shirt and peering around the corners of the room for his clean boots. Dick hesitated and had to be urged. He wondered then if it were not possible that something beside the errand to the trader's caused Bill's eagerness, but wisely kept the idea to himself.

The camp was in the dusk when they entered it, the soft dusk that falls over early summer evenings in the hills, when everything in nature seems drowsily awaiting the night. They thought there was an unusual hush in the manner of those they met. Men talked on the corners or in groups in the doorway with unaccustomed earnestness. Women leaned across window sills and chatted across intervening spaces with an air of anxiety; the very dogs in the street appeared to be subdued. At the trader's there was not the usual small gathering of loungers, squatted sociably around on cracker boxes and packing cases, and the man with the twang was alone.

"Say, there's something wrong with that stuff you sent us," Bill began, and the trader answered with a soft, absent-minded, "So?"

Bill repeated the words of the cook; but the storekeeper continued to stare out of the door as if but half of what was said proved interesting.

"I'll send up and bring it back tomorrow," he replied when the miner had concluded his complaint. "The fact is it's a job lot I bought in Portland, and I didn't look at it. Came in yesterday. I ain't—I ain't exactly feelin' right. I suppose you heard about it?"

The partners looked at him questioningly, but he did not shift his eyes from the door through which he still appeared to be staring away into the distance, and it was easy to conjecture, from the expression of his eyes, that he was seeing a tragedy.

"I'm sort of busted up," he went on, without looking at them. "You see I had a brother over there. A shift boss, he was. Him and me was more than brothers. We was friends. It don't seem right that Hiram was down there, in the dark, when the big cave came—came just as if the whole moun-

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THE MISSOURI FARMER, - Columbia, Mo.

tain wanted to smash them men under it. It don't seem right! I can't quite get it all yet. I'm going over there on the stage in the mornin.' He's left a widder and a couple of little shavers. I'm goin' to bring 'em here."

"We don't quite understand you," Dick said, hesitatingly, and with sympathy in his voice. "We haven't heard about it—whatever it is. I'm sorry—"

The trader straightened up from where he had been leaning on his elbows across the counter and they saw that his face was drawn.

"Oh, I see," he said, in the same slow, hopeless voice. "I forgot you men don't come down here very often and that my driver never has anything to say to anybody. Why, it's the Blackbird mine over across the divide —on the east spur. Bad, old-fashioned mine she was, with crawlin' ground. Lime streaks all through the formation and plenty of water. Nobody quite knows how it happened. There was a big slip over there a few days ago on the four-hundred-foot level. Thirty odd men back of it. Timbers went off, they say, like a gatlin' gun. I just can't seem to understand how they didn't handle that ground better. It don't look right to me!"

He stooped and twisted his fingers together and the palms of his hands gave out dry, rasping sounds. His attitude seemed inconsistent with the immobility of his face, but Dick surmised that he was trying to regain control of his emotions. He had a keen desire to know more of the particulars of the tragedy, but sensed from the storekeeper's appearance that he was scarcely able to give a coherent account of it. His words had already told his sorrow. Bill's voice broke the pause.

"We're right sorry we bothered you about the supplies," he said softly. "But we didn't know, you see. I reckon we ain't in any big hurry. You just take your time about fixin' it up. We can live on most anything for a day or two."

The storekeeper looked at him gratefully and then lowered his eyes again. He turned away from them with a sigh.

"Nope," he said. "Much obliged. I'll send my man up to-morrow. Business keeps agoin' on just the same, no matter who passes out. If you or me died tonight, the whole world would just keep joggin' along. I'll send up."

They turned and walked out, feeling that anything they could say would be useless, and sound hollow, and they did not speak until they were some distance farther up the street.

"He's hard hit, poor cuss!" Bill said. "Wonder what the rest of it was. Let's go on up toward the High Light. Seems as if it must have been pretty bad. What's the commotion there?"

Ahead of them they saw men clustering toward a central point, and others who had been in the street hurrying forward to be absorbed into the group. They quickened their steps a trifle, speculating as to whether it could mean a brawl, or something relating to the disaster of which they had just learned. It proved the latter. A man was standing in the center of the gathering crowd with the reins of a tired horse hanging loosely over his arm. He was talking to the doctor, who was asking him questions.

(Continued in next issue)

Want the "After-Thought Stories"

The following two extracts are taken from letters in response to the announcement in the last issue in which we offered to furnish a beautifully printed copy of the best "After-Thought Stories" which have appeared during the last three or four years in The Missouri Farmer to all who send us one dollar to renew their subscription for three years:

A lady from Higginsville writes: "This is just what I have been looking for—for I admire "After-Thoughts" a great deal. I want to help out the good work you are doing for better and happier farm homes."

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And in the same vein have come responses from others. If you want to take advantage of this fine offer let us know at once.

The loss from Hog Cholera in Missouri amounts to $6,000,000 a year. That's why every farmer should have a copy of our splendid booklet entitled "Stamping Out Hog Cholera."

LIVE STOCK MISSOURI STATE FAIR

(Continued from page 11)

properly made junior champion and later was made grand champion. The class for senior sow pigs brought together twenty-eight cracking good young sows headed by the Wills entry—later made junior and grand champion over the good aged sow of Anderson's Eden Valley Queen.

Exhibitors—Alden Anderson, Story City, Iowa; Harry T. Crandall, Cass City, Mich.; C. R. Doty, Charleston, Ill.; Henry Fehner, Alma, Mo.; R. F. Fantz, New Hampton, Iowa; L. M. Feland, Tipton, Mo.; Kirby & Cloyd, Fayette, Mo.; J. T. Nunnelly, Readsville, Mo.; J. J. Wills, Platte City, Mo.; Whitten & Ballenger, McBaine, Mo.

Judge—J. H. Harvey, Maryville, Mo.

Aged boar—1, Wills on International Boy; 2, Crandall on School Master; 3, Anderson on Royal Commander.

Senior yearling boar—1, Wills on Gage's Leader; 2, Crandall on Abo 2nd; 3, Fantz on Elmo Chief 2nd.

Junior yearling boar—1, Anderson on Royal Good; 2, Doty on Major Domo; 3, Tehner on Scott Lea Alma Man.

Senior boar pig—1, Doty on Sudbury; 2, Anderson on Commander; 3, Wills on Missouri's Kind.

Junior boar pig—1, Nunnelly on unnamed entry; 2, Nunnelly on unnamed entry; 3, Crandall on Cracker Jack.

Aged sow—1 and 2, Anderson on Eden Valley Queen and Fancy Queen; 2, Doty on Lady March.

Senior year sow—1 and 2, Fantz on Fair Views Lady and Fair Views Best; 3, Doty on Doty's Queen.

Junior year sow—1 and 3, Wills on Perfection Girl and Easter Lily; 2, Anderson on Woodland Queen.

Senior sow pig—1 and 2, Wills on unnamed entries; 3, Anderson on Gilt Edge.

Junior sow pig—1, Nunnelly on unnamed entry; 2 and 3, Crandall on Cass Belle and Crandall's Perfection.

Senior champion boar—Wills on International Boy.

Junior champion boar—Doty on Sudbury.

Grand champion—Doty on Sudbury.

Senior champion sow—Anderson on Eden Valley Queen.

Junior champion sow—Wills on unnamed entry.

Grand champion sow—Wills on unnamed entry.

Aged herd—1, Anderson; 2, Wills.

Aged herd bred and owned by exhibitor—1, Doty; 2, Fantz.

Exhibitor's young herd—1, Wills; 2, Doty..

Breeder's young herd—1, Doty; 2, Crandall; 3, Fantz.

Get of sire—1, Wills; 2, Doty.

Produce of dam—1, Wills; 2, Doty.

The Hampshires

A better show of Hampshires has never been made at Sedalia than was furnished by one hundred and ten head this year. For the most part the judging met with general satisfaction but in several instances it was rather difficult to follow the judge.

C. J. Ward, who made his debut as an exhibitor, furnished a very attractive aged boar that had grand champion stamped all over him.

In the class for junior sow pigs the entry list was unusually large and as it was being judged darkness came on and compelled the postponement of this ring till the next morning. Here an unusual thing happened; the judge had pretty well sifted the top pigs out the night before, but when they were driven in the next day he left several of the ones he had picked the night before, out of his consideration.

Exhibitors—W. J. Briniger, Blythedale, Mo.; J. W. Heddins, Charleston, Ill.; Isom J. Martin, Lancaster, Mo.; T. A. Thornton, Mt. Moriah, Mo.; C. J. Ward, Cameron, Mo.; Tollie Wolf, Rockport, Mo.; Wickfield Farm, Cantril, Iowa; Mark Whitaker, Miami, Mo.; W. F. Yingst, State Center, Iowa.

Judge—Russell Yates, Paleo, Iowa.

Aged boar—1, Ward; 2, Brinigar; 3, Yingst.

Senior yearling boar—1 and 2, Brinigar.

Junior yearling boar—1, Brinigar; 2, Thornton; 3, Wickfield Farm.

Senior boar pig—1 and 3, Brinigar; 2, Wolf.

Junior boar pig—1, Thornton; 2, Martin; 3, Ward.

Aged sow—1, Brinigar; 2, Yingst; 3, Heddings.

Senior yearling sow—1, Ward; 2, Yingst; 3, Brinigar.

Junior yearling sow—1, Brinigar; 2, Wickfield Farm; 3, Yingst.

Senior sow pig—1, Brinigar; 2, Thornton; 3, Yingst.

Junior sow pig—1, Wickfield Farm; 2, Martin; 3, Wolf.

Senior champion boar—Ward.

Senior champion sow—Brinigar.

Junior champion boar—Brinigar.

Junior champion sow—Brinigar.

Grand champion boar—Ward.

Grand champion sow—Brinigar.

Aged herd owned by exhibitor—1, Brinigar; 2, Yingst.

Aged herd bred and owned by exhibitor —1, Brinigar; 2, Yingst.

Young herd owned by exhibitor—1, Brinigar; 2, Wickfield Farm.

Young herd bred and owned by exhibitor—1, Brinigar; 2, Wickfield Farm.

Get of sire—1, Brinigar; 2, Wickfield; 3, Martin.

Produce of sow—1, Brinigar; 2, Martin.

The Berkshires

Only two herds competed in the Berkshire rings and the Gentry entries had everything their own way save in the junior yearling boar class.

Exhibitors: S. Y. Burks, Bolivar, Mo.; N. H. Gentry, Sedalia, Mo.

Aged boars—Gentry.

Senior yearling boar—1 and 2, Gentry.

Junior yearling boar—1, Burks; 2, Gentry.

Senior boar pig—1, Burks; 2, Gentry.

Junior boar pig—1, Gentry; 2, Burks.

Aged sow—Gentry.

Senior yearling sow—1, 2 and 3, Gentry.

Junior yearling sow—1 and 2, Gentry.

Senior sow pig—1 and 3, Gentry; 2, Burks.

Junior sow pig—1, Burks.

Senior and grand champion boar—Gentry.

Senior and grand champion sow—Gentry.

Junior champion boar—Gentry.

Junior champion sow—Gentry.

Aged herd owned by exhibitor and aged herd bred by exhibitor—1 and 2, Gentry.

Young herd owned by exhibitor—1, Gentry; 2, Burks.

Young herd owned and bred by exhibitor—1, Gentry; 2, Burks.

Get of sire—1, Gentry; 2 Burks.

Produce of sow—1, Gentry; 2, Burks.

Berkshire Special, trophy for boar and three sows under 1 year—Gentry.

YORKSHIRES

Exhibitors: Dr. John Gildow & Son, Jamesport, Mo.; B. F. Davidson, Menlo, Iowa.

Judge—J. G. Fuller.

Aged boar—1 and 2, B. F. Davidson on Lake Park Fashion and Dandy Stuff.

Senior yearling boar—Davidson on Deer Creek.

Junior yearling boar—1, 2 and 3, Davidson on Deer Creek 2d, Deer Creek 3rd and Deer Creek High Class.

Senior boar pig—1, 2 and 3, Davidson on Davidson's Model 11th, 1th and 15th.

Junior boar pig—1 and 3, Davidson on Deer Creek High Class 2nd and Deer Creek High Class 3rd; 2, Gildow & Son on Gleanvarlock Baron.

Aged sow—1, 2 and 3, Davidson on Deer Creek Martha 5th, Topsy Queen 3rd, and Maypark Sunbeam.

Aged yearling sow—Davidson on Deer Creek Eleanor 2nd.

Junior yearling sow—1, 2 and 3, Davidson Classie Lass, Deer Creek Model and unnamed entry.

Senior sow pig—1 and 2, Davidson on Deer Creek Belle adn Wild Rose Belle.

Junior sow pig—1, 2 and 3, Davidson on Deer Creek Classie Lass 7th, Deer Creek Classie Lass 8th and Deer Creek Model.

Senior champion boar—Davidson.

Senior champion sow—Davidson.

Junior champion boar—Davidson.

Junior champion sow—Davidson.

Grand champion boar—Davidson.

Grand champion sow—Davidson.

Aged herd owned by exhibitor—Davidson 1 and 2.

Aged herd bred by exhibitor—Davidson, 1 and 2.

Young herd owned by exhibitor—Davidson, 1 and 2.

Young herd bred by exhibitor—Davidson, 1 and 2.

Four animals get of 1 sire—1 and 2, Davidson.

Produce of dam—1, Davidson; 2, Gildow & Sons.

The Duroc

While the number of Durocs was considerably less than a year ago, the quality of the show was in every way equal to the standard of last year. One hundred and seventy-five animals were passed upon in the various classes. Practically every class was well filled with top animals, especially were the junior pig classes well filled. In the aged boar class Sheley & Clatterbuck had rather easy going, and their good boar, S. & C's Valley Chief, was declared the winner. This boar was afterwards made senior and grand champion. In the sow classes championship honors were divided between Chas. L. Taylor and Dr. J. B. Unsell. The grand champion sow of last year was again on hand and won the aged sow class, but when the grand champion ribbon was handed out she was forced to abdicate in favor of the junior yearling from the same herd. This latter sow was every inch a grand champion and it is doubtful if a better sow has been shown at Missouri.

Exhibitors: Dr. W. P. Butler, Kahoka, Mo.; A. C. Brockman, Centralia, Mo.; W. H. Burks & Sons, Bolivar, Mo.; C. R. Doty, Charleston, Ill.; R. L. Hill, Columbia, Mo.; B. W. Harned, Beamen, Mo.; W. T. Hutchison, Cleveland, Mo.; Longview Farm, Lee's Summit, Mo.; McFarland Bros., Sedalia, Mo.; R. G. McDuff, Monroe, Ia.; J. W. McPherson, Columbia, Mo.; Shelly & Clatterbuck, New Bloomfield, Mo.; Charles L. Taylor, Olean, Mo.; Red, White and Blue Farm, Olean, Mo.; W. H. & Geo. E. Thomson, Columbia, Mo.; Dr. J. B. Unsell, Louisiana, Mo.

Judge—W. A. Williams, Marlow, Okla.

Aged boars—1, Sheley & Clatterbuck; 2, McFarland; 3, Longview Farm; 4, C. L. Taylor; 5, Harned; 6, Doty.

Senior yearling boar—1, Sheley & Clatterbuck; 2, McFarland; 3, McDuff.

Junior yearling boar—1, 2 and 4, C. L. Taylor; 3, Dowden & Partridge; 5, J. L. Taylor.

Senior boar pig—1, C. L. Taylor; 2, Sheley & Clatterbuck; 3, Longview Farm.

Junior boar pig—1, Unsell; 2, McFarland; 3, Thomson Bros.; 4, Hutchison; 5, C. L. Taylor; 6, McPherson.

Aged sow—C. L. Taylor; 2 and 3, Doty.

Senior yearling sow—1 and 2, Doty.

Junior yearling sow—1, 4 and 6, C. L. Taylor; 2 and 3, J. L. Taylor; 5, Harned.

Senior sow pig—1, 2 and 3, C. L. Taylor; 4, Doty.

Junior sow pig—1 and 3, Unsell; 2 and 4, Brockman; 5, Taylor; 6, McFarland.

Senior and grand champion boar—Sheley & Clatterbuck on S. & C's Valley Chief.

Junior champion boar—C. L. Taylor.

Senior and grand champion sow—C. L. Taylor on Col. Wonder's Dream.

Junior champion sow—Unsell.

Old herd owned by exhibitor—1, 2, C. L. Taylor.

Old herd bred and owned by exhibitor —1 and 2, C. L. Taylor.

Young herd owned by exhibitor—1, C. L. Taylor; 2, Unsell.

Young herd bred and owned by exhibitor—1, C. L. Taylor; 2, Unsell.

Get of sire—1 and 2, C. L. Taylor.

Produce of dam—1, Unsell; 2, C. L. Taylor.

American Association Special, young herd bred and owned by exhibitor—1, C. L. Taylor; 2, McFarland; 3, J. L. Taylor.

American Association Special, for Missouri breeders only, old herd bred and owned by exhibitor—1, C. L. Taylor; 2, J. L. Taylor.

American Association Special, for Missouri breeders only, young herd bred and owned by exhibitor—1, C. L. Taylor; 2, McFarland.

National Duroc Jersey Record Association Special, boar and 3 sows farrowed property of exhibitor—1, C. L. Taylor; 2, McFarland.

National Duroc Jersey Record Association Special, young herd bred by exhibitor—1, C. L. Taylor.

The First Duroc Futurity

This year the Missouri Duroc Jersey Swine Breeders' Association put on the first Duroc Futurity ever held and the pronounced success of the venture assures it becoming a regular event at the State Fair. There is no better way to stimulate the interest of new breeders to show than through a futurity. Ever since the association announced this feature interest has been very keen among old and new breeders and this interest never lagged until the last ribbon was tied. Dr. J. B. Unsell won the boar class with the very attractive pig which also won in the open class. Dr. W. P. Butler was given first place in the sow class and also the litter class. A point of considerable interest to young breeders should be the fact that this was the first State Fair show for both the above exhibitors. Prof. L. A. Weaver of the agricultural college judged the futurity and his placings were entirely satisfactory to the exhibitors.

Managed and guaranteed by Missouri Duroc Jersey Swine Breeders' Association, inc.

Judge—Prof. L. A. Weaver, Columbia, Mo.

Boar under six months—1, Unsell; 2, Thomson Bros.; 3, C. L. Taylor; 4, Hutchison; 5, Brockman; 6, Hill; 7, Butler; 8, McPherson.

Sow under six months—1, Butler; 2, Unsell; 3 and 7, Brockman; 4, Taylor; 5, Hill; 6, Thomson Bros.; 8, McPherson.

Litter of four—1, Butler; 2, Unsell; 3 and 8, C. L. Taylor; 4, Thomson Bros.; 5, Brockman; 6, Hill; 7, McPherson.

FREE WATCH!

Nearly every boy wants to own a watch—not only to tell the time of day but because owning a watch is one of the mile posts on the road to manhood. The watch illustrated above is handsome and a splendid timekeeper. We will send it FREE to every farmer boy who sends us **four new subscriptions to The Missouri Farmer** at 50c a year... If you want one of these handsome watches **free** write us **at once!**

THE MISSOURI FARMER, Columbia, Mo.

FOR SALE—Buff Plymouth Rocks; blue ribbon winners Missouri State Fair 1915. We offer choice cockerels at bargain prices. Also nice breeding pens that will please you. H. D. Wilkinson, Columbia, Missouri, Route 7.

FOR SALE—350 Single Comb White Leghorn hens, trap-nest bred 11 years for egg production; winners in America's largest shows. Annual "make room" sale. $1 to $1.50 each; cockerels 75c up. Ackerman Poultry Farm, Bolivar, Mo.

WANTED to hear from owner of good farm for sale. Send cash price and description. D. F. Bush, Minneapolis, Minn.

Live Stock Notes

R. P. ROYCE, Fieldman

COMING SALES

POLAND CHINAS

O. J. Willhoyt, Maryville, Mo., Oct. 21.
J. B. Gurthet, Pattonsburg, Mo., Oct. 29.
Bridges Bros., Slater, Mo., February 11.
W. A. Baker & Son, Butler, Mo., Feb. 18.
Bennett Bros., Lee's Summit, Mo., Feb 19.

DUROC JERSEYS

Dowden & Partridge, Maryville, Mo., Feb. 11.

CHESTER WHITE

F. B. Goodspeed & Son, Maryville, Mo., Nov. 3.

HEREFORDS

Houchin Stock Farm, Sedalia, Mo., Oct. 22

SHORTHORNS

Thos. F. Murry, McCredie, Mo., Oct. 28.

Gurthet's Splendid Poland China Sale

On Friday, October 29th, J. B. Gurthet will sell at his farm adjoining Pattonsburg, Mo., a desirable offering of sixty head of strictly big type Poland Chinas. Mr. Gurthet has been engaged in producing pure-bred hogs for a number of years and the class of stuff he is producing has met with ready appreciation from careful buyers.

Mr. Gurthet has decided to cut down his herd and for that reason he is selling two of his herd boars. The older of these two boars, Long King's Equal 2nd, a two-year-old son of Long King's Equal out of an A. Wonder dam. This boar has been used in the herd etxensively and is being sold for no fault. He is an easy 950-pound boar, stands on a 10½-inch bone and is exceptionally good on his feet. The yearling boar, Model Wonder is by the noted sire, Big Bob, and is out of a Big Wonder dam. This boar was purchased in Seiver's record $107 boar sale.

The above boars would be attractive buys in any sale, but in this sale they are not alone among the good things cataloged. Eight tried sows of exceptional breeding and individuality are listed. Several will sell bred, and a few will sell with litters. Among the sows may be mentioned, Miss King, a grand daughter of Long King and out of a Jumbo Prospect dam; Long A. Wonder by A Wonder 47460, out of a Jumbo Prospect dam sells with a litter by Orange Wonder. She is a litter mate to the boar Mr. Gurthet sold for $250.

The fifteen fall gilts that will sell open are a very attractive lot and breeders who are planning to hold a bred sow sale this winter can pick some mighty nice sows from the lot. They have plenty of size and show unusual quality. Most of them are sired by Long King's Equal 2nd, and furnish striking proof of this boar's ability as a sire.

Nine spring boars sired by Brown's Big Orange, Long King's Equal 2d, Model Wonder and Orange Wonder will be just right for anyone needing a boar to use this fall. One of the boars by Orange Wonder out of a King of Wonder's dam is an outstanding pig. There also is a cracking good one by Long King's Equal 2d out of an A. Wonder sow. Eighteen spring gilts of the same breeding as the boars are good.

This sale is entitled to good support from breeders and farmers in the market for big type Polands with quality and we take pleasure in calling attention to it. Write at once for the catalog and arrange to attend the sale. Kindly mention this paper when you write.

Last Call for Goodspeed's Chester White Sale

Last week the writer visited the Goodspeed herd of Chester Whites and in company with several competent judges looked over the offering that will be sold Wednesday, November 3rd, at Maryville, Mo. It was the opinion of all that no sale will offer more size than Messrs. Goodspeed are putting on their first sale. March and April boars and gilts make up the entire offering, except the two older boars, Valley Prince and Harvest Lad. Fifty head will be sold and wil include thirty boars and twenty gilts. Most of the lot is sired by Sweepstakes Giant, the best two-year-old Chester White boar we know of in this state. He is sired by the champion Sweepstakes 28006, and is out of Goldie 3rd, by the 1200-pound Jumbo. Sweepstakes Giant weighed 905 pounds when shown at the Maryville Fair last month. Several litters by the Iowa champion, Wildwood Prince, show etxreme stretch and bone and one litter by Iowa First is hard to beat. The dams of the offering represent as good blood as the breed affords and in point of individuality make up one of the outstanding collections of brood sows owned in Missouri. The two older boars that were referred to above should prove attractive to any breeder in need of a herd boar. Valley Prince, a September yearling by Grubstake by Sweepstakes and out of Daisy by New York's Pride, is as good a boar as will be sold this year. The other boar, Harvest Lad, is by the great boar, International Boy, now at the head of J. J. Wills herd, and is out of a Jumbo 2d dam.

The offering is very uniform throughout and possesses sufficient merit to attract the best buyers. Everything is immune. The sale will be held in town. Write for catalog. R. P. Royce will attend the sale in the interest of The Missouri Farmer readers and will handle any bids our readers may care to send. Please mention this paper when you write.

Houchin's Hereford and Horse Sale

The attention of our readers is directed to the advertisement of the Houchin Stock Farm, in which it is announced that on Friday, October 22, a select lot of Hereford bulls and cows will be offered at public sale at the farm ten miles south of Sedalia, Mo., near Spring Fork. The offering will consist of 12 yearling bulls, 8 two-year-old bulls, 10 mature cows, 10 two-year-old heifers and 20 yearling heifers. Here is an excellent chance for our readers to purchase Hereford breeding stock at prices that will make money for the buyer. Every animal is registered, well bred, and the sort that the breeder and farmer like. In addition to the cattle, Mr. Houchin will sell a bunch of high-class horses and mules. Many of the young things are the get of the champion Astral King.

Terms will be very reasonable. Our readers can hardly afford to overlook this sale. Missourians have come to know that whenever Jas. A. Houchin offers live stock that it is right in every way.

Duroc Herd Boar For Sale

W. O. and B. A. Smith, Thompson, Mo., are offering a very unusual opportunity to any of our readers who are in the market for a herd boar. The boar in question is their well known young boar Beauty's Model 152503. Beauty's Model is sired by the three times champion Beauty's Model Top, which fact alone should make him attractive, but when it is stated that Beauty's Model was first prize senior yearling at the 1914 Missouri State Fair and that he had a lot of friends for grand championship honors, it is added prove of his merit. But the test of any herd boar is his ability as a sire and Beauty's Model has proven a very satisfactory sire in the Smith Bros.' herd.

In a recent letter from the senior member of this firm, he says that the only reason they are offering him for sale is because they want to keep a number of his daughters in their breeding herd.

Another good herd boar that they are offering is Beauty's Model Again, a yearling that they were planning to show this year. Both these boars are right in every particular and are sold on a guarantee that they are sure breeders. A number of choice spring boars by Beauty's Model are also in offer. Here is a rare chance to get a boar that will add prestige to your herd and we would suggest that any one interested visit the herd and see these boars. They are priced very reasonable.

When writing please mention The Missouri Farmer.

Peabody Shorthorns

Write June K. King & Sons, Marshall, Mo., for prices on the young Shorthorn bulls that they are now offering. These bulls are sired by a very thick-fleshed Scotch bull of great scale, and are out of Scotch topped cows, that are noted for their regular breeding and heavy milking qualities.

Willhoyte's Poland China Sale

O. J. Willhoyte, Maryville, Mo., announces elsewhere in this paper that on Thursday, October 21 he will offer at public sale sixty head of high-class Poland Chinas, consisting of tried sows, spring boars and gilts and one aged boar. This sale is dispersion of the herd, for the reason that Mr. Willhoyte has sold his farm and must give possession.

Among the sows offered are daughters of Big Wonder, Chief Wonder, Pawnee Pete, Longfellow King, Prince Tom and W's Big Sampson. This last named boar has been at the head of the herd and will be offered in the sale.

W's Big Sampson is a really good boar of the 1000-pound class. He is sired by Big Sampson and is out of Villisca Belle 2nd by Young Look. Villisca Belle 2nd

A. NO. 1 DUROC SPRING BOARS

I am offering a few extra choice spring boars sired by ILLUSTRATOR and out of TATTLETALE 39th, junior champion International 1913. A few by CRIMSON CHIEF AGAIN. Write or come.
W. C. WATSON. - - - - - - - NEW LONDON, MO.

Duroc Herd Headers For Sale

Beauty's Model 152503, 1st Prize Senior Yearling, Missouri State Fair, 1914, a sire of unusual merit, Beauty's Model Again, a junior yearling of much promise, sired by Beauty's Model and out of Top Col dam, and a good line of spring pigs. For particulars address W. O. & B. A. SMITH, Thompson, Mo.

RAMS

Chandler's Shropshires are reliable because they have the breeding and feeding to make them money-makers.
27 2-yr., many over 200 lbs., well wooled, blocky fellows, good enough for any breeder; your choice, $25.00.
14 2-yr., hardly so much covering, deep bodied, good fleece; your pick, $22.50.
17 yearlings (some by Big Butter Ram), mature better than 200.; $22.50 each.
Also a bunch at $18 and $20—all worth the money. Registered and crated light as possible.
Order from this ad. Can ship tomorrow. Just above St. Joseph.
C. W. CHANDLER, Kellerton, Iowa.

HOLSTEIN CATTLE

Dutchland Sir Hengerveld Rag Apple 99771

A few choice bull calves out of heavy producing dams sired by the above famous bull for sale.
BLACK AND WHITE FARM
Baden Station, Mo.
Tel. Colfax 1812 R. R. 30

IN MISSOURI

Eight bulls, 2 to 8 months, $100 to $175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.
S. W. COOKE & SON, MAYSVILLE, MO

12 High Grade Holstein Heifers

Four coming 2-year-old, 8 yearlings. Good strong heifers. Nicely marked and sired by a registered bull, out of an A. R. O. dam. Prices reasonable.
JAMES JONES - HAMILTON, MO.

HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndyke Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.
M. E. Moore & Co., Cameron, Mo.

SHORTHORN CATTLE

Shorthorn Bulls and Heifers

PEABODY FARM now offers 12 choice young bulls and 20 heifers. Good individuals; reds and roans. Priced to sell. Also 20 open BERKSHIRE gilts. Get our prices.
June K. King & Son Marshall, Mo.

Bridges Bros.' Poland Chinas

There is a Reason why we can please Missouri Farmer readers who are needing a strictly big type Poland China spring boar. We have about twenty extra good ones sired by BIG BOB WONDER, LONG JUMBO 2nd, LONGFELLOW SAMPSON, WONDER EX., etc., and out of our carefully selected sows. Our herd boar is
KING JOHN 72135
Long Kings Equal's greatest son. Everything immune. Prices reasonable.
BRIDGES BROS., Slater, Mo.

BAKER'S REAL BIG-TYPE POLANDS

Our winnings at the State Fair proves that we "have the goods." Spring boars and gilts of excellent breeding and individuality at very reasonable prices. Also a number of fall boars; big, stretchy kind.
W. A. Baker & Sons, Butler, Mo.

Linhardt's Polands

Choice spring boars and gilts. Fall boars and gilts. All sired by Giant Mammoth, Governor Hadley and Mammoth Wonder. Satisfaction is guaranteed. Have shipped to 23 states.
H. O. LINHARDT, LOHMAN, MO.

Dooley's Spotted Polands

Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pairs and trios no relation. Also registry furnished. Send check with first letter.
EDGAR DOOLEY, ETTERVILLE, MO.

Prize Winning Blood Predominates.

Big type hogs with quality, plenty of bone, very prolific and early maturing, are found in
ADENHILL FARM DUROCS
Twenty big March, 1915, open gilts by the great Col. Wonder II from big, prolific sows, now selling. They will prove profitable additions to any herd.
R. L. HILL, Adenhill Farm
Columbia, Missouri

Hazelwood Durocs

Seventy choice spring boars and gilts sired by HAZELWOOD CHIEF, by CRIMSON COL., and out of OHIO CHIEF bred sows. Get our prices.
E. P. POWELL & SON, Maryville, Mo.

Col Wonder Durocs

A few yearling boars. Spring pigs either sex. Write or come.
CHAS L. TAYLOR - OLEAN, MO.

ANGUS CATTLE

ChoiceAberdeen-Angus

Established 30 years. 100 head in herd. We are offering good useful Bulls, and Heifers of excellent individual merit and breeding. Prices reasonable. Our customers make them popular.
D. L. Sutherland & Sons Windsor, Mo

Aberdeen-Angus

I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.
J. D. Blackwell Fayette, Mo.

ANGUS CATTLE

HERD FOUNDED 1904
Seven early calves—3 BULLS and 4 HEIFERS, sired by Dean's Eric 139686. Every one the right kind, and priced to sell.
V. E. LAWRENCE, SALISBURY, MO.

Angus Bargains

Registered bulls and heifers. The market topping kind. Leading families represented. Priced worth the money and satisfaction guaranteed.
Also Poland China Hogs
J. M. JONES, R. F. D. 3, EVERTON, MO

BROWN'S ANGUS

Choice young bulls; two heifers 2 yrs. old; several good cows. Also four extra Poland boars ready for service.
All Stock Registered
K. H. BROWN, - - BOLIVAR, MO.

JERSEY CATTLE

JERSEY CATTLE

Bulls ready for service. They are sired by the Owls Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.
Wm. H. Bruns & Son, Concordia, Mo.

Jersey Cows

I want to sell 20 head of registered cows and heifers that are either fresh or soon will be. Also four young bulls.
J. B. SMITH Platte City, Mo.

Sunset "Correct Type" Jerseys

Do you want a trio of the famous line bred Blue Belle-Golden Rosebay Jerseys? I have two magnificent heifers, both bred, and a young bull to go with them, almost ready for service. Price of the trio, $300 —just half their value. Write for breeding, description of herd, production, etc. They will please you. The Ennis Stock Farm, Horine Station, Mo. (Just south of St. Louis).

RED POLLED

RED POLLED CATTLE

HERD ESTABLISHED 16 YEARS
Young stock for sale at all times.
Young bulls for sale sired by Logan 13500. The duel purpose kind.
M. L. Snyder, . Polo, Mo.

was considered one of the best brood sows in the Williams Bros.' herd.

W's Big Sampson is a half brother on the sire's side to W. E. Williams' Longfellow Sampson, and on the dam's side is a half brother to A. Marvel at the head of R. A. Schug's Nebraska herd. W's Big Sampson is in every way a desirable boar and should go to head a good herd. The young stuff is first-class in every respect. Our readers will not be disappointed if they attend the sale.

Linhardt's Good Poland China Bargains

H. O. Linhardt, Lohman, Mo., is prepared to furnish our readers with a very desirable lot of spring boars and gilts of strictly big type breeding and possessing a degree of quality not often found.

Mr. Linhardt has been producing this type of hogs for a number of years and the fact that he can refer you to satisfied buyers in twenty-three states is evidence aplenty that he has the goods to back up his offer. Spring boars and gilts by Governor Hadley, Giant Mammoth and Mammoth Wonder are now ready to sell at prices that should prove highly attractive to our readers. Mention this paper when you write.

Rauscher's Chester Whites

H. Rauscher & Son, Kakoha, Mo., who have one of the oldest herds of Chester Whites in the West, are offering some exceptionally good values in spring boars and gilts sired by Combination Giant, Missouri First, and other boars of note. Messrs. Rauscher sell on a guarantee of satisfaction, and price their stuff extremely reasonable. Mention this paper when you write.

Weller's Duroc Bargains

Parties wanting anything in the Duroc Jersey line should look up the ad of J. E. Weller, Faucett, Mo., who advertises a number of big strong yearling boars; also spring and summer boars any size from a 50-lb. weanling up. Since August 1st Mr. Weller has shipped to the following places: Chandler, Colo.; Hope, Ark.; Lake City, Ark.; Berryville, Ark.; Paola, Kan.; Bolivar, Mo.; Blairstown, Mo., Marquand, Mo. Bull calves have been shipped to Warsaw and Agency, Mo. Stock is being sold from the Weller herd over a wide territory and is giving good satisfaction. Just now a special price is being made on boars. While a number have been recently sold, the herd is large yet; over 200 head are on the farm—more pigs to be farrowed. The older ones must be kept moving in order to make room for the coming pigs. If in need of anything in the boar line write Mr. Weller and tell him what you want to buy and get his prices. One yearling and one six months old Shorthorn bull are offered. All the above stock is registered and of choicest breeding. More than 40 buyers have come back the second and third and some the fourth time and bought from this herd. This proves that satisfaction is given and that prices are decidedly reasonable. Before you buy better write J. E. Weller, Faucett, Mo., your wants.

Murry's Shorthorn Dispersion Sale

Having sold his famous Forest Grove Farm, Thos. F. Murry is forced to disperse his well-known herd of Shorthorn cattle, and on Friday, October 28, at the farm nine miles west of McCredie, fifteen miles northwest of Fulton, thirteen miles east of Columbia, and eighteen miles south of Centralia, sixty head of Shorthorn bulls and cows will be offered at public sale. This herd has been established over twenty years and during that time a very superior line of bulls have left their stamp on the breeding herd. At the forth-coming sale the fifty head of females will include a member with calves at foot, thirty that are bred to the good bull Rosewood Sultan 433758, and the balance bred to Orange Model 2nd 368980. Among the ten young bulls are several very superior herd bull prospects. All are good strong rugged fellows ready for hard service. Write at once for the catalog and kindly mention this paper.

A Splendid Boar for Sale or Trade

Look up the advertisement of M. D. Porter in which he offers to sell the good yearling boar Pawnee Price 2nd. This boar won first in his class in the open boar won second in his class in the open state fair. He is sired by Pawnee Price and is out of Jane Fawr. Mr. Porter will sell this boar reasonable or he will consider taking in a few well bred big type gilts. Other boars by Smooth Columbus, and Black Big Wonder are for sale. Mr. Porter brought out the grand champion at the state fair this year.

Lease & Son's Polands

Notice the new advertisement of O. G. Lease & Son, Centralia, Mo., in which they offer choice Poland China spring boars sired by Pfander's Big Ben. Messrs. Lease advise us that these boars will weigh around 175 pounds and that they are pricing them worth the money. They also have a nice lot of gilts that they offer either open or bred. Everything is guaranteed to be as represented. Messrs. Lease have one of the good herds of central Missouri. Mention this paper.

Martin's Hampshires

Notice the new advertisement of Isom J. Martin, Lancaster, Mo., in which he offers Hampshire spring boars and gilts sired by Gen. Tipton, and Sir Brookview his two grand champion herd boars. No Hampshire herd stands higher than the Brookview herd of Mr. Martin. Mention this paper.

Lockridge Has Grand Champion Boar

Will G. Lockridge of Fayette, Mo., who advertises Polands in this paper, showed the grand champion boar at the state fair last month. The Giant, was perhaps the most talked of boar on the grounds, on account of his unusual size, heavy bone and quality. Mr. Lockridge offers a few choice spring boars sired by the Giant, at prices that are sure to move them. To own a son of a grand champion is to place your herd in the lime light.

Important Boar Deal

Bennett Bros., Lee's Summit, Mo., are determined to own one of the top herds of Poland Chinas and when they paid $750 for a half interest in John Belcher's great boar, Smooth Columbus, they made a wise move. Smooth Columbus is regarded by many to be the best boar in the state, and among the best of the breed. It will be recalled that last year Smooth Columbus was champion at the Missouri State Fair, and that he was responsible for Mr. Belcher having the top sale of the state last year.

Bennett Bros. are offering a few extra good early spring boars sired by Smooth Columbus at prices extremely reasonable. Mention this paper.

Brookview Hampshires

Herd headed by GEN. TIPTON and SIR BROOKVIEW, both grand champions. Spring boars and gilts of choice breeding and individuality. Prices reasonable.

ISOM J. MARTIN R, 5 Lancaster, Mo.

CHESTER WHITES

RAUSCHER'S CHESTER WHITES!

Big, stretchy, heavy boned, March and April boars and gilts sired by Combination Giant, Mo. First and others. Pairs, trios or more. Prices reasonable and pigs must satisfy.

H. Rauscher & Son, Kahoka, Mo.

O.I.C.'s or Chester Whites

Express prepaid on O. I. C. and Chester White spring boars. Write for prices.

W. P. DOOLITTLE
WOODLAND, MARION CO., MO.

100 Prize-Winning O.I.C's

Our herd is headed by grand champion and champion boars of 1914 shows. Sows of equal merit. All backed by long line of prize winners. Early pigs, singles, pairs or more not akin, at rock bottom prices. We can please you. Write or come.

S. D. & B. H. FROST,
Box H Kingston, Mo.

THOMAS E. DEEM
AUCTIONEER

Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased.

Dependable service at a reasonable charge. Address, Cameron, Mo.

Harry W. Graham
AUCTIONEER
PURE BRED LIVE STOCK

Seventeen years experience with America's best breeders.

Chillicothe, Missouri

MOLASSES Richest Feed Lowest Cost

St. Louis Molasses Co., Dept. MF., 400 S. Broadway, St. Louis.

Clydesdale Horses, Jacks and Jennets

Clydesdale Stallions, Mares and Colts, with quality and breeding, for sale at lowest prices. We also breed Jacks and Jennets and sell them as low as the lowest.

HIGHVIEW FARM F. L. CROSBY, Prop., Mexico, Mo.

POLAND CHINAS

Smooth Columbus
THE BOAR THAT PUT MISSOURI ON THE MAP. HEADS OUR HERD

75 extra choice March and April boars and gilts sired by SMOOTH COLUMBUS, the record sire of the state, LONG JOE, and BAKER'S HADLEY. Big type Polands with quality. All immune. Satisfaction guaranteed.

BENNETT BROS. R. 5, LEE'S SUMMIT, MO.

PAWNEE PRICE IS DEAD

You will want some of his blood in your herd because it makes for size and quality. We have a few extra good spring boars sired by Pawnee Price for sale at reasonable prices. First come, first served.

J. F. RICHARDS & SON - - - - - - - - - - Bevier, Mo.

A PRIZE WINNING BOAR FOR SALE OR EXCHANGE

I offer Pawnee Price 2nd, second prize winners in class and futurity, Missouri State Fair 1915, for sale or will exchange, in part, for Choice Poland China gilts. Also offer a number of choice boar pigs for sale. The big, smooth, prolific kind. Sired by SMOOTH COLUMBUS and BLACK BIG WONDER. Get my prices.

M. D. PORTER, - - - - - - VANDALIA, MO.

Mammoth Big-Type Polands for Sale

PFANDER'S Big Ben 69678 spring boars, weighing 175 pounds or more, offered at special prices during September. Herd headers a specialty. Best of breeding. Also nice lot of gilts, open or bred. Farmers' prices. Get our description and prices. Everything guaranteed. O. G. LEASE & SON, CENTRALIA, MO.

Spring Boars by the Grand Champion

A desirable lot of early spring boars by The Giant, acknowledged to be one of the greatest young Poland China boars of the breed. Prices within reach of all.

WILL G. LOCKRIDGE - - - - - - - Fayette, Mo.

Poland Chinas & Shorthorns

Spring boars and gilts, pairs, trios or more. A few sows and gilts bred for fall farrow. Several choice young bulls and heifers. Satisfaction guaranteed.

H. S. Williamson, Route 6 Centralia, Mo.

POLAND CHINA BARGAINS

I have some good Big Type Poland China hogs; some tried sows, one aged boar, some spring gilts and spring boars. Registered stuff. Cholera immune. Come and see them or write me. LOU LE FEVRE, Collins, Mo.

BALDWIN HEIGHTS BIG POLAND CHINAS

Spring boars by King Jumbo, by King of All, and out of sows bred in the purple. Satisfaction guaranteed.

R. F. BALDWIN, Rt 1, ROCHEPORT, MO.

SPOTTED POLAND CHINA BOARS

The big boned, thrifty kind. We have a number of boars now ready for service. A choice lot for only $25 each, f. o. b. Rocheport.

HALL & RAPP - - - - - - - - Rocheport, Mo.

MEGOWN'S SPOTTED POLANDS

No matured stock for sale but booking orders for pigs to be shipped later. Have length, bone, size and big spots. Sired by two of the biggest boars in the State for their age.

B. B. MEGOWN, - - - - - - - NEW LONDON, MISSOURI

DUROC JERSEYS

Select Col. II Litter mate to Illinois Champion 1912

White's Durocs
Choice spring pigs by a champion and out of well bred sows! Stretchy, big bone, well grown. A few bred sows.
A WHITE, Jr. Box 422 PALMYRA, MO

Crimson Col. I Am Junior Champion American Royal 1912

Forty Duroc Boar and Gilt Bargains

We are offering 40 choice spring boars and gilts sired by Col. Wonder II, litter mate to the champion sow at Missouri State Fair 1914; Beauty's Col.; Col. Wonder, a champion; Col. Enough I Am; and Belle's Col. Pairs, twos or more of unrelated stock. Priced to sell and guaranteed to please.

W. H. & GEO. E. THOMSON - - - - - - Columbia, Missouri

Durocs With Size and Bone

I am offering a choice lot of early spring pigs with unusual size, bone and quality. Bred right and priced right. Visitors welcome.

A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

Duroc Boars For Sale

Anything from a 50-lb. weanling to a 500-lb. herd and show boar. We offer some first-class herd header prospects. Good strong boned farmers stock boars. Also gilts. I also have one 16-months and one weanling Shorthorn bulls. Write me your wants. Will try to please you—the price will be right. Over forty old customers are buying here because both prices and stock have been right. Write today for that boar. I have got him. J. E. WELLER, FAUCETT, MO.

150 Duroc Boars and Gilts

February, March and April boars and gilts sired by Golden Tat, Bob's Col. Wonder, Col. Wonder and Professor's Col. Stretch, size, bone and quality. Priced for quick sale. Write or come.

J. E. McPherson, Columbia, Mo.

75 Duroc Spring Boars and Gilts

Seventy-five (75) good boars and gilts. Rich breeding, and plenty of size and bone. Pairs, trios or more. Priced to sell.

J. C. Garrard & Son, McBaine, Mo.

Goodspeed & Son's Chester White Sale

MARYVILLE, MO., WEDNESDAY, NOVEMBER 3

30 BOARS EVERYTHING IMMUNE 20 GILTS

Our offering includes 28 spring boars and 20 spring gilts. All of March and April farrow. Sired by my 1000-POUND TWO-YEAR-OLD, SWEEPSTAKES GIANT 25957; the Iowa Champion, Wildwood Prince and Iowa First, out of sows of the most approved breeding.

We believe that we are offering more size and quality than ever sold in Missouri. Bred for size and fed for size.

TWO HERD BOARS SELL

VALLEY PRINCE, a September yearling by GRUBSTAKE, a son of SWEEPSTAKE is a great prospect.

HARVEST LAD by International Boy will look good to buyers.

Write for catalog and watch this paper for further announcement.

F. B. GOODSPEED & SON, - Maryville, Mo.

COL. C. C. EVANS, Auct. R. P. ROYCE, Fieldman

Important Shorthorn Dispersion Sale

FOREST GROVE FARM NINE MILES WEST OF McCREDIE, MO.,

THURSDAY, OCT. 28

SIXTY HEAD OF COWS and BULLS

Having sold my farm, I will offer 60 head of Choice Shorthorns, fifty cows and ten young bulls. Thirty of the cows have been bred to ROSEWOOD SULTAN 433758 and the rest to ORANGE MODEL 2nd 368980. Here is your opportunity to buy Shorthorns that have been bred right for twenty years. You can buy them on six months' time on good note. Catalogs now ready.

Mention This Paper

THOS. F. MURRY, - - McCREDIE, MO.

Poland China Dispersion Sale

Maryville Mo., October 21, 1915

I have sold my farm and must close out my Poland China herd. On the above date I will offer

Sixty Head of Immuned Polands

including my splendid herd boar, W'S BIG SAMPSON 64110, undoubtedly one of the best boars that will sell this year; 14 tried sows of the best breeding; 23 spring boars and 22 spring gilts.

This offering is first class in every way. Sale in town.

THOS. E. DEEM, Auctioneer

O. J. WILLHOYTE - Maryville, Missouri

SUPERIOR POLAND CHINA SALE

Pattonsburg, Mo., Friday, Oct. 29, 1915

Sixty Head of Top Boars and Sows

In no sale will there be offered a more desirable lot of Poland China breeding stock. I am reducing my herd and am therefore forced to sell animals that I otherwise would refuse to price.

Long King's Equal II and Model Wonder

are my two herd boars and I am selling them. Either boar should go to good herds. LONG KING'S EQUAL II is by LONG KING'S EQUAL and is out of an A. WONDER dam. He is a 950-pound two-year-old, whose ability as a sire is proven by his get in this sale. MODEL WONDER is by the noted BIG BOB, out of a BIG WONDER dam. The kind of boar most breeders want.

18 SPRING GILTS and 9 SPRING BOARS

Daughters of A. WONDER, EXCELLENT WONDER, COLOSSAL, Etc. Sell with litters or bred.

15 High Class Fall Yearling Gilts

The big, stretchy, quality kind. Sell open, and are just right to breed for winter sales. Sired by LONG KING'S EQUAL II.

8 VALUABLE TRIED SOWS

Sired by BROWN'S BIG ORANGE, LONG KING'S EQUAL II, MODEL WONDER and ORANGE WONDER.

Breeders and farmer will find what they want here. Send for catalog and mention this paper.

J. B. GURTHET - - - - Pattonsburg, Mo.

P. M. GROSS, Auctioneer R. P. ROYCE, Fieldman

Houchin's Hereford Sale

FRIDAY, OCTOBER 22

At

HOUCHIN'S STOCK FARM

10 MILES SOUTH OF SEDALIA, NEAR SPRING FORK, MO.

60 Registered Herefords

12 Yearling Bulls

8 2-Year Old Bulls

10 Breeding Cows

20 Yearling Heifers

10 2-Year Old Heifers

All well bred, well grown and carefully selected from Houchin's famous herd.

Saddle Horses, Brood Mares, Mules

5 Good Brood Mares
6 2 and 3 Year-Old Fillies
5 Yearling Colts
10 2 and 3 Year-Old Geldings
4 Good Work Horses
8 2 and 3 Year-Old Mules
6 4 and 5 Year-Old Mules

Included in the above offering are some cracking good colts by the Champion Astral King.

HOUCHIN STOCK FARM

James A. Houchin, Prop. Chas. Smith, Sec'y.
Chas. and Kemp Heironymous, Auctioneers

Breeders who are needing new blood to improve their herds will do well to look over the advertisements in this paper. We have an unusually good list of sales to select from and the reputation of these men is a guarantee of both quality and fair dealing. When writing for catalog please mention The Missouri Farmer.

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE
MISSOURI FARMER
COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE
AND THE MISSOURI EXPERIMENTAL STATION

A Tale of Dollars

The other day I chanced to get hold of a couple of silver dollars. The first one was coined in 1884 and looked almost as new as the day it left the mint. The other was coined in 1898—fourteen years later and was worn until the keen lettering of the dies was difficult, to read. As I turned them over in my hand I wished I might tempt them to tell me the story of their lives. Undoubtedly, the first one has had an easy time thus far. Perhaps it has been hidden away in some bank vault or has idled away its time in the "strong box" of a miser—while "Service" was written in unmistakable language all over the well-worn face of the other. While the first dollar was dodging responsibility, the latter was doing its full share in the never-ending struggles of life and I have no doubt if its mute lips could speak it could have told me of the many times it bought something to eat for the hungry, medicine for the sick, clothes for the poor and of a thousand other services which have made the World a better and happier place to live in.

And, as my mind was lost in speculative reverie the thought came to me, how similar is the silent story of these two coins to the lives of men? Here is a man who lives in comfort and ease. His hands have never been soiled or hardened through contact with the World's harsh work. Like the lily he toils not, neither does he spin. With him the one and only problem is to go through life with the least possible exertion. The serious problems of citizenship never disturb him. The thought of making the community or the World better has no place in his calculations. That there are those about him who are hungry or sick is plainly no affair of his. He lives selfishly unto and for himself and lets the balance of humanity shift as it will. Here is another—perhaps not so selfish—but merely shiftless and thriftless. He works only when stern necessity offers no other alternative. He is content with things as they are. He hates new ideas because of the energy necessary to master them. If he has a home it looks disheveled and neglected. He follows the "lines of least resistance" and like the first dollar, works only when driven to it.

But happily here and there are those who are living examples of the other dollar. Here is a business man who stands out like a mountain in the town in which he lives. He strives with might and main to succeed in business—but not at the expense of the community. On the contrary, he tries to pull everybody else up the ladder of success with him. He is the first man to back every good new enterprise with his enthusiasm and his money. When charity is needed his hand dives into his pocket. When somebody is "down and out" he is the first to give him a lift—and his greatest joy comes from rendering service. So too, here is a farmer who is "up and coming." He loves to make his citizenship count for good in his community. He is constantly on the alert for new ideas and delights in being progressive. He stands for good schools. He hates debt and shiftlessness and is constantly trying to plan a better way to do things—and as a result he is not only successful as success goes but his farm and his life are an inspiration to his neighbors. Like the last dollar, the word "Service" is stamped indelibly upon the personality of these men. Perhaps toil has made their figures somewhat stooped and worn but by the light in their eyes and the hope in their faces you can pick them out in any crowd. They value each fleeting hour and try to make the most of it. They regard life as a splendid opportunity—and to them to make "two blades grow where only one grew before" is a sacred command rather than a mere opportunity for profit. You and I, my friend, must, to a greater or less degree, take our places beside the first or the last dollar. Either we are making the World better or we are not—for a sharp line ever separates genuine service from mere selfish or aimless existence.

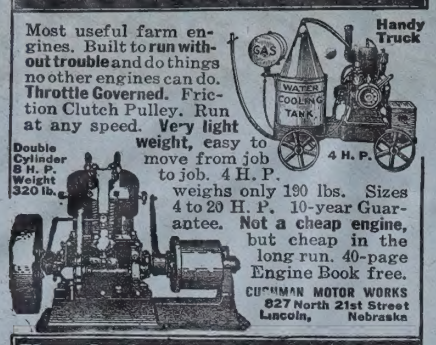
—By the Author of After-Thoughts

GEO. B. ELLIS
MANAGING EDITOR

VOL. VII NOVEMBER 1, 1915 NO.21

WILLIAM HIRTH
PUBLISHER

Cushman Light Weight Engines For All Farm Work



Most useful farm engines. Built to **run without trouble** and do things no other engines can do. **Throttle Governed.** Friction Clutch Pulley. Run at any speed. **Very light weight,** easy to move from job to job. 4 H. P. weighs only 190 lbs. Sizes 4 to 20 H. P. 10-year Guarantee. **Not a cheap engine,** but cheap in the long run. 40-page Engine Book free.

CUSHMAN MOTOR WORKS
827 North 21st Street
Lincoln, Nebraska

Throttle Governed-Steady and Quiet

ROWE'S NEW IDEA HOG OILER

Sent Freight Paid on 30 Days' FREE Trial

Kills Lice
Cures Mange
Disinfects Pens and Yards
Prevents Disease

Only Oiler made without valves, cylinders or wheels. Can't clog, stick, leak or get out of order. Guaranteed 5 years. Uses Crude or Medicated oil. Kills lice; keeps pens and yards disinfected. Order one or more on free trial today.

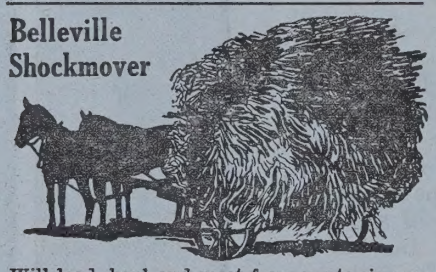
Send No Money

I pay freight and send one gallon of Medicated Oil free with each post. Test them 30 days on your farm—then pay if pleased. If not, return at my expense. You take no risk. Order direct from this ad. Catalog Folder sent free on request. ALVIN V. ROWE, Pres't

PRICES
1 Oiler $7.75
2 Oilers 15.00
Freight paid except in Mountain and Coast States

ROWE MFG. CO., 103 Liberty St., GALESBURG, ILL.

Belleville Shockmover



Will load, haul and reset from one to six corn shocks, weighing from 1,600 to 2,400 pounds to the load; will take two minutes time per shock. **GUARANTEED** to load any shock or pile of corn fodder, no matter in what shape it is, whether standing or flat on the ground, we guarantee satisfaction or **refund the money.** Write for particulars. Costs little. Saves a lot.

ASK YOUR DEALER, OR WRITE TO
BELLEVILLE SHOCKMOVER CO., Dept N Belleville, Ills.

GRIND 150 BU. PER HOUR
LESS THAN 1¢ PER BUSHEL!

Bowsher Mills often reduce the cost of grinding one-half. That's because they are light running, with perfect conical shape grinders, different from all others.

BOWSHER FEED MILLS

(Sold with or without elevator)
Crush ear corn (with or without shucks) and **Grind** all kinds of small grain, cotton seed and **Head Kaffir.** Handy to operate. 10 sizes—2 to 25 H. P. Also sweep grinders.

FREE Send for folder on values of feeds and manures.

T.P. Bowsher Co., South Bend, Ind.

WATER DON'T BOIL IN GALLOWAY ENGINES

NO, SIR! The large water pot, ample cooling surface, heavy weight, large bore, low speed and long stroke type of engine with a perfectly water-cooled cylinder head **will not** boil over. 1916 improvements include new Galloway economy carburetor, valves in the head, built in magneto (extra), adjustable bearings. Costs little to operate and the new low prices speak for themselves. Do not compare Galloway engines to high-speeded, light weight, short lived engines that rack themselves to pieces in a season. My big 160 page four color catalog free. Engines shipped from Minneapolis, Council Bluffs, Chicago, Waterloo and Kansas City.

WM. GALLOWAY CO., Box 595 Waterloo, Iowa

Here's The ANSWER

To almost any problem that arises on your farm.

FREE to Landowners Only —who have not had a copy. This big 160 page book—Ropp's New Calculator (worth 50c) will be sent free and postpaid. We will also mail you our catalog of—

SQUARE DEAL FENCE

the only wire fence that has the famous self-draining double-grip, **Square Deal Lock.** Other lasting qualities are heavy 99 3-4% pure galvanizing, one-piece stay wires and wavy strand wires. Write today.

KEYSTONE STEEL & WIRE COMPANY
4040 Industrial Street, Peoria, Ill.

LYON'S PRACTICAL FARM PAPERS

I have judged farm products at our county fair nearly every year for twenty years, so it will be seen that I cannot exhibit, but I usually take two or three articles, "not in competition." This year it was a hanger with 16 extra fine ears of pure-bred seed corn, and a large bunch of nine-foot stalks of Sundan grass. I put a card on the corn, "For Sale, price, $1.00," and while one man offered me a dime for an ear I have the corn hanging up at home, worth $2.50. Another man wanted to trade me two dozen very fine potatoes, four varieties, for the corn, and that man could buy and sell me and have money left. Everybody agreed that my corn was by far the best at the fair, but when I told a party that in 1910 I paid $20 for two bushels of seed, 136 ears, I heard one man say, "If that is not a lie, that man is a fool."

One sees lots of funny things when judging. A man came up to me saying he had made four entries and had taken three first prizes—one on Leaming, one on large yellow, and one on the best ten ears, and thought that he should have had the prize on small yellow corn. We investigated and found his small yellow sample to consist of ears 9½ inches long, and he called that "small corn."

A woman came to ask me why her sugar trough gourds had not taken a prize? We went to the gourd department and found two mammoth Brazilian squashes with her entry tag on, marked, "two sugar trough gourds." She said that she had bought the seed for gourds, and so they must be gourds, but she collapsed when I asked her if she had bought 'em for strawberries, I was to consider these things berries?

The fruit judge came to me for assistance. He wanted to know if I knew Wealthy apples, and I told him that I did, but thought that he would not find any here as late as October 8. He said that it was left to me, so I went over and found three plates of monster Wolf River apples, entry cards marked "Wealthy." This was a clear case of three people skinned by a tree agent, who sold Wolf River for Wealthy. It was a poor year for pears here, and our fair has ten varieties on its premium list. They were all there, and all Kieffer too, as any fruit man knows it is no trouble to get a dozen shapes, sizes and colors of pears off one tree of Kieffers. The judge wanted to know what to do about it and I told him to taste 'em all. I met him the next day, and he said his mouth was sore from tasting only six samples.

At this writing, October 20, there is still much wheat seeding to do, and a good deal of corn to cut. We finished cutting 400 shocks of corn, 12x12 hills today, and a neighbor cut 75 on the shares. This leaves perhaps eight acres standing corn, and, as it is in good condition, we may cut more, for the high prices of hay will make a demand for fodder. Last year we sold fodder at 15 cents per shock and others nearer town got as high as 25 cents. Tobacco stripping is on, with the finest color seen in forty years, our own crops being said to have some of the best color ever seen, even by men of the widest tobacco experience. I handled every sample at the St. Louis World's Fair and did not see a single leaf of as fine color and texture as a good many "hands" of tobacco we stripped in my own barn yesterday, and we have not worked on our best yet. As for price, we have but one buyer, the merciless, conscienceless tobacco trust, and while this extra fancy tobacco ought to bring at least 50 cents per pound, we have no assurance that it will bring more than 20 cents. Well, tobacco will keep and if our best grades do not bring a good price, we will store them away, and let the low grades go over the markets.

There are bids of 50 cents a bushel for new corn, and few sellers, potatoes have gone up from 40 to 65 cents a bushel, but hogs are going down every day.

Every farmer in Missouri should have a copy of our great new booklet entitled "Stamping Out Hog Cholera." If you will send us a dollar at once we will mark up your subscription three years and send you a copy of this great book free.

"The Quality Goes IN Before the Name Goes ON"

"Let the Company Come

We are prepared to entertain them royally with our new

Crown Combinola

'The Player of Many Tones'

THIS morning I bought some new music rolls and we now have a fine assortment—the latest dance music, popular ballads, marches, semiclassical and classical compositions—enough to please all. Grace can play for us, so that all can enjoy themselves."

You, too, can entertain royally with the Crown Combinola—play your own and your friends' favorite selections every night if you wish. The Crown Combinola brings into your home the finest music ever composed—places at your command the difficult compositions of the masters which few people ever learn to play. It is never out of practice, never too tired to play, never has to be coaxed; gives you all the music you want, of the kind you want, when you want it; and can be played by anyone, even a child.

And in addition to all piano music it faithfully reproduces the tones of the harp, zither, autoharp, harpsichord, clavichord, guitar, mandolin, banjo, and many other stringed instruments, placing a wide range of music at your command.

Your old piano taken in exchange at a liberal allowance. Estimates furnished FREE upon request and with no obligation on your part.

Learn more about this wonderful instrument which brings pleasure and happiness into your home. Our booklet "Music in the Home" explains in detail. Send for it today. Mail the coupon NOW.

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Geo. P. Bent Company, Chicago, Ill.
Please send me without charge the booklets before which I have marked X.

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☐ Music in the Home ☐ Care of a Piano
☐ Construction ☐ Piano Catalog

Name.....
Address.....
A..... M.F.

Destroy Insects by Fall Plowing

If you want to kill the army worms, cutworms, Hessian flies, grasshoppers and other highly injurious insects, plow your fields this fall. Fall plowing, disking, and harrowing, within the next few weeks will break up the nests, cells and protecting cases of many insects and expose them to the rigors of winter weather. This will completely destroy many of our most injurious insects and greatly diminish the numbers of others.

Fall plowing does not affect all insects alike because they pass the winter in the soil in different stages. The grasshoppers and the corn root lice pass the winter in the egg stage; the cutworms, army worms, wire worms, and white grubs hibernate in the soil in the worm stage; the fall army worms, corn-ear worms, and garden web worms pass the winter in the pupa or resting stage; and the click beetles, May beetles and potato beetles hibernate in the soil as adult beetles.

Many insects are crushed and destroyed in their wintering stages by plowing and disking. Others are brought up nearer the surface and not being able to go deeper into the soil or to construct new cases are exposed to the ravages of birds and other animals. They are also subjected to excessive cold and moisture, to alternate freezing and thawing, and are killed.

Old wheat stubble fields full of volunteer wheat, weeds, and grass are now harboring Hessian flies, army worms, cutworms, grasshopper eggs, and plant lice, all of which may be destroyed by fall plowing. If these old stubble fields are not plowed until next spring serious injury may occur to corn, wheat, and other crops in the neighborhood. The Hessian flies, coming from the volunteer wheat next spring may completely destroy late sown wheat.

T. J. Talbert,
University of Missouri.

Does It Pay to Grind Feed for Lambs?

Experiments conducted at the Nebraska Experiment Station during the past winter indicate that the grinding of grain and alfalfa hay for lambs is not profitable under present conditions. While lambs fed a mixture of ground corn and ground alfalfa went on full feed quickly, cleaned up their feed each meal, and remained thrifty and vigorous throughout the entire feeding experiment, their increased weight was put on at a cost considerably higher than that of lambs fed shelled corn and whole alfalfa hay. The difference amounted to practically $1 on each 100 pounds gain. The same striking difference was noticeable in comparing lambs fed on ground corn, ground alfalfa, and corn silage and those fed shelled corn, whole alfalfa, and corn silage.

Do you like good books? Read our book offer on page 11.

The Missouri Farmer

VOLUME VII NOVEMBER 1, 1915 NUMBER 21

Who Fixes The Price?

By Geo. B. Ellis, Managing Editor

When a bunch of packers can get heir heads together and break the rice of hogs more than a dollar a undred in two days as they did on October 20 and 21 something is rong, and radically wrong. Why did ll the great packing centers show the ig break of hog prices the same day? There was an increased run of hogs o begin with and shippers buying at he big centers began asking for conessions of five cents a hundred but ackers held off asking twenty cents r more. This seemed to be the signal, simultaneously given at all the ig markets, and in three days the rice of hogs was hammered down rom a dollar to a dollar and thirtyve cents a hundred and threats that he price must go lower. It matters ot that most of the corn these hogs ave eaten was worth 70 to 80 cents bushel and that upon any reasonable asis the farmer should have above ight cents a pound to get a living rofit—the fact is, the packers had it n their power to cut the price arbirarily and they cut it without cereony or apology to the hog raisers.

Loss $160,000 a Week

A friend of ours who was caught on e market during this break with two ads of hogs, figures his loss at $600. ne of the leading stock yard's dailies entions a shipper who pocketed a ss of $500 on one load of hogs. A ountry shipper of our acquaintance st $300 besides his time on a load hipped to the St. Louis market. To et some idea of what the loss was to Missouri let us present some figures hich tell their own story. We market pproximately 4,000,000 hogs a year om Missouri farms. Dividing this umber into equal weekly shipments e have nearly 80,000 hogs going to arket every week. A break of a ollar a hundred means a loss of at east $160,000 for the shippers who re on the market with hogs for the verage week during the year.

One bear factor used by the packers n hammering down prices was the confiscation of a few cargoes of meat some weeks ago by the British Government. We made editorial mention of this factor in the last issue of The Missouri Farmer but giving full allowance for the importance of this matter it is not strong enough to account for a legitimate break of one dollar to one dollar and thirty-five cents a hundred on live hogs within less than a week's time. Here is what one of the leading publications of the packers has to say about it:

"Traders attribute the sharp break in live hogs to late developments in the provision market. Considerable decline has been noted in the past few days on future quotations on mess pork, lard and ribs and without doubt this had a material bearing on the sudden reversal of form of the live pork market. IT IS ALSO POINTED OUT THAT THE OPENING OF THE WINTER PACKING SEASON IS LESS THAN 2 WEEKS OFF AND PACKERS ALWAYS MAKE A BEAR PLAY ABOUT THIS TIME. Prices are now nearly a dollar a hundred higher than a year ago. It is no secret that packers look for a heavy movement of hogs to market during November and the winter months when they figure that the spring pig crop, admittedly large, will be well along toward maturity. It is the general opinion that this expectancy of liberal supplies of hogs during the winter packing period has served to create heavy selling of future provisions, thus creating an unsettled condition in the hog market."

The above is typical of the packers' views. Do you note the significance of the sentence we have set in caps? Of course the packing season is near, we farmers know too well about that for we have too often been caught with the "bear play" they make about this time of year in regular order.

What seems to have been an inspired interview was published in the daily papers a short time ago holding that as we had a good corn crop this year it would in all probability sell for around 60 cents a bushel, farm delivery, and that ten pounds of pork being an average product of a bushel of corn the price of hogs should therefore be fixed at 6 cents for this winter. What do our readers think of that for price fixing? They are willing the farmer should have market prices for the corn he feeds to his hogs but they will not allow him anything for facing the winter storms to do his feeding or for risk of loss from disease which we all know is an important item of expense for hog raisers.

We have merely called attention to this break in hog prices—to this absolute fixing of prices by the concerted action of packers because it is recent and is now being discussed across partition fences in every neigbborhood in the state. The live question is, "What are we farmers going to do about it?"

While we are penning these lines the postman brings us a report of an organization of wheat raisers in western Kansas who have felt the strong hand of monopoly in fixing the price of wheat and here is what they propose to do by organizing a Kansas Wheat Growers' Union:

To fix the minimum price of wheat, based upon the average cost of production, estimated to be at least $1 a bushel, and to enforce this minimum price by concerted nondelivery.

To give the market for the first few months after harvest to those forced to sell and interest to those who store by a monthly increase in price of 2 cents a bushel, beginning with August each year.

To establish and maintain primary markets and sales agents through which to market their surplus wheat.

To establish a daily trade paper through which reliable information and expert advice relating to the production, care of and marketing wheat can be given the producers.

To provide representatives, when needed, to protect the interests of wheat growers in congress, legislatures, and before national and state commissions.

To secure the co-operation of all interests which will share in the prosperity resulting from a stable and increased price for wheat.

We are not presenting the above as our plan for the solution of this question but we are giving it to our readers as a basis for discussion.

This plan has been worked out by a committee of farmers who were appointed by a mass meeting of some 400 wheat growers who met to consider this matter. These farmers have seen wheat speculators and pork packers grow to be multi-millionaires while the men who produced the wheat and the hogs have found it difficult to pay the interest on the mortgage on the land they till. As a matter of fact, they have not all been able to do this, because the cold facts are that mortgage indebtedness on farm lands has increased and the number of farm tenants is greater than ten years ago.

Must Organize on Sound Basis

Wherever you may go the question of farm organization seems uppermost just now and if we avoid the mistakes of the past and get an organization of farmers on a sound enduring basis we must avoid impossible schemes in our plans. To what extent can or should farmers fix the prices for their products? In the first place is it possible for farmers to arbitrarily fix a price on wheat or hogs or the other products of the farm? In the second place is it desirable for their own welfare and the general good of all that they should do so? While we do not believe that it is possible for any farm organization to absolutely fix a minimum price for any product and under all circumstances to hold the price up to that point, yet we think by strong organized effort farmers can maintain a more stable market than under our present methods and stop the fixing of prices by the speculators and gamblers in food products. As an instance of how prices may be influenced we may cite the cotton prices last year and this year. Last year with a record-breaking crop of over 16,000,000 bales and the European market cut off on account of the war, cotton fell to a price that would bankrupt every grower in the country. But by co-operative efforts of planters, merchants, bankers, and the Government itself, living prices were restored within a few months and by the concerted action of planters in reducing the crop this year to 10,000,000 bales the threatened bankruptcy of the whole South has been averted. The cotton planter has learned that by holding back his cotton from the market and

If farmers see the need of organization why not organize now? Do you not think it is time for action? We have been talking long enough so let us get together in our own interests before our hands and feet are tied.

The packers knocked enough off the price of hogs in three days to keep a representative of Missouri farmers in all the big packing centers for three years. A loss of 10 cents a bushel on wheat, which loss is sometimes suffered in a day, means $100,000,000 on the 1915 wheat crop.

Too long we farmers have been content to plow, plant and reap and leave the buying of what we use and the selling of what we raise to others. Why not arouse ourselves to the great need of the hour and use the power of co-operation and organization to give us the fruits of our own labor.

The organization of farmers should begin right at home—in the school district where farmers know each other and where leaders and representatives can be chosen who can be trusted. Let the organization start work on something that will bring immediate results. Enough can be saved on buying a carload of fertilizer, lime, tankage, shipstuff, coal or other like products to make it worth while.

After a half dozen districts are organized and have found something to do a county club should be formed. And when half a dozen counties are organized a state federation should be perfected and the final aim should be a national union which under wise direction can become the great controlling force in the economic life of the farmers in every state in the Union. Such an organization can also be made a great social and educational movement.

Dear reader, are you ready to do your part? If you are send us a self-addressed stamped envelope and we will send you a thorough discussion and plan from this office.

by reducing the acreage he has held up the price of his principal crop and he has done more—he has devoted his idle acres to other crops which in many instances have proven more profitable than his old "stand-by" cotton.

Within the last few days wheat prices have been hammered down several cents a bushel. The bear influences largely responsible for the break were first the government estimate of a billion-bushel crop and second the expected rush of record-breaking shipments from the spring wheat country. We do not think the farmers acted unwisely in sowing a large acreage of wheat last season under the existing circumstances but they are now certainly doing just what the bears want them to do to hammer down the price of wheat—that is, try to rush it all to market at once. Suppose the wheat growers were joined together to the extent of even sixty or seventy per cent of all farmers raising wheat and there was maintained a farmer's agency in three or four of the big wheat markets of the country? Is it not reasonable to expect under this kind of organization and dissemination of market conditions that a great rush of wheat to market such as is now going on in the spring wheat belt could be averted? We do not believe it will be found necessary for farmers to establish great storage elevators to prevent a rush of wheat to market for the best and safest place for wheat storage when farmers learn how to handle it is in the bin right on the farm where the wheat is produced.

Organization to be effective must be general, that is it must include enough farmers who produce half or more of the crops or live stock produced. And then no organization can ever permanently succeed unless it is founded on the broad basis of agriculture and not on a single product. Farmers should join themselves together first by small units such as school districts or townships and these should then be joined in some form of county organization and finally in state and national bodies. The objects should be first, gaining information on any subject that will make the farmer's work more efficient or more profitable. The second object should be to find a better way to sell what we produce and to buy what we need.

The Missouri Farmer is trying to help the farmers work this out but we cannot do it alone—we must have your help. To any farmer who is interested to try to organize his own school district we will send a pamphlet discussing our plan of organization if he will send stamp for mailing.

SOYBEAN EXPERIENCE IN NORTH MISSOURI

Soybeans give promise of being one of the coming crops of Missouri. Their rather limited use so far is probably due to the fact that the farmers have not found out their real value. We have been growing cowpeas and soybeans in our corn for four years and we have found that the soybeans have given the better results. The varied seasons of the last few years, from very dry to the very wet past season, has made it possible to observe the behavior of these two plants under practically all conditions that one is likely to meet with. During the dry years the soybeans stood the dry weather much better than the cowpeas, producing more foliage and much more seed. This may be due to the hair-like covering over the leaves of the soybeans which holds the evaporation of the water from the plant in check. Yet in contrast to that during this wet season the soys stood the wet weather better. Practically all of the cowpeas having rotted before coming up or made very poor growth after getting started. On the well-drained land the cowpeas did almost as well as the soys but otherwise the soys were the best.

As we wanted to get an absolute test upon these two plants before giving up the cowpeas we planted every other row to the peas and the others with the soys. In this way we had the plants growing side by side under like conditions.

We grow the soybeans in the corn primarily for the fertility that they add to the soil. The soybean is a legume and like clover has the power of taking the nitrogen from the air and storing it up in the soil in a form that can be used by the following crops. On the roots there are nodules that are the homes of the bacteria that have the power of fixing the nitrogen. These bacteria are not usually present in the soil and artificial inoculation has to be resorted to. Artificial cultures of the bacteria are given away by the department of agriculture and give good results; at least they have with all that we have tried so far.

The question is often asked "do soybeans in the corn reduce the yield of the corn." There is no decrease in the yield of the corn so far as my observation goes. At the Experiment Station it was found that there was a slight increase in the yield where cowpeas or beans were planted along with the corn but only a very slight increase. The roots of the boybean, unlike those of the corn, go down deep. This downward growth of the roots loosens up the soil below the corn roots, making possible the quicker absorbtion of rainwater and at the same time the plant brings up its food from the deeper layers of soil where the roots of the grass plants like corn and wheat do not penetrate.

With us the cowpeas did well where the corn was thin and did not make much shade or where the ground was well drained and fertile. The soybeans on the other hand did better on the thin land and in the shade than the peas.

It is usually a good plan to fatten our hogs in the fall by turning them in the corn field and "Hog it down." As most every framer knows, corn alone does not make a balanced ration. It contains a very high per cent of starch and a very little protein. Starch will not build up muscle and bone, it must have protein along with it. Soybean seed has a high protein content and taken along with the corn balances up the ration. By experiment it has been found that when protein is added to a starchy feed that more of the starch is digested than when there is little protein present. This makes it possible for the pig to put on a maximum amount of flesh with less food.

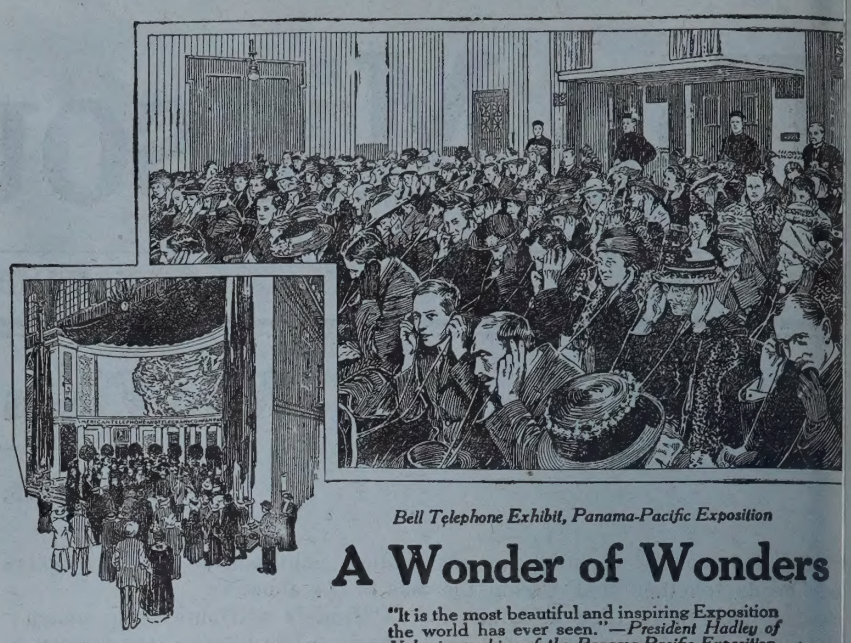
We frequently turn the lambs in the field about the time the pods are beginning to ripen. The lambs will strip off the leaves and the pods and put on flesh more rapidly than on grass and will not bother the corn.

This year we went in the field with a wagon and cut quite a few soybeans for seed. They made 7 bushels to t acre. At $2.50 per bushel, which s the usual selling price, we have $17 per acre in addition to the corn cr which has not been affected, and al the nitrogen that has been stored in the soil. These facts, gathered fr our own experience have led us to t conclusion that we had better gr them in the corn hereafter. This m not hold true in the southern part the state but in the northern part am sure it will because soys c stand a cooler climate than can t peas.

We plant them with a cowpea attachment, putting three in a hill. T varieties that we have found to be t best are the Mongol and the Sab They mature earlier than most of t other varieties and produce the large amout of seed.

Aside from their value in the co they are good as a side crop. The feeding value is about equal to that alfalfa but they have one objection feature, that is their coarse sten This can be overcome a little thicker seeding. When seeding f grain we use the wheat drill, stoppi up the holes so that there is a r about every 27-28 inches apart. S about 1-1½ peck to the acre. A co planter may be used provided that t proper width can be gotten with it.

Roy L. Furry, Carroll County



Bell Telephone Exhibit, Panama-Pacific Exposition

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Here, in a theatre de luxe, the welcome visitors sit at ease while the marvel of speech transmission is pictorially revealed and told in story. They listen to talk in New Yor three thousand miles awa they hear the roar of the su on the far-off Atlantic Coas they witness a demonstratio of Transcontinental telephon which has been awarded th Grand Prize of Electric Methods of Communicatio

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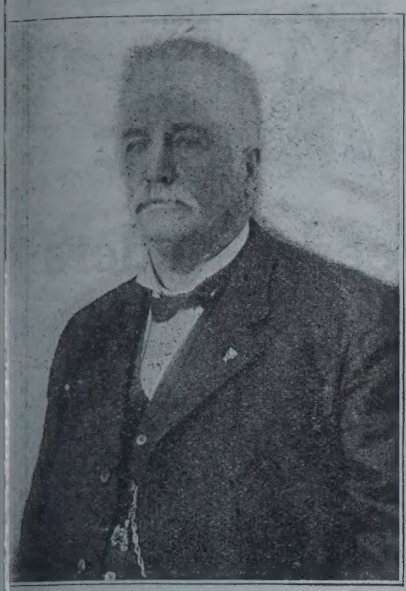
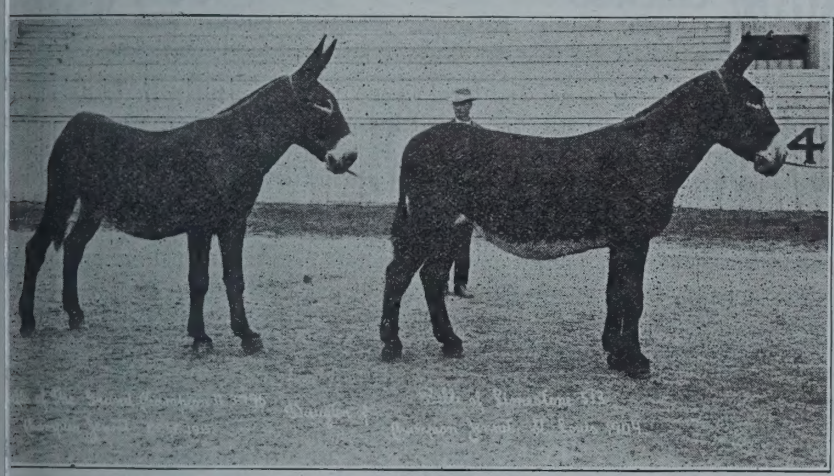
ISSOURI SHOWING THE WORLD

Instead of following her prerogative f being shown, the state of Missouri as proven herself a "shower" of some ility by capturing the largest num- er of prizes in ribbons and cash



L. M. Monsees

wards for blooded jacks and jennets the recent Horse Show which pened the live stock events at the anama-Pacific International Exposi- on in San Francisco. In fact one an from Missouri, Louis Monsees of mithton, carried away all the prizes this department every prize winner eing Missouri bred and raised.



elle of The Grand Champion II 3796, Champion Jennet Panama Pacific International Exposition, 1915.

Belle of Limestone 513, Champion Jennet, St. Louis Exposition, 1904; mother of the 1915 Champion.

This is the second time that Mon- es and his sons, representative of issouri, have carried away highest nors for jacks and jennets. At the uisiana Purchase Exposition in St. uis in 1904, they were accorded all the highest honors. Many of the ize winners in San Francisco were ize winners in St. Louis and the re- ainder are offsprings of the St. Louis ampions.

Coming from Missouri, which has proven itself most generous of states, the Monsees aggregate of prizes doubled themselves for, at the beginning of the Exposition, the Missouri commissions pledged themselves to balance the exposition prize money with an equal sum for every prize won by Missouri exhibitors. In addition the state of Missouri, as an inducement for efficiency in live stock breeding, is paying fourteen dollars a head for every prize winner shipped from the state to the Exposition in San Francisco.

The total cash prizes awarded by the Exposition to the Monsees' stock was $1790, which was duplicated by the State of Missouri and plus $14 per capita for each prize winner and $173 bonus given by the Standard Jack Stock Association makes the Monsees' winnings come to $4949. This is the best showing made by an individual exhibitor in any class at the live stock show. It also means that Monsees & Sons captured 20 first prizes, 10 second prizes, 6 third prizes, 4 fourth prizes and 4 fifth prizes, 10 championships, 6 reserve championships, 2 grand championships and 4 reserve grand championships.

Monsees' rise in the live stock world has been due to an intimate study of his subject and persistent and steady work. He owned his first jack, Toby, when he was only twelve years old, having secured it for a pocket knife and four dollars in nickels. His first entrance into competition was at Chicago in 1893 when he won first premium on a jack called Superior Mammoth. He believes that it pays to use only the best animals for breeding purposes and to exhibit only the best animals that could be produced. This policy has won for him the reputation of the authority for the United States and Canada in this branch of stock raising. In 1905 he broke all world's records for a jack and jennet sale and in the succeeding years until 1910 he successively broke the records he had himself established. He is still endeavoring to accomplish greater results and to give people more for their money than has been done heretofore.

The results of Monsees' proficiency is to help advertise the great State of Missouri as the center of production for this class of stock. The reputation of Missouri for the production of jack stock and mules is unequalled by any other state, this having been attained only by patient and constant effort, conservative, honest dealing and a close study of the business.

st Prize Herd—Jack and three Jennets—Panama-Pacific International Exposition.

Radiators prolong summer!

Do you look forward to a winter of comfort, cheer and good health, or to a season of possible colds, chills and sickness, and sure discomfort for the whole family?

Why not have summer continue right on in your house, making every room "just fine" *all* over for the whole winter? By the turning of a valve you can have comfortable, even heat in every room with an outfit of

AMERICAN RADIATORS & IDEAL BOILERS

Find out at once all about AMERICAN Radiators and IDEAL Boilers from us or your local dealer. A million of the most successful homes in the country now have these money-saving and comfort-bringing outfits.

You and your family have to spend nearly eight months indoors and without IDEAL heating you have to endure the uneven, uncertain, old-fashioned heating with its ashes, coal-dust, soot and trouble, and it is no wonder that the family gets dissatisfied with farm life under these conditions. But with radiator heating the entire house becomes a haven of comfort and a delightful playground for the children and young folks.

Life on the farm beats city life, that's true, but it is only true when you have and enjoy the modern comforts and conveniences of proper heating and sanitation—radiator heating comes *first*.

IDEAL heating isn't a luxury any more—it is as necessary to the family as a good cook-stove. IDEAL-AMERICAN heating outfits cost less than you imagine and the investment is one that pays big dividends and saves fuel; no repairs, less labor, and hardly any caretaking. It repays you over 6% interest money on a bank loan made for installing an IDEAL Boiler and AMERICAN Radiators. Talk with your banker about it. He knows it is the best permanent value you could put into your property.

IDEAL-AMERICAN heating will delight your wife and will make an easy winter for all your family. IDEAL Boilers can be put in any building, either in cellar, side room or outhouse. One fire heats the whole house. The fuels used may be the cheapest soft coal screenings, lignite, pea coal, wood, oil or gas. Blizzards and strongest winds cannot keep the heat away from the nooks and corners of the home. In fact, the colder the weather the better the heat.

Running water or water mains are not necessary, as the water in the boiler is used over and over again for years. IDEAL-AMERICAN outfits give the same excellent service year after year as long as the building stands and OLD homes are equipped just as easily as new ones. Thousands of farm homes already have IDEAL Boilers and AMERICAN Radiators. You will probably find them in some of your neighbors' homes — ask them. Call up the local dealer and get him to submit an estimate. This will not obligate you in any way.

A No. 4-22-W IDEAL Boiler and 400 ft. of 38-in. AMERICAN Radiators, costing the owner $200, were used to heat this farm house. At this price the goods can be bought of any reputable, competent Fitter. This did not include cost of labor, pipe, valves, freight, etc., which vary according to climatic and other conditions.

IMPORTANT — In order that you may get all of the facts and a thorough explanation of these splendid heating outfits, we want you to send at once for a copy of our (free) book "Ideal Heating," 48-pages of important information, fully illustrated and beautifully printed. Sent free for your name and address.

AMERICAN Radiators and IDEAL Boilers change any house into a *home*.

Showrooms in all large cities

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Write to Dept. F-32 Chicago

Salt Required for Dairy Cows

An important item that is often overlooked in the management of the dairy herd is the necessity of providing salt in the ration of the cow. All animals that consume large quantities of vegetable food require salt. Babcock, of the Wisconsin Experiment Station, found in his experimental work that the cattle when deprived of salt, became emaciated and were of low vitality and finally suffered a complete breakdown. He recommended that they should be fed three-fourths of an ounce per day live weight with an additional 6-10 ounce for each 20 pounds of milk produced.

While salt may be provided in the daily ration by mixing it with the grain, an equally satisfactory method in practice is to keep it in a convenient place where the animals may have ready access to it when they so desire. It may be used in the form of rock salt or placed in boxes in the feed lot. However, it sould be borne in mind that salt is very essential to the economical handling and health of dairy cattle.

E. V. Ellington,
Idaho Experiment Station.

BUTCHERING TIME

The recent frosty nights remind us that the days of spare-ribs, chine, pork chops and good, old country sausage are about here and we think a timely discussion of the best and easiest methods of butchering and later the methods of curing and saving the meat given by the older members of our great family of readers will now be in order and perhaps of very great benefit to the young farmers who have not had much experience with this work. To start the discussion we give below some suggestions made by the Department of Agriculture:

A well-selected butchering outfit and a convenient place for working are important considerations at hog-killing time. To aid in this work demonstration specialists of the department suggest as a handy and complete "kit" consisting of two butcher knives, two "bell" or candlestick scrapers, a meat saw, and a sharpening steel. The meat saw is for sawing down the backbone and cutting up the carcass. The candlestick scrapers have detachable handles, and are used to remove the hair and scurf from the hogs. A long waterproof apron, which will protect the clothing, can be had at a small cost.

Preparation of Animals for Slaughter

A 24 to 36 hour fast, plenty of water, careful handling, and rest before slaughter are all important in securing meat in the best condition for use, either fresh or for curing purposes. Food in the stomach decomposes very rapidly after slaughter, and where the dressing is slow the gases generated often affect the flavor of the meat. Water should be given freely up to the time of slaughter, as it keeps the temperature normal.

It is highly important that the animals be not excited in any way sufficiently to raise the temperature of the body. If the animal becomes heated, it is better to allow it to rest overnight, before killing than to risk spoiling the meat. It is also essential that the hog be carefully handled so as not to bruise its body.

Points on Killing

It is customary on the farm to stun hogs before sticking them, although in some localities this is not done. Another method is by shooting the hog through the head with a rifle, although extraordinary care should be exercised in using a rifle around farm buildings. After stunning by a heavy blow on the center of the forehead immediately above the eyes with a poleax, the 8-inch straight-bladed knife is inserted into the hog's throat in the under portion of the neck, to a point just in front of the chest cavity, but not into this cavity. The knife is given a twist and sideward motion to sever the blood vessels and allow the blood to flow. By laying the hog on one side and elevating the ham end the blood will gravitate freely.

Proper Temperature of Water

A barrel is the receptacle commonly used for scalding. If it is set at the proper slant, with the open end against a table or platform of the proper height and the bottom securely fastened, there is little danger of accident. A strong table built for the purpose would be a very desirable thing on which to work, though it is not absolutely necessary. A box often serves very well. The water for scalding should be heated to the boiling point. This will allow for a reduction of temperature when the water is put into a cold barrel, the best temperature for scalding the hogs being from 145° to 150°. Be careful not to have the water so hot as to cook the skin of the hog. If the water is too hot the hair is likely to set. A small shovelful of hardwood ashes added to the water aids materially in removing the scurf from the body, though it has no effect in loosening the hair. A lump of lime, a handful of soft soap, a little pine tar, or a tablespoonful of concentrated lye has the same effect.

How to Scald a Hog

The hog should not be scalded before life is extinct, or the blood vessels near the surface of the skin will be cooked, giving a reddish tinge to the carcass. While being scalded the hog should be moved constantly to avoid cooking the skin. Occasionally it should be drawn out of the water to air—when the hair may be "tried." As soon as the hair and scurf slip easily from the surface, scalding is complete. If it is suspected that the water is too hot, scald the hind end of the hog first. If the water is too hot and you overscald the head, you will be adding to the trouble of scraping the part most difficult to clean. When the water is about right, begin by scalding the head.

The scraping and cleaning of the hog's skin should be done as soon as possible after removal of the animal from the scalding vat. Scraping a cold hog is a difficult, if not an impossible, task. Where it is necessary to reverse the position of the hog in the barrel to complete scalding, the portion scalded should be cleaned before attempting to scald the other end of the hog.

When the hair starts readily, remove the animal from the water and begin scraping. The "bell" scraper should be used with a long, sweeping movement over the sides and ends while the hog is still hot. The head and feet should be cleaned first, as they cool quickly. Pull the ears through the hands to remove the bulk of the hair. Grasp with the hands the lower portions of the legs and twist to assist in cleaning them. Use the "candlestick" scraper for removing the skin and scurf from the flat surfaces and as much as possible from the other parts and finish the cleaning of the entire carcass, removing all hair, scurf, and dirt by rinsing with hot water and shaving with the large knife.

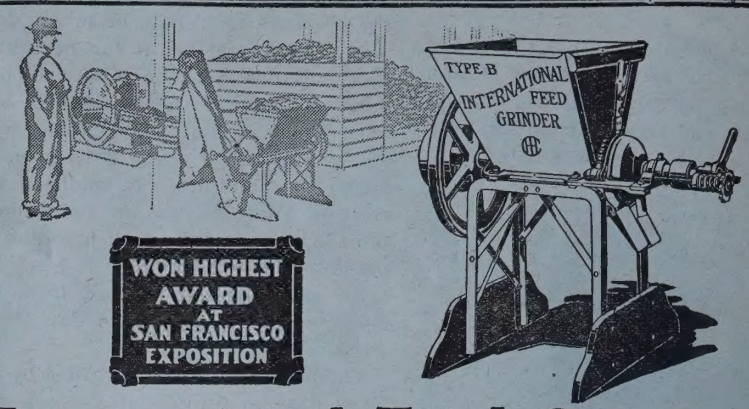
Cut the skin on the side of the tendons below the hock to expose the tendons so that a gambrel stick may be inserted. The next step is to hang the hog high enough so that his head clears the ground. Wash down with hot water, shave over any unfinished patches and wash the entire carcass again to remove all loose hair and scurf.

Occasionally a hog is killed that is too large to scald in a barrel. If it is covered thickly with blankets or with sacks containing a little bran, and hot water poured over it, the hair will be loosened readily. In some localities hogs are skinned, but scalding is far more satisfactory.

Directions for Removing Entrails

In removing the entrails, first split the hog between the hind legs, separating the bones with the knife. This can easily be done if the cut is made directly through the union of bones between the hams. Run the knife down the center of the belly, shielding the point with the fingers of the left hand and guiding it with the right. There is little danger of cutting the intestines in this way. Split the breastbone with the knife or an ax and cut down through the sticking place to the chin. Cut around the rectum and pull it down until the kidneys are reached, using the knife wherever necessary to sever the cords attaching it to the "bed." Remove the sexual orgas, then cut across the artery running down the backbone, cut around the diaphragm (skirt) and remove the intestines, stomach, and "pluck," that is, heart, liver, and lungs, with a backward and downward pull—grasping the mass of organs near the union to the backbone and diaphragm, sever attachments with a knife where necessary. In this operation the windpipe down to the head should be removed with the pluck. Do not disturb the kidney or the leaf fat in carcasses to be shipped, except in warm weather, when the "leaf" may be removed to allow quicker and more thorough cooling. If the hog is to be cut up on the farm and not intended for shipment in carcass form, it is advisable to loosen the leaf fat from the abdominal wall, allowing it to remain attached to the carcass at the ham end. Open the jaw and insert a small block to allow free drainage; then wash out all blood with cold water and sponge out with a coarse cloth. In hot weather the backbone should be split to facilitate cooling. It is good practice to do this also where the hog is to be cut up on the farm and not intended for shipment. The fat should be removed from the intestines before they get cold. Since it is strong in flavor it should not be mixed with the leaf fat in rendering.

Editorial Note: In order to stimulate an interest in this subject the editor is going to offer a nice handy meat saw as a prize for the best article on the subject "Conveniences for and Methods of Butchering on the Farm." These articles to be received in this office not later than November 20. For all articles that are printed we will extend the time of subscription to The Missouri Farmer for one year. We hope a number of our readers who have found some convenience in butchering will write us on this subject and later we will offer another premium on the best methods of curing and canning meats. Don't forget it please but just write us at your earliest opportunity and don't hesitate because of spelling or punctuation—we will attend to that. Good ideas helpful to others are what we want.



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SOME GOOD IN THE EXPERIMENT STATION

We sometimes hear farmers complaining that the experiment station and the College of Agriculture are of no benefit to them but this may be because these farmers have not called on the station or college for assistance. A good doctor never imposes his advice on a patient unless he is called upon and then he can help only through the willingness of the patient to take the medicine.

One of of our readers in Greene County, Mr. G. W. O'Bryant, says he has found the Missouri Agricultural College very helpful to him. "In the year 1912," he writes, "I bought 17 bushels of seed wheat from a farmer who had been co-operating with the agricultural college. Mr. Howard had been testing several varieties of wheat. The test showed the best results for the Fulcaster variety and it was this kind that I purchased. With the 17 bushels I sowed 15 acres in 1912 and I thrashed 427 buhsels after harvest in 1913 (about 28½ bushels per acre). The wheat tested 62 pounds per bushel. I sold the entire crop except my own seed to others for sowing. In 1913 I sowed 12 acres and threshed 340 bushels (28⅓ bushels per acre) and I sold that for seed. Then in 1914 I sowed 15 acres and threshed 280 bushels (18 2-3 bushels per acre) and this, too, was all sold for seed. I graded my seed every year and sowed nothing but plump grains and kept it free from rye, cockle, cheat, etc. I am ready to give the credit for this im

provement in my crop and my neighbors crops who bought of this seed, to the agricultural college, for it was responsible for making the trial and showing us that wheat can be improved."

The average yield of wheat for Mr. O'Bryant for the three years according to his statement is about 25 bushels per acre and that is about 10 above the average yield for the state. Mr. O'Bryant does not say how much he estimates the increased yield on account of the new seed, but if it were only two or three bushels per acre it has been a paying thing for him and his neighbors who are ready to accept a good thing when they see it.

WHEN TO VACCINATE AGAINST HOG CHOLERA

An infected herd should be vaccinated as soon as possible after recognition of the disease. Prompt treatment at the beginning of an outbreak in a herd will save most of the animals, while a few days' delay increases the percentage of loss. An early diagnosis is therefore important. The signs of the disease are sometimes so evident that the farmer recognizes the disease without expert aid. At other times the diagnosis is difficult, then the services of an expert should be secured. In the meantime the sanitary precaution—isolation and disinfection already recommended should be observed in order to prevent a possible disastrous spread of the disease.

The Veterinary Department of the College of Agriculture and Experiment Station will send an expert on request to investigate outbreaks of diseases of swine supposed to be cholera, and to instruct the owner of the herd and his neighbors how to protect their herds, and how to eradicate the infection. Where vaccination is necessary serum is provided by the University serum farm at cost of production, for the vaccination of infected and exposed herds. The judgment of the demonstrator sent from the Experiment Station should be relied upon, as to what hogs should be vaccinated and what should not be vaccinated. Otherwise disappointment and a waste of serum may result.

When vaccinating an infected herd, all hogs that are apparently sick should be separated from those that seem to be healthy, and the sick hogs should be isolated in comfortable quarters for special handling, and to prevent the spread of cholera infection.

Temperatures should be taken of the apparently healthy hogs and any of these that show an abnormal temperature should be separated from the others. The hogs that show no evidence of sickness should be vaccinated with the regulation dose of serum, or better, from a fourth to a half more serum than the regulation dose should be used if the disease is well developed in some of the other hogs of the herd. The group that shows an elevation of temperature, but no outward symptoms, should be vaccinated with a larger dose than that required for healthy swine of the same size—from a half to three-fourths the quantity should be added, this group should be kept separate from the others and put on a more restricted diet. The group of visibly sick hogs should have special handling; the animals that are evidently beyond all aid should be slaughtered and burned. Those that still eat should be put on a restricted liquid diet and should receive a double dose of serum. Valuable, pure-bred breeding animals have been saved in this way. Internal medication may also be given—according to the individual indications, but frequent and rough handling should be avoided.

As to whether the herd on adjoining farms should be vaccinated will depend upon the degree of exposure to the infection. If the herd on the adjoining farms is some distance away from the infected ones, and well isolated so that no communication with the infected farm is liable to occur, vaccination may not be necessary. Good breeders have frequently been able (before the days of vaccination) to isolate an infected show herd so that the home herd was not endangered. But the demonstrator who is sent to look into these matters will advise vaccination, if there is any special risk of the disease spreading to the neighboring herds. The proper sanitary measures mentioned in preceding articles if applied on the infected farms will lessen the dangers of the cholera infection spreading to the adjoining farms.

It is usually advisable to vaccinate the hogs on farms lying on the lower part of a stream if an outbreak of hog cholera has occured on a farm up the stream.

But if the outbreak is recent, the prompt removal of all the herd away from the stream may save both the hogs and a serum bill.

J. W. Connaway, D. V. S., M. D.,
Missouri Experiment Station.

A FARMER URGES CO-OPERATION

The Missouri Farmer:

I want to show my appreciation of your valued paper by writing, touching on a few things which I am sure are of interest to us Missouri farmers. You ask many questions from time to time pertaining to our welfare and I feel it is our duty to respond and let our brother farmers know what our needs are through the columns of The Missouri Farmer.

I believe a more thorough co-operation of farmers is the first great need. We should meet with other farmers oftener, discuss our needs and agree upon our wants, then stand together in demanding our rights. We should find a better plan to advertise our business and let people know what we have to sell as well as what we want to buy.

In regard to the Gardner Land Bank law, I think that conditions make such a law a necessity for the future welfare of farmers. Every man is entitled to a profit on his labor but with worn-out land and high rates of interest it is pretty hard for a great many of us to show any profit at the end of the year no matter how hard we work and try to make ends meet.

One trouble in getting good legislation is that we farmers have not been awake to our own interest and we have let politicians run things too much and our Legislature is made up mostly of lawyers and city politicians. We ought to have more level headed farmers in the Legislature and in Congress—good business men who look only to the public good and would not take all their time playing partisan politics. If we had a majority of farmers free from partisan influence in our Legislature it would be possible, for instance, to get a law that would exterminate the sheep-killing dogs and make it possible to develop the sheep business to a great industry in this state. It is not to our credit as intelligent farmers that we have about as many dogs as we have sheep in Missouri and that a number of hard working, honest farmers have been forced out of the sheep business because of the loss from these worthless dogs.

Another matter of importance is catching the tax dodger. A number of tax dodgers have been taught a good lesson here in Carroll County within the last two years. We have a circuit judge here in Ray and Carroll counties who believes every man should pay taxes on whatever property he owns and as a result of instruction to the grand jury nearly two years ago several hundred thousands of dollars have been added to our assessment lists and as a reminder these tax dodgers were fined as much as $200. Brother farmers, let us wake up and put such men in the Legislature and for county court judges, circuit judges and other responsible places, and we will soon see a different attitude towards the law and its enforcement. The farmer feeds the world but he has little to say in its government, but by more study, more open discussion and by better cooperation all this will be changed as it should.

I am not accustomed to writing for publication but I am in hearty accord with the views of The Missouri Farmer on the Land Bank measure, and on many other things including your stand on the necessity for farmers to co-operate for their own mutual interest in both selling and buying whenever that is practicable.

Sam D. Smarr, Carroll County.

Hundreds of cases of Hog Cholera are being reported all over the state—and you don't know when it will strike your neighborhood. For this reason you should get a copy of our great book on "Stamping Out Hog Cholera" at once. For one dollar we will mark your subscription up three years and send it to you free.

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August 28,1914.

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In accordance with your request, the undersigned visited your engine factory at Evansville, Indiana, and tested for brake horse power and fuel consumption the different sizes of your engines after same had been passed by your testing and inspection departments, and we submit a full report under separate cover.

In regard to the rating of these engines, while the relation of rated load to maximum load for gasoline engines has not been standardized, the best authorities seem to agree that an overload capacity of 15 percent is sufficient. We understand that you wish to give an overload capacity that cannot be questioned. We have therefore recommended the following ratings which will, in all but one case, give a much larger overload capacity as may be seen by referring to the table enclosed.

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Yours very truly,

I. W. Dickerson
Associate Farm Power Machinery
University of Illinois.

H. F. Godeke
Instructor Mechanical Engineering
University of Illinois.

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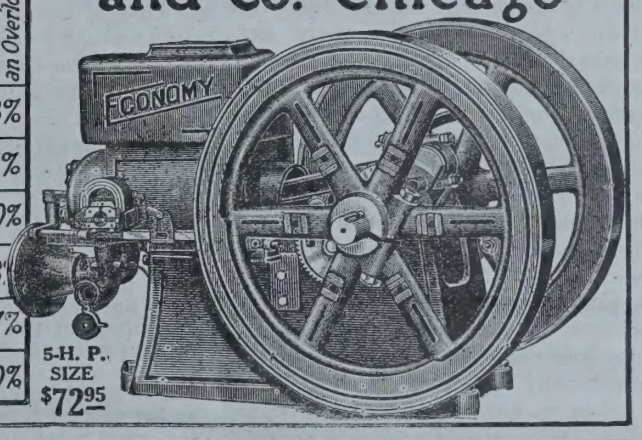

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THE MISSOURI FARMER

Devoted to Better Farming, Better Farm Homes and Better Citizenship.

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To render service is our aim and we will endeavor to answer all pertinent questions or have them answered by competent authority. When answer is desired direct, always inclose stamp.

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SHALL FARMERS ACT TOGETHER?

There is no disputing the fact that farmers are facing a crisis in the matter of getting and maintaining a free and unrestricted market for their products. For years we have been urging farmers to organize co-operative creameries because the history of these plants in Wisconsin and Minnesota proves that the co-operative creamery can make a better quality of butter than the centralized plant and therefore can pay a better price to farmers for cream. But these co-operative creameries have found that to compete with the big "trust owned" plants they must have a large part of the butter making business under co-operative control. Because of the unfair competition of the big centralized plants in this state the small privately owned plants and the co-operative plants are finding it pretty hard to make much progress. The methods pursued by the "trust" are about the same as the packers used to get control of local butchers a few years ago. Where they could not make terms with the local butcher they put him out of business or brought him to terms by selling meat so low that the local man could not meet the price without losing a lot of money and in this way they soon had the control of the dressed meat trade throughout the country. This is the reason why there is such a wide margin between the prices of beeves and hogs paid to farmers and the prices of dressed meats paid by city consumers.

There is not a town in this state where the prices of eggs and poultry are not fixed by the poultry trust. So they have us in their grip when we sell hogs, cattle, poultry, eggs, cream and butter. What are we going to produce to get loose from them? And suppose we did turn our attention to something else how long would it take them to get control of that too?

When farmers are urged to co-operate in these enterprises some of them say there is not enough in it to pay them. But here is one thing we fear a great many farmers have overlooked and that is the danger of too large capital invested in one man or in one corporation. Just as an example there are 277,384 farmers in Missouri and if we could suggest some co-operative venture that would net each farmer only $10 a year it would look too small to most of them to consider it very seriously. On the other hand if the trust can make this $10 off of every farmer's business it will have nearly $3,000,000 which becomes a powerful weapon in the hands of one corporation to control the business of the country.

The only hope we see for the future independence of farmers is for them to do just what the farmers of Minnesota and Wisconsin have been doing in a small way for several years and that is to stand together in co-operative organization.

DOES SUPPLY AND DEMAND GOVERN PRICES?

When the law of supply and demand fixes prices in a natural way no one should have a right to complain. But this does not mean that both producer and consumer are not interested in a business-like regulation or control of the supply of any product. If, for instance, there is an over-supply of apples and the fruit sells for a few years below a reasonable cost of production the danger is that many will neglect or destroy their orchards and the supply will fall below a reasonable demand and the same is true of any product of the farm. In order to maintain a regular supply of any product prices must be somewhat stable and high enough to give a reasonable profit to the producer.

The recent heavy break in hog prices caused by the concerted and what ought to be made a criminal action of the packers may prove a "boomerang" to them before the farmers are done with it. They may fool all the farmers some of the time and some of the farmers all of the time, but if we are not mistaken they will not be able to fool "all the farmers all of the time."

How long will the farmers of Missouri sit still and allow the packers to control the prices of their hogs and cattle, sheep, eggs, poultry and butter? Perhaps you have just never thought about it in that way, but that is just what they are doing. For many years the packer has been taking our profits from us and now he is using these millions to control the products of the farmers of other countries. The independence of the farmer and his natural disposition to go it alone has given the packer the chance.

Here is what a well known shipper from Knox County recently wrote to the St. Louis Live Stock Reporter:

"Have been a shipper of live stock for thirty years, but think last week's break the most severe that I ever went through even in time of a panic. Matters could not have been worse and I think it very unfair in the packer to take advantage of the country shipper and farmer and chop it off so fast.

"It is all right to adjust values, but it could be done in a way so as not to hurt anyone so badly, say ten cents a day for ten days would get off a dollar, which is much better than taking it off in two, or a better way would be to fix prices on Monday and these prices to hold good until Wednesday and Thursday of the following week as it takes a shipper three days to buy and get his hogs to market. Such weeks as last lost plenty of shippers as much as he can get back in six months and I feel that I am one of them and besides it stops business at home as no one can go out and buy the hogs for a few days until the prices stiffen up a little. Then they all get in ready for the next break.

"I for one believe as long as a "Mister Packer" has the right to fix the price on live stock and the selling price on dressed meats, he could pave the way and make it better for his patrons, as his profits depend on both the producer and the consumer as they look to him for a buyer. We need the packer as well as he does our stock and I believe things could be made more satisfactory all around."

LAND BANK PETITIONS ARE READY

The committee appointed some time ago to draft the form of Initiative Petition to be used in submitting the Land Bank Amendment to the voters at the next election has completed its task and any one who desires to aid in the cause by circulating a petition may have a blank by addressing The Missouri Farmer and making the request.

We regard the Lank Bank Bill as the most important measure that will come up for consideration in the near future and if farmers want a better system of rural credits established now is the time to act. If the measure should be defeated at this time it may take several years to get it before the voters again. A number of organizations have endorsed the Land Bank Bill but it is going to take some expense and a great deal of time to circulate these petitions and get the necessary number of signatures to place it on the ballot.

If any man thinks there is nothing wrong with conditions affecting home ownership in the rural districts he should take a little time to study statistics. In a majority of counties in the Corn Belt there was a decrease in the farm population during the last decade. During the same period there was an increase in the number and amount of farm mortgages and also an increase in the number of farms operated by tenants. Will any one try to maintain that any of these tendencies show a desirable condition of farm life?

The first object gained by the Land Bank Bill if it is approved by a vote of the people, should be to encourage home ownership and stop the increased tendency towards tenantry. The second benefit should be to enable farmers to put their lands in a better state of cultivation because with cheaper interest they can afford to drain and otherwise improve their farms. The stocking of farms with improved live stock should be encouraged by the establishment of this system. Many farmers could afford to establish dairy herds if they could get money at reasonable rates and on long time and surely no state is better suited to dairying than is Missouri.

WE HELP OURSELVES BY HELPING OTHERS

One of the finest traits of human character is that which causes us to want to extend a helping hand to our fellow man and there is no way that I know of that we can do so much good for so little effort as to give others the benefit of our experience in overcoming obstacles on the farm. The first aim of every farmer is to build a home where with a good wife and loving children he can enjoy the fruits of his daily labor. Fundamental to making the farm home what it should be and what we want it to be is "making the farm pay." If the farm does not pay we can not have a home filled with pictures and music and books. If the farm does not pay it is impossible to build good houses and supply them with those modern conveniences every good wife so much desires. If the farm does not pay the farmer can not have a commodious barn, labor-saving machinery, good fencing, fertile fields and well bred live stock. It takes money-making farms in every neighborhood to support good roads, ever green churches and the best improved schools.

Furthermore, I take it for granted that every good farmer would much prefer to live in a community where all the farmers are making the farm pay. And what is true of the home community in this respect is also true of the county, the state and the nation. We do not have in mind now those men who have grown rich by land speculation or by some chance "good luck" but the men we have in mind are those frugal, industrious citizens who by farming have paid for their farms, educated their boys and girls and have been of service to their communities.

There are thousands of such men in Missouri among our readers and I want to make this appeal to them to lend a helping hand to the young men who are starting now under much harder conditions for buying and paying for a farm home. The experiences which you have had helping you to own your home as well as the mistakes you have made which you can warn others to escape if told in a simple story in your own way may help many a struggling farmer to success.

I would like to fill the columns of The Missouri Farmer with these stories for the next six months and hope every farmer who reads this will write me at least a short story telling our readers of some of the things he has done which have helped to pay for and improve the farm—in other words the things which have made money and which he would recommend others to follow.

Some time ago a sturdy Missouri farmer gave in our columns the story of how he had bought a worn-out farm thirty-four years ago—bought it all on time, has raised and educated a large family and has the farm paid for. Another bought a small farm nearly all on time. The farm was considered worn out fourteen years ago, he has built up the land and improved the farm and in spite of the fact that within that time, 1901 to now, we have had four extremely dry and unprofitable years, this man, too, has the farm practically paid for.

Now, friends, write us your story, and do not wait for any further invitation. The Missouri Farmer wants to help its readers make more money that they may build better homes, and if we can get your experience for them we know it will help them. Right here is a good plan to foster the spirit of co-operation and organization we are just now talking so much about and which would revolutionize farm methods and better yet farm profits if our readers would join with us in our efforts to bring about "better farming," "better farm homes" and "better citizenship" in Missouri.

This appeal is made to both men and women for we know on thousands of farms the success has been due as much to the work and good management of the women as to the men. Help us arouse the spirit of better and more profitable farming in this great old state of Missouri.

MOST IMPORTANT PROBLEM

Mapleton Stock Farm,
Fulton, Mo., Oct. 18, '15

The Missouri Farmer:

Replying to your letter of late date, we have carefully read your pamphlet "What's the Matter With the Farm," and we assure you that you have our hearty and sincere co-operation in the plans therein expressed. We think the farm problem one of the most important issues before the world today and the most neglected. We are ready to take off our hats, unbutton our collars, roll up our sleeves and push the work until every school district in the state is organized. Will gladly give to this worthy enterprise all the help we possibly can.

Womack Bros.

BUCKSHOT BY THE PROFESSOR

"Nice Old Elephant," "Pretty Old Elephant"—this is what "Teddy" is saying out loud in his dreams these nights.

Well, now that old Carranza has been "recognized," I hope he'll go and get a hair cut and a shave and keep his infernal mouth shut.

"Bill" Bryan's sure having tough luck. Here's Woodrow Wilson getting kissed by pretty young women—and the best poor old Bill can do is to get kissed by a Kansas farmer with a face all mussed up with bushy whiskers.

Just the same, even if we haven't got a big standing army and a great big navy, if anybody ever undertakes to "invade" the U. S. A. the undertakers and the Red Cross societies will do a landoffice business—and don't you forget it!

The gang down in front of "Hez" Brown's store was in mighty high spirits last week. They quit discussing the "furrin war" long enough to rejoice over the fact that "wimmins suffrage was beat to a frazzle in New Jersey."

If every farmer who reads this paper knew what a fine and valuable book "Stamping Out Hog Cholera" was he'd want a copy of it on the first mail. They'll mark your subscription up for three years and send you a copy of it free for a dollar.

Has it ever occurred to you that your district school should teach the primary secrets of soils, plants and animals to your boys if they are to make good farmers in the future and if they are to be taught to love farm life—and can we expect this kind of instruction at the hands of an immature $40 per month teacher?

Just so long as farmers don't organize and co-operate with each other—just so long will the farmer be cuffed and kicked around by those who buy his live stock and his other farm products. I am not advocating a "Farmers' Trust"—but it is high time farmers were receiving something near what intelligent production costs for the things that feed the World.

Old "Josh" Simpson had a "powerful" scare the other night. "Josh" had caught a 'possum and tied it up in an old gunny sack. Then he concluded to take a snooze in the office down at the Livery Stable—so he pitched the sack over in one corner. By and by something made a noise and waked old "Josh" up and rubbing his eyes he saw the sack moving around on the floor—and thinking he "had em" he gave the rebel yell for fair.

The packers set the price on the farmers' cattle, hogs and sheep and the commission firms set the price for selling them—but nobody asks any questions or worries about what it costs the farmer to produce them. However, it's a long road that has no turn—and so a day of reckoning is slowly but surely approaching. Once farmers get together and organize for their mutual protection somebody will wonder who it was who "struck Billy Patterson."

Soon the farmer will be sallying forth in the frosty morning air to pluck the golden ears—and, come to think of it, there are a pile of tasks more unpleasant in this World than "shuckin" corn. It's a little rough on the hands until they get hardened—but from that time on it's real fun to make the big ears hit the "throw board" with a regularity which ceases only when the sun sinks behind the western hills.

There are a pile of reasons why I pity the fellow who was raised in the city—and among them is the fact that as a boy he never knew the fun of hunting coons and 'possums and setting traps for other kinds of "varmints." There are silent tongues in every woodland and along every slough which speak only to those who learned to know them in the boyhood days of yesterday and it is therefore little wonder that most of the Nation's big and broad men come from the farms—for it is out in the fields and among the wooded hills and valleys that great souls grow. It was by the side of babbling brooks, amid cliffs and out upon the trackless prairies that the beautiful legends and sentiment of the American Indian was instilled into his savage being—a legendry and romance which is as beautiful as any the World has ever known.

Where Organization Would Help

Editor The Missouri Farmer:

I notice in your paper where you had helped some farmers out with their apple proposition and wondered if you could help some of us out with a dairy deal. Speaking for myself, I have a pit silo and have filled it. Have feed for at least five more cows than I have. The bank here informs me that they have no money to loan for the purpose of buying dairy cows. As dairying is a new business here there is a scarcity of good dairy cows and it is impossible to buy any stock. I have talked with several others who want more cows, some have the money to buy them and some, like myself, wish to secure them on time, long enough time so that they can pay out. What we need is some one to ship in a carload of good grade stock, nothing fancy or high priced, but good enough to pay for their board. Party shipping should be fixed so that he could take good notes for at least part of the car. If you know of some one who could help me out would be very glad to hear from them. My farm is 1¼ miles from town and if they ship a car here they can use my place as headquarters and pasture here until sold.

Have been receiving your paper for some time and like it very much. Like your stand on the "Hound Dog" question, the Gardiner Land Bank Bill and several others. Don't know what friend sent paper to me or how long it is coming, but I will enclose a dollar so you may extend my time.

Oregon County Farmer.

BOYS AT THE STATE FAIR

This year I was enrolled at the Boys' State Fair School and I was requested to write about my trip. I started for Sedalia on Sunday noon and arrived there about 4:20 that afternoon. On the way I saw many farms with improved homes, silos and big barns were seen very often. There were poor farms also, but they will be improved if the coming generation will take heed to the Experimet Stations, Agricultural Colleges and Agricultural Fairs and lectures by men who know what they are talking about.

Some of the land was rocky and hilly and these are suited to other kinds of industry. We finally arrived at the station. We waited awhile and then boarded a street car for the fair grounds. I met several other boys before reaching the ground. All of us were wearing badges which made it easy for any one to recognize us. We signed our names at the gate and with instructions from the gentlemen we entered the fair grounds, which was to be our school for the week.

The camp was situated on the north part of the grounds, a little to one side of the business part of the fair. There were many tents for us to camp in and a large one for the lectures, judging and demonstrations.

The Superintendent of the Boys' State Fair School was T. J. Walker of Jefferson City. I think I can say that all of the boys thought a great deal of him, because he took good care of us as far as he could and had us do what was right. His assistant, Mr. Sipple of the Kirksville Normal was also interested in us. He made an instructive talk on the care of ourselves and camp.

One of the lecturers was Col. W. A. Dallmeyer, president of the State Fair Board. His talk was an "Address of Welcome." Pres. P. P. Lewis of the State Board of Agriculture gave several good pointers on the Holstine dairy cow His talk was very interesting. Mr. C. T. Patterson, State Pathologist, State Poultry Experiment Station, lectured on poultry. His explanations were a great help. The corn man, S. M. Jordan, who is state lecturer for the Board of Agriculture, made several good hits on corn, alfalfa, weeds ad others subjects of interest. Demonstration of "Test for Soil Acidity," was given by Prof. L. F. Childers of the College of Agriculture. Mr. Houchin and Mr. Barnes talked on interesting subjects. J. Kelly Wright, institute lecturer, gave good information to us young farmers especially on silos. Prof. Howard A. Gass, State Superintendent of Schools, and Jas. C. Heisey, gave some good information. An address was given by Mr. G. W. Revis, boys' and girls' club director. He was in favor of the girls being among the next ones to go to the fair school. W. D. McKee told us about alfalfa and I wish more could have heard his lecture. Messrs. S. T. Simpson of Columbia and P. B. Barker of boys' corn judging contest were others who gave an address.

Mr. Cory, graduate of Princeton College, gave an address on concrete work, silos, good roads, etc. Several talks were given on home economics and farm life, legume crops, fertilizers and other things. I think this list of men includes most of the spreakers and lecturers.

In the morning we would attend these lectures and in the afternoon we would find the many places of interest. In the evening we would attend the horse shows in the stock pavillion. We saw the tractor plowing contest and it was something not to be forgotten soon. There was a corn judging and stock judging contest for us boys. There was also a cyphering and corn stringing contest for the boys and chicken dressing contest for the girls in the John Deere building. Ribbons were awarded to 1st, 2nd and 3rd pupils. The University building was a great educational building.

There were so many important things to tell that I'm afraid I'll take too much space in the paper. This is a great trip for any boy or girl and he should try to take advantage of it and put into practice some of the good and helpful advice.

Bee Croswhite,
Age 15. Audrain County.

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The Plunderer

By ROY NORTON

Author of "The Garden of Fate"

(Continued from last issue)

"No," Bill and Dick heard him say as they crowded into the group, "there ain't nothin' you can do, Doc. It's all over with 'em. I was there until quite late. God! It's awful!"

"Anybody get out at all?" someone asked.

"No. That's a cinch. You see they were driving back in and feeling for the ledge. Blocking out, I think. Pretty lean ore, over there, you know. So there was just one drift away from the shaft, and and it was in that she caved."

There was a moment's silence and then a half-dozen questions asked almost in the same moment. The man turned first to one and then to another as if striving to decide which query should be answered first, and shook his head hopelessly.

"They didn't have a chance," he asserted. "It happened three days ago, as you all know. They sent over to Arrapahoe and all the boys over there went and volunteered. They worked just as many men as could get into the drift at a time, and they spelled each other in half-hour shifts, so's every man could do his best. They hadn't got in twenty feet before they saw that she was bad. Seemed as if the whole drift had been wiped out. It was as solid as rock in places—just as if the whole mountain had slipped!"

"Did you go down, Jim?" the doctor asked.

For reply the man held up his hands. Dick, close behind him and peering forward to see them in the light that came from a street lamp, saw they were a mass of blisters with the skin torn away, red and bleeding. The answer was too eloquent to require words for the man they called Jim had evidently been there and striving madly, as had others, in the attempt to rescue. There was a surge forward as the crowd pressed in, each man trying to inspect these evidences of the tragedy. The questions were coming faster and from all sides. Most frequently the anxious demand, coupled with a pronounced eagerness was, "Is there anything any of us can do? Can we help if we get over there?"

"How far over is it?" Bill asked the man nearest him.

"Forty-miles," was the answer. They were all willing to travel that far, or farther, if they could be of any assistance whatever.

"No, there's no use in going," the man in the center said. "There's more there now than can be handled, and all they're doing is to try to get at the boys' bodies. It's sure that they can't live till they're taken out. You all know that! They're gone, every one of 'em. And that ain't the worst. They left twenty-six widows most of 'em with children!"

A groan went up from the crowd. The word passed back along like the waves cast up by a rock thrown into the center of a pool of blackness. It began at the center with its repetition as the words were conveyed to those out of earshot. "He says there's twenty-six widows. He says there's a lot of children."

The questions were flowing inward again.

"No, boys, there ain't a thing you can do," the man they called Jim repeated. "That is, there ain't a thing can be done for the boys underground. They're gone; but somebody ought to do what can be done for them that's left. It's money that helps the most. That's the best way to show that most all of us had friends who went out."

He turned and climbed back into his saddle in the little open space, and there was another moment's silence. The crowd looked up at him now, as he sat there in the center of the light thrown downward, feebly, from the lamp.

"Give me room, boys, won't you?" he asked. "My cayuse is about all in. There ain't nothing more to tell. There ain't a thing you can do; but just what I said. Those women and children will need money. They're all broke."

The crowd slowly parted and he rode through a narrow lane where his stirrups brushed against those in the front ranks, and then the gathering began to twist backward and forward, to disintegrate, to spread itself outward and up the street of the camp. It talked in a subdued way as it went. There were but few in it who did not know and picture the meaning of all that had been imparted by the courier—the desperate alarm, the haggard, sobbing women in front of a hoist, the relays of men who were ready to descend and beat hammer on steel and tear madly at slow-yielding rock, the calls for a rest while carpenters hastily propped up tottering roofs and walls, the occasional warning shouts when men fell back to watch other huge masses of rock fall into the black drift, and the instants when some rescuer, overwrought, thought he heard sounds of "rock telegraphing" and bade the others pause and listen. There were those among the men on the street who had seen the desperate, melancholy conclusions, when hope, flaming ever more feebly, guttered out as a burned candle and died. There were those among them who had been in those black holes of despair and been rescued, to carry scars of the body for life, but recklessly forget the scars of the mind, the horrors of despair. Comparative strangers to the camp as were the two men of the Cross, they appreciated the full meaning of the blow; for doubtless there was scarcely a man around them who had not known some of those who perished in that terrible, lingering agony. Besides they were miners all.

"Pretty tough luck, isn't it?"

They found themselves confronted by the doctor, who had turned at the sound of their voices as they resumed conversation.

"We just learned of it," Dick answered, "and know scarcely anything whatever of it, save what we just heard."

The doctor shook his head.

"It has been almost the sole topic here for the last two days," he said. "We heard of it after it was too late for any of us to be of use. I started over, but got word from a conferre of mine from a camp farther east, that there were already four doctors on the spot and that I need not come unless they called for me. Even then they were hopeless. Most of the men of the Blackbird were good men, too. The kind that have families, and are steady; but I suppose from what I hear they were nearly all fellows who have been idle for some time, or have just moved into the district, so probably they had nothing much to leave in the way of support—for those left behind.

He stopped for a moment and peered at other men who were passing them.

"I think it my duty to do something in that regard," he said, quietly. "I believe I shall get Mrs. Meredith to call a meeting out in front of her place. Nearly every man of the camp goes there at some time or another, in the course of the evening. Perhaps I could—"

Again he stopped, as if thinking of the best plan.

"I see," interpolated the miner, almost as his younger companion was about to offer the same suggestion. "Let her send out word that every man in the camp is wanted. Then you give them the last news and get them to do what they can. That's right."

"It is the best way," asserted Dick, agreeing with the project. "You can do more than any one. They all respect and know you."

They left him to make his way toward the High Light and stood at the borders of little gatherings on the street, gleaning other details of the tragedy, for nearly an hour, and then were attracted by a sound below them. Men were calling to one another. Out in front of the High Light two torches flared, their flames glowing steadily in the still night air and lighting the faces of those who gathered toward them. They went with the street current and again found themselves in a crowd; but it was not so dense as that first one they had encountered. Men stood in groups, thoughtfully, with hands in pockets, their harsh, strong faces rendered soft by the light. They talked together with a quiet and sad sympathy, as if in that hour they were all of one family up there in the heart of the mountains from which they tore their hard livelihood. There was a stir from the nearest store and a voice called, "Here, Doc! Here's a couple of boxes for you to stand on so they can see you when you talk."

Men were carrying some large packing cases, or tumbling them end over end, with hollow, booming noises, to form a crude platform. The boxes clashed together. Two men holding the torches climbed up on them and they saw two others boosting the doctor upward. At sight of him there was a restraining hiss passed round through the gathering crowd, commanding silence. He waited for it to become complete.

"Men," he said, "you have all heard the news. Thirty-three of our fellows died over across the divide, or are dying now. God knows which! God grant they went quickly!"

He stopped and although not a trained orator, the pause could have been no more effective. Dick looked around him. The faces of those nearest were grave and unmoved, as if carved from the mother rock of the country in which they delved; but he saw a light in their frowning eyes that told how deeply their sympathies were stirred.

"I didn't get up here to talk to you so much about them, however," the doctor went on, quietly, "as I did to remind you that out of thirty-three of these men there were twenty-six who left widows, or widows and children behind them. The boys over there did all they could. There were a hundred and fifty men who tried to save them. They are now working mererly to get their bodies. We couldn't be there to help in that; so we do what we can here. And that doing shall consist in helping out those women and children. There's a box down here in front of me. I wish you'd put what you can on it."

Bill, staring over the heads of those around him, saw a movement among those nearest the orator's stand, and into the ring of light stepped The Lily. Apparently she was speaking to the doctor, who leaned down to listen. He straightened up and called for silence.

"Mrs. Meredith," he said, "says that any man here who has no money with him can sign what he wants to give on a piece of paper, and that she will accept it as she would a pay-check and forward the cash. Then on payday the man can come and redeem his paper pledge."

There was a low murmur of approval swept round over the crowd which began to move forward with slow regularity. The doctor dropped down from his rostrum as if his task were done. The torches lowered as their bearers followed him and planted them beside the box on which coins, big round silver dollars and yellow gold-pieces, were falling, with here and there a scrap of paper. No one stood guard over that collection. The crowd was thinning out. Dick turned toward his friend and looked up at him to meet eyes as troubled as his own. Each understood the other.

"I wish I had some money of my own," the younger man exclaimed; "but I haven't a dollar that actually belongs to me. I am going to borrow a little from Sloan."

"I can't do that much," was the sorrowful reply. "And there ain't nothin' I'd rather do in the world than walk up there and drop a couple of hundred on that pile. I'm—I'm—"

His manner indicated that he was about to relapse into stronger terms. He suddenly whirled. A hand had been laid on his sleeve and a low, steady voice said, "Excuse me, I heard you talking and I understand. I know what you feel. I want you to permit me."

It was Mrs. Meredith who had walked around behind them unobserved and now held out her hand. They fell back, embarrassed. She appeared to fathom their position.

"I know," she said. "I wasn't eavesdropping. I saw you here. I wanted to talk to you both and so, well, I overheard. Take this, won't you? Please permit me."

Bill suddenly reached his hand out and found in his palm a roll of bills, rare in that camp. He looked at them curiously.

"There is five hundred dollars in it," she said. "That permits a reasonable gift from each of you. You can return it to me at your convenience."

Neither of them had spoken to her in all this time. Now both voiced thanks. But a moment later Dick found himself talking alone and telling her that he would send her a check within a few days to cover the amount of the loan; but she was not looking at him. He saw that her eyes were fixed on the big man by his side, who stood there looking down into her face. For some reason she appeared embarrassed by that direct scrutiny, and her eyes fell, and wandered around on those standing, nearest. Suddenly she frowned, and wondering they followed the direction of her look. Not ten feet from them, standing stockily on his feet with his high, heavy shoulders squared, his hands thrust deep into his pockets, his firm face unmoved, his hat shading his eyes, stood Bully Presby. He made no movement toward the goal of the contributors, and seemed to have no intention of so doing. As if to escape an unpleasant situation The Lily suddenly walked toward him.

"Good-evening, Mister Presby," she saluted, and he slowly turned his head and stared at her. He did not shift his attitude in the least, and appeared granite-like in his rigid pose.

"I suppose," she said, "that you have put something into the contribution."

"I have not," he replied with his customary incisive, harsh voice. "Why should I? The contribution means nothing to me."

The brutality, the inhumanity of his words made her recoil for an instant, and then she recovered her fearlessness and dignity.

"I might have known that," she said, coolly. "I should have expected nothing more from you. The lives of these—all these—" and she gestured toward those around—"mean nothing to you. Nor the sufferings and poverties of those dependent on them."

"Certainly not," he answered with a trace of a harsh sneer outlined on his face. "If they get killed, I am sorry. If they live, they are useful. If they are lost, others take their places. They are merely a part of the general scheme. They are for me to use."

His words were like a challenge. He watched her couriously as if awaiting her reply. Dick felt Bill starting forward, angrily, then checked him.

"Wait!" he whispered. "Let's hear what he has to say."

The Lily took a step forward to arraign him. Her face shone whiter than ever in the light of the torches.

"And that is all! That is your attitude?"

He did not answer, but stared at her curiously. It seemed to anger her more.

"I wonder," she said, "if you would care for my estimate of you! I wonder if you would care for the estimate of those around you. It does not seem strange that you are called by the fitting sobriquet of 'Bully Presby.' You are that! You are one of those shriveled souls that fatten on the toil of others—that thrive on others' misfortunes and miseries. My God! A userer—a pawnbroker, is a prince compared to you. You are without compassion, pity, charity or grace. Your code is that of winning all, the code of greed! Listen to me. You doubtless look down on me as a camp woman, and with a certain amount of scorn! But knowing what I am, I should far rather be what I am, the owner of the High Light, a sordid den, than to be you, the owner of the Rattler, the man they call Bully Presby!"

To their astonishment he leaned his head back and laughed, deeply, from his chest, as if her anger, her scorn, her bitter denunciation, had all served to amuse him. It was as if she had flattered him by her characterizations. She was too angry to speak and stood regarding him coldly until he had finished. He turned and appeared for the first time to observe the men of the Croix d'Or scowling at him, and his laugh abruptly stopped. He scowled back at them, and, without so much as a good-night salutation

turned and walked away and lost himself in the shadows of the street.

"Oh," she said, facing them and clenching her hands, "sometimes I hate that man! He is unfathomable! There have been times when I wondered if he was human."

She bit her lip as if to restrain her words, and then looked up at the partners.

"And there are times," drawled the big miner, "when I wonder how long I'll be able to keep my hands off of him. And one of those times has been in the last minute! If you think it would do any good, I'll—"

She looked up at him and smiled, for the first time since they had met. She interrupted him.

"No, the only way you can do any good is to make your contribution. I'll go with you."

They walked together toward the box which was now deserted, save by the doctor and one other, who were scooping the money into a water pail they had secured somewhere. Bill threw his roll of bills into it and the doctor looked up and smiled.

"I knew you would come," he said. "And that, with the two thousand that Mrs. Meredith has volunteered—"

She checked him.

"That was to be my secret. Please, none of you, speak of it again."

"As you wish," replied the doctor. "And I apologize. Now I would suggest that you take charge of this and take it to the High Light. I'll send it over to-morrow by Jim. The boys done well."

That was all he said, and yet in his simple sentence was much. The camp had done well. He straightened up with an air of weariness.

"This pail is pretty heavy," he said. "Won't you take it, Mathews, and carry it over?"

The miner caught it up in his arms, fearing lest the bail break loose under its weight. The doctor bad them good night, and they started toward the High Light, leaving the torch man to extinguish his flares. She talked freely as she walked between them, expressing her relief that none of the destitute in that distant camp of mourning would suffer unduly after the receipt of Goldpan's offering. As they entered the house of the lights and noise the bartender nearest hailed her, wiped his hands on his apron and reached out an envelope.

"Bully Presby was in here about an hour or two ago," he said, "and left this. It was before you and Doc Mills was goin' out to try and get the boys interested."

She tore it open, then flushed, and passed it to the partners who together read it.

"I hear," the letter read, "that some of the men who were killed over at the Blackbird used to work for me down in California. Also that there are some women and children over there who may have a hard time of it. Will you see to it that this goes to the right channels, and regard it as confidential? I don't want to appear to be a philanthropist on even a small scale. Presby."

Pinned to the letter was a check. It was for ten thousand dollars. Bill lifted it in his fingers, scanned each word, then handed it to Mrs. Meredith who stood frowning with her eyes fixed on the floor.

"I've known burros, and other contrary cusses, in my time," he said, slowly, "but this feller Presby has 'em all lookin' as simple, and plain, and understandable, as a cross-roads guide post."

And The Lily, contrite, agreed.

CHAPTER IX

WHERE A GIRL ADVISES

"There's one thing about you, pardner, I don't quite sabe," drawled Bill to his employer as they sat in front of their cabin one night, after discussing the assays which Dick made his especial work. "You ain't as talkative as you used to be. Somethin's on your mind. It's more'n two weeks now since I had time to think about anything but the green lead, and I'm beginnin' to notice. Where the devil do you go every mornin' between nine and eleven?"

Dick turned toward him impulsively, and then made no reply, other than to laugh softly. Then slowly he felt a wave of embarrassment.

"Not that it's any of my business, bein' as you're you and I'm me; but we were pardners for some years before things changed and made you the boss and me the hired hand. And it may be I'm undue curious. Who's that girl you go up on the pipe line to meet every mornin'?"

His question was so abrupt that, for an instant, the younger man had a hot, childish anger; but he controlled himself, and wondered why he should have been annoyed by the frank interrogation.

"Miss Presby, the lumberman's daughter," he said crisply. "But what interests me most is how you knew?"

The elder miner slapped his leg gleefully, as if pleased with a joke, and said: "Well, I went up there five or six days ago, tryin' to find you, because I'd lost the combination to the safe, and wanted to look over them old drawings. I sneaked back, because I was a little jealous to see you sittin' on the pipe talkin' right friendly to such a good-looker. Three evenin's later while you were workin' on them mill samples, I thought I'd like to see the whole of the line. I took a walk. There's been a real good horse trail worked into the ground up there, ain't there? And it's a new trail, too. Seems as if somebody must have been riding up and down that way every day for just about two weeks. And it's serious, too, because you don't say nothin' to a man you was pardners with for more'n seven years. Hey, Dick! What ails you, anyway?"

The younger man was on his feet with one of his fists drawn back, in an attitude of extreme temper.

"Suppose after this you mind your own business?"

For a full half minute the elder man sat there in the dusk, and then said slowly: "All right, boy—I mean, Mister Townsend—I will hereafter."

In the gloom his figure seemed suddenly bent forward more than usual, and his voice had a note of terrible hurt. It was as if all the ties of seven years of vicissitude had been arbitrarily cast off by his old partner; that they had become master and man. His words conveyed an indescribable sorrow, and loss.

"Bill!"

Dick's arm had relaxed, and he had stepped closer. Mathews did not lift his head. A hand, pleading, fell on his shoulder, and rested there.

"Bill, I didn't mean it! I'm—I'm—well, I'm upset. Something's happened to me. I didn't seem to realize it till just now. I'm—well, thank you, I'm making a fool of myself."

The faithful gray head lifted itself, and the gray eyes glowed warmly as they peered in the dusk at the younger man's face.

"Whe-e-w!" he whistled. "It's as bad as that, is it, boy? Just forget it, won't you? That is, forget I butted in."

Dick sat down, hating himself for such an unusual outburst. He felt foolish, and extremely young again, as if his steadfast foundations of self-reliance and repression had been proven nothing more than sand.

"I know how them things go," the slow voice, so soft as to be scarcely audible, continued. "I was young once and it was good to be young. Not that I'm old now, because I'm not; but because when a feller is younger, there are hot hollows in his heart that he don't want anybody to know about. Only don't make me feel again that I ought to 'mister' you. I don't believe I could do that. It's pretty late to begin."

(Continued in next issue)

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It doesn't cost a single cent
To pass a pretty compliment;
In happy, smiling, gracious way,
A cheery, pleasant word to say.

It doesn't cost a cent to take
Things as they come, to gently make
Out of the wise Creator's plan
The very, very best we can.

It doesn't cost a cent to bring
To lonely hearts, and sorrowing,
A bit of comfort, to shut out,
Just for a moment, gloom and doubt.

It doesn't cost a cent to clasp
A nieghbor's hand in friendly grasp,
To bid him feel by one warm press
The sympathy one can't confess.

It doesn't cost a cent, my friend,
An absent brother to defend;
The stepping-stones to heaven above
Are little daily deeds of lovo.

—Christian Observer.

Home Makers Conference

This Department is Edited by Miss Alice Kinney, New Franklin, Mo.

THE INTERNATIONAL CONGRESS OF FARM WOMEN

The International Congress of Farm Women stands for a great world's organization of all rural clubs and societies, co-operative, incessant in its quest for help, trying always to reach the universal need and if possible to relieve it.

Besides the regular officers and the executive committee there is affiliated with the congress, a Women's Press Club whose work it is to disseminate information regarding the congress through the various papers they represent. There is also a National Association of Farm Women Managers, composed of the congress who own and manage their own farms.

The organization was born of a need of better understanding and more of a co-operative spirit among women in rural districts. It is the reaching out by the farm women themselves to grasp the opportunity that is being held out for them by the government and agricultural colleges.

The congress is composed of women who think and who are willing to put their shoulders to the wheel and lift some of the loneliness out of the lives of those less fortunate than themselves—women who have caught the vision of the ideal life on the farm and have been watching with grave apprehension the wholesale rush of their boys and girls into the already overcrowded markets for humanity in the great cities, and have pledged their lives to stop it by making the rural homes more to be desired, adding to the social pleasures, beautifying the surroundings, improving the country roads, helping to consolidate the schools in the rural districts and giving the boys and girls a lively interest in life. For this reason it is asking the affiliation of every organized country club, not as an auxiliary but as a federation of rural clubs and societies all working for the same object. "In union there is strength." The latch string of the International Congress of Farm Women is out and the door will be opened wide to any club or individual who desires to join the farm women's movement.

Remember the congress lives that the farm woman may live a larger life, it works to keep in touch with progress and pass the good things along. Every word, deed or thought of the congress has been to enrich and enoble the lives of rural women and bring about better conditions, better equipment and more contentment in rural homes.

Mrs. Belle VanDorn Harbert,
Manzanola, Colorado.

These women are asking for a National Farm Women's Bureau. Shall the Missouri farm women remain an unknown quantity in this movement. Many have caught the inspiration of co-operation but there is still a great lack of this spirit to make the effort a success. Slowly the rural clubs are affiliating their local organizations with the state farm woman's movement as worked out by the Missouri Homemakers' Conference, but there is still a great awakening needed to make ourselves the potent power that is possible if only our women would lend their aid.

The Missouri farmer is fast learning that his best is only realized when affiliated with some co-operative state organization; this is just as vitally true of the women and their development.

We should be pleased to have some of our readers send in articles on co-operation among women. A. K.

HOME ECONOMICS IN SCHOOLS

As we follow up the results of the Movable Schools of Home Economics that have been held over the state by the Agricultural Extension Service of the Missouri University, it is most encouraging to note the growing interest in these demonstrations by the community at large. It has started a wave of thought, plans and action that we can safely predict for this fall that more pantry shelves will be groaning under the added weight of canned vegetables, soup, meats and fruit than in any other former year.

The store-room will become a veritable household silo, which will mean as much to the health and enjoyment of the farm family during the shut-in period of cold days of winter as the outside silo does to the comfort of our live stock.

Miss Helen Louise Johnson, National Chairman of Home Economics, General Federation of Women's Clubs, tells us in a little booklet how we can help the betterment of "all the homes of all the people" in the following ways:

"Home economics work began in the teaching of cooking and sewing, first in private classes, then in public schools. Owing to the expense of installing equipment it was easier to introduce it into high schools than into the grades, a mistake which still persists for it is needed in both places, but it should be compulsory in the grades.

"More and more are we realizing as the years pass on that the art of living is not inherited but must be taught and learned; even yet there is a willingness to teach young people nearly everything in school and college except those things which deal most directly with daily life.

The application of the lessons we learn in school are even yet too widely separated from the fact, or they follow too slowly on the lessons themselves.

The fundamentals of life and living must be taught in the grades in forms suited to the age and capabilities of the children, because the majority of children leave school at the end of the compulsory age and unless these things are taught before that period and the students are expected to study them just as much as geography or arithmetical facts, the girls may have no opportunity to learn the valuable lessons upon which the health, prosperity and happiness of their families depend.

"The scope of home economics should no longer be limited in any woman's mind or ideas, to mere cooking or sewing or any household activity, necessary as they may be and capable as they are of expansion into acceptable forms of scientific work.

For the benefit of our own and other women's homes, for the men, women and children in them it is necessary that every effort be made by those working in this field to educate the public to the larger and more comprehensive view of the cause we represent."

After our own needs have been successfully cared for in the pantry stores this year, perhaps another season we can plan and care for a garden sufficient for two families, either with fresh vegetables during the season or later in the little glass silo, thus by taking care of the farm surplus it can be turned into a financial result; if any of our readers have had any experience in this line of home industry, we should be very much pleased to hear from them. K.

To Remove Stains

Fruit Stains—Pour boiling water through the stain. A peach stain may be removed by allowing the article to freeze.

Ink—Let soak in sour milk or use lemon juice and salt.

Medicine—Soak in alcohol.

Iodine—Soak in sal soda or dilute solution of lye.

Blood, Cream or Egg—Wash in cold water first.

Paint—Use turpentine. On delicate materials, use chloroform. For dried paint, use equal parts of ammonia and turpentine.

Iron Rust—Use lemon juice and salt in sunlight.

Grass Stain—Rub with lard, butter, alcohol or kerosene before washing.

Tea and Cocoa Stains—Wash thoroughly in cold water and then pour boiling water through the stain.

Coffee Stain—Pour boiling water through the stain.

—From Extension News Service, University of Nebraska.

There is just as great need for labor-saving conveniences in the farm home as there is for labor-saving machinery on the farm. We hope those who have found their housework lightened by some improvement will write us about it for the benefit of other women who need help. Write on any subject concerning the home or its environment.

Farm Management

D. H. Doane, University of Missouri

Happiness comes from striving, doing, loving, conquering; always something positive and forceful.

What matter then, where your feet stand or wherewith your hands are busy, so that is the spot where God has put you and the work he has given you to do.

Mr. Maris, County Agent of Saline County, in referring to the township fall festivals held in Jackson County says:

"I had an opportunity to visit a county last week in which the township school fair has been brought to its highest state of development by County Agent E. A. Ikenberry. There I found township fairs surpassing some county fairs; at least, from the standpoint of enthusiasm, interest and educational value. Having had several years' acquaintance with county and state fairs I saw more attention paid here to the exhibits and awards than at any other fair I ever attended. Children were interested because it was their work and the work of their school, parents because it represented the work of their children. One man passing by the corn display remarked, "The quality of our corn has been improved 100 per cent since we began holding these school fairs." Still there was abundant evidence that there were still relatively few who knew how to select good show corn and good seed corn."

Wintering Farm Animals

If we have plenty of bluegrass pasture the summer feeding of most of our livestock is a simple matter. We turn out when grass gets good in March or April and leave the stock on pasture until the grass is gnawed in the ground or winter drives us into shelter and snow covers up nature's feed. In some cases these methods are profitable and no criticism can be offered. In others, no small improvement could be worked by a little intelligent planning.

Summer has passed now and we are facing winter. Little can be done if we have not provided during the summer for the needs of the winter, but to those of us who have provided the winter problem becomes one of adaptation and utilization, a few words from the storehouse of experience of others might be mentioned at this time.

The Work Stock: Some of you will remember that during the fore part of this year I mentioned the fact that a large per cent of our farm income was consumed by work stock that was useful only a small per cent of the time each year. Mr. Johnson tells us that on the average our farm work horses work about three hours a day. Figuring it up for Missouri we get the results: the average work horse can handle about twenty crop acres, that is, twenty acres devoted to crops of some kind, in Missouri our average work horse handles about twelve acres or just about half of what he should. Or, putting it the other way around, we have two horses where good management would require only one. If the figures published by the Farm Management department, of $85 a year as the average cost of keeping a horse, are correct, it shows that Missouri is paying an excess feed bill every year for unneeded work stock of about $50,000,000. The suggestion, therefore, for the winter of 1915 is two-fold. First, get rid of every horse that you can possibly spare. Foreign army demand will take the common classes; let them go even though you have to sacrifice them. Now that you have culled down to the profitable and most useful ones, what are the best rations to feed them? Mr. J. Ed. Hall, of Lamonte, Mo., finds that shredded corn and cowpeas or soybeans make an excellent and cheap roughness. I will not refer to corn, oats and timothy for these are old standard feeds and if you have them you will probably use them. I might further suggest that every grower of soybeans reports enthusiastically about the results obtained from feeding soybean hay or even the threshed straw to the horses. They say that their work animals do well on it and it appears to be very nutritious, for they can generally cut down on the grain when they are feeding soybeans.

FREE WATCH!

Nearly every boy wants to own a watch—not only to tell the time of day but because owning a watch is one of the mile posts on the road to manhood. The watch illustrated above is handsome and a splendid timekeeper. We will send it FREE to every farmer boy who sends us **four new subscriptions to The Missouri Farmer** at 50c a year... If you want one of these handsome watches free write us **at once!**

THE MISSOURI FARMER,
Columbia, Mo.

ALL STEEL GARAGE $59.25

The Butler "Round Ruf" SIZE 10 X 14

Full protection and at least cost. Fire-proof. Corrugated. Easily put up. Attractive in appearance. Portable. Useful as a machinery, tool or storage building. Additional sections to increase length furnished at any time. If your dealer does not handle, write us for full information and prices on other sizes.

BUTLER MFG. CO.
280 Butler Bldg.
Kansas City, Mo.

Grain Bins, Tanks, Silos. Write for booklet on Stock Fountains and Hog Furniture.

The Breeding Ewes: If we have good pasture up until Christmas, the breeding ewes will not need much other feed. Early in the season, perhaps, they can eat some fodder, but when winter finally sets in and as the lambing period approaches, nothing but leguminous roughness should be considered. If you have available cowpea hay, soybeans, alfalfa or clover, you will find these excellent and satisfactory. Corn stalks have proven disastrous in a number of cases and should not be used if it is possible to avoid them. Possibly a little grain after the lambs begin to come will be found profitable; bran and oats will probably be the best kind to use.

The Hogs: Did you ever try hog hay? I hear some farmer say, "Who ever heard of hog hay?" Well, we hear of it in Kansas and also in Missouri. The Kansas kind is alfalfa; the Missouri kind that our farm management men have found most acceptable is soybeans. When the soybeans are cut with a binder, the bundles are thrown into a specially constructed rack for the hogs. The floor of it is made A-shaped, the highest portion in the middle and sloping toward the outside. The hogs pull the hay down through the slats, the leaves and beans that are pulled off fall on the floor beneath, and the hogs get an opportunity to get at them without tramping them down in the mud. A good grade of unthreshed soybeans fed in bundles will save the purchase of oilmeal, shipstuff, tankage, etc. It reduces the corn bill and the cost of keep of the sows and fall pigs.

Mr. Johnson tells us that it costs on the average about $25 a year to keep a sow. Where wintering is done on rye as Mr. Gartin does it, we find that this cost is cut nearly in half, or reduced to about $14.50 a year.

In short, our most valuable experience in wintering hogs shows us that alfalfa or soybean hay, fed to furnish protein, and the use of wheat or rye for winter pasture, makes our most valuable wintering ration for hogs.

Spangled Hamburg Cockrels

For Sale—Spangled Hamburg Cockrels at two dollars each. Lee Sallee Rfd. 1, Wheeling, Mo. 11-1-2t

"Fifty Million Dollars—the Value of the American Raw Fur Collection"

A. B. Shubert, Inc., Chicago, U. S. A., the largest house in the world, dealing exclusively in American raw furs, in a letter to the editor says in part as follows:

"Fifty Million Dollars" worth of raw furs. Quite a large sum of money when you come to think of it. This is a normal season's production of the raw furs of the world, and American raw furs make up about two-thirds of the world's collection. Can you imagine fifty million dollars changing hands for American raw furs? Yet such is the case as near as can be estimated from the account books of the largest collectors. The merry old world still goes around and the coming of winter brings on one more raw fur season. It is one of the oldest industries known to man, dating back even before the time of Christ, and in spite of the fact that millions of fur-bearing animals are killed off every year, in spite of the fact that rigid game laws are enacted to protect the fur bearers, the game is far from being extinct, and when the collections are smaller, the price goes up accordingly. It is wonderful the part that furs have played in the history of man. They have caused wars, led to the exploration of new lands and changed the maps of nations, but more wonderful still are the varied fluctuations in the market. It is the greatest speculative game in the world. When the raw fur market is at its highest pitch, Wall Street fades away to nothing alongside of it, and so it is with the Steel Trust and the Tobacco Trust and the rest of our largest industries. Before people knew what steel or tobacco was, they were skinning animals for their fur, and still the game has not died out, in fact, this season promises more activity than ever in the fur business.

Furs are an absolute necessity as they form the protective clothing of those whose occupation brings them in contact with the elements of winter. Furthermore, furs are extremely fashionable. Milady's wardrobe is not complete without most of her outer garments for fall and winter, her hat, evening gown and dresses trimmed with fur. And it is uncommon to see shoe tops also trimmed with fur.

Live Stock Notes

R. P. ROYCE, Fieldman

Snyder's Red Polls and Spotted Polands

In a recent letter from M. L. Synder, Polo, Mo., who advertises Red Polled cattle in this paper, he says that trade has been good with him and that he still has a number of good strong young bulls that he is putting the price down on. Mr. Synder also offers a few choice Spotted Poland China boars of the most approved line of breeding. Our readers will do well to get in touch with him.

Need a Holstein Bull?

If you do you can hardly afford to overlook the offer made by the Black and White Farm, Baden Station, Mo. This well known farm is offering a number of extra good young bulls sired by their great bull Dutchland Sir Hengerveld Rag Apple, one of the best bred bulls in Missouri. These bulls are all of good ages, are nicely marked and come from a tuberculin tested herd, that is making records in production. Write for prices.

Watson Offers Excellent Duroc Bargains

The other day I met a man who had just returned from New London and in speaking of his trip he informed me that he had visited W. C. Watson's Duroc herd and "believe me," he said, "that man Watson has some herd. I don't know when I have seen a better spring boar than the February pig by Illustrator and out of Tattletale 39th." This man might have added that Mr. Watson also had a lot of other richiy bred spring boars that he is pricing worth the money. Mr. Watson has established a herd that ranks high and is bound to be a potent factor in the breed in this state. Write for prices or visit the herd. Mention this paper.

Oakwood Polands and Shorthorns

H. S. Williamson, proprietor of the Oakwood Stock Farm, Centralia, Mo., advises us that he has an extra good lot of Poland China boars and Shorthorn bulls for sale.

Mr. Williamson is one of the best known livestock men in Missouri having been engaged in the pure-bred business for years.

Spring boars, or yearling boars, spring gilts, fall gilts or bred sows can be furnished, sired by either of Mr. Williamson's well known herd boars, Success and Controller.

The writer is not familiar with any herd that can show more bone than will be found in the Oakwood herd, and this desirable quality is largely due to the influence of the first named boar. In Shorthorns, most anything can be furnished our readers, but just at this time very attractive prices are being made on some extra good young bulls. Get his prices.

A Great Chance for Poland Breeders

In this issue appears the advertisement of W. E. Williams of Silex, Mo., who, on Thursday, November 18, will hold a closing out sale of his splendid herd of big type Poland Chinas. That this presents a great opportunity to lovers of big type Polands goes without saying for this means that Mr. Williams will close out one of the finest herds of this breed that can be found in the Corn Belt. Included in the offering will be herd boars of established merit, brood sows, spring gilts and boars.

The chief feature of the sale will be Longfellow Sampson 66636, a three-year-old sire of proven merit. He is by Big Sampson by Sampson and out of Lady Longfellow by Tecumseh Longfellow, bred by Williams Bros. of Villisca, Iowa. His quality as a sire may be seen by the hogs which go into the sale—many of them being his get. The six big, roomy sows to be sold are by Longfellow Sampson, Blue Valley Expansion, Hadley Blain and Chief Price Jr. They range in age from yearlings to three-year-olds. They will be bred. There will be 40 spring gilts go through the ring. They are sired by Longfellow Sampson, Price Wonder, A Wonder and Major Look.

In regard to the gilt offering, Mr. Williams says: "They are the best I ever raised, and as I have not sold one this year, there will be some mighty good ones among them. They will be sold open and just in the right condition to breed. Included in the 14 spring boars there is one extra good one that should go to head some good breeder's herd. He is an A Wonder boar that is simply outstanding. I had intended to keep him, but as this is a closing out sale must let him go." The spring boars are by Longfellow Sampson, Major Look, Price Wonder and A Wonder. The spring gilts and boars are out of sows by Big Sampson, Pawnee Nelson, Monarch Big Bone, Expansive Equality, W's Wonder, Hadley Blain, Blain's Wonder, Longfellow Jr., Long Scamp and Blue Valley Expansion.

This is going to be an exceptional opportunity to pick up some choice stock at low prices, stock that you could not purchase except at a closing out sale. Remember the date is Thursday, November 18. Write for the catalog and arrange to attend. Should this be impossible, send your bid to R. P. Royce, Fieldman for The Missouri Farmer, who will be at the sale and who will be glad to carefully look after your interests. When you write for catalog, please mention The Missouri Farmer.

Bakers' November 15th Sale

A sale of Poland Chinas that should prove very attractive to our readers will be held at Rich Hill, Mo., on Monday, November 15, when W. Z. Baker will offer 35 head of superior fall and spring boars and spring gilts. The Maple Grove herd is no doubt well known to most of our readers. For several years past it has figured strongly in the show rings of the Mid-West fairs, and always with credit. The proprietor, W. Z. Baker, is a member of the same Baker family that has been such a potent factor in the development of the big type Poland China in Southwest Missouri.

This year the Maple Grove herd was exhibited at Topeka, Hutchison, Sedalia, and St. Louis, and at each of these shows secured its share of the prize money. At St. Louis this herd practically swept the boards.

In the coming sale Mr. Baker will sell about 35 head and in the lot are a number of his prize winning boars. There are 5 junior yearling boars listed, anyone of which should look good to a breeder in search of a herd boar. These 5 boars are litter mates and are sired by the great boar, King John, and are out of Hadley's Beauty 2nd, the sow that attracted so much attention in 1913, the year she was made grand champion. Out of two litters from this sow there are 9 prize winners. One of them a champion, 4 won blue ribbons, 3 were reserve champions, and the balance were well up in the money. In the spring of 1913 this sow farrowed 11, the following fall, 10, in 1914 she farrowed 16 in two litters and in 1915 she farrowed 25 in two litters. Two other attractive boars are furnished by Blue Grass Maid 3rd. One of these two boars is a fall yearling and the other is a March pig. The yearling has a second prize to his credit and is litter mate to a boar that Mr. Baker is keeping for himself. These two boars are sired by King Hadley.

The entire offering has been carefully selected by Mr. Baker and this sale will afford an excellent opportunity to buy well bred Polands carrying the blood of champions and grand champions. Among the gilts are several that would look good in most any herd and they are of the same breeding as the boars.

Everything in the sale is immune. Send at once for the catalog and arrange to be at the ring side when the sale starts. R. P. Royce will represent this paper at the sale and will be glad to handle any bids for our readers who are unable to attend. Kindly mention this paper when you write.

White's Durocs Please

Under date of October 7th A. O. Carter, cashier of the bank of Dexter, Mo., writes A. White Jr. as follows:

"The gilt Rosalee I bought from you last June farrowed 8 of the finest pigs I ever saw to the service of your champion boar, Crimson Col. I Am."

Mr. White receives many letters along the same line from his customers and he feels that he can please any of our readers who are in the market for Durocs of merit.

Just at present Mr. White is offering some exceptional bargains in spring boars. Most of these boars are early pigs sired by the junior champion boar Crimson Col. I Am, and are out of sows of the richest breeding. Any one in need of a really high class boar should take a look at one of the litter out of the great producing sow, Missouri Lady, and sired by Crimson Col. I Am. He is a pig carrying excellent lines and shows a remarkable degree of quality. Lady Olean, the sow Mr. White secured in the Taylor sale last February, has a cracking good boar in her litter, and another popping pig is by Carl Orion. Mr. White is succeeding in producing a class of Durocs that show unusual size and quality. Get his prices before buying.

Acid Stomach Claims Millions Of Hogs!

An enormous percentage of all hog losses is due to stomach disturbances and stomach disturbances are largely due to acidity, which interferes with the digestive juices and thereby impairs digestion. Result—thin, scrawny hogs that seem half-starved no matter how much they eat. Millions die. Thousands of hog raisers have proved that the safe and reliable way of neutralizing this acid and preventing its forming again is to mix just a little

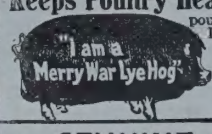
MERRY WAR LYE

in swill, or with the drinking water, if the hogs are on dry rations. It not only neutralizes the acid but also sweetens the swill, thereby preventing the fermentation that causes the acidity. Moreover, it adds weight to hogs because it helps thorough digestion, leaving no waste food. Hogs come right up, under this simple treatment which produces amazing results.

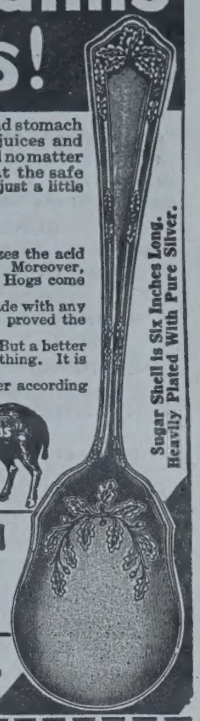
There's as much difference in Lyes as there is in Doctors, so don't count any trial made with any other than Merry War Powdered Lye. The experience of thousands of hog raisers has proved the value of Merry War Lye. Its use is *not* an experiment.

Send for free booklet filled with letters from hog raisers. They will convince you. But a better way to be convinced is to give it a trial on your own hogs. The cost is practically nothing. It is absolutely safe to feed to hogs according to plain, easy-to-follow directions on label.

Keeps Poultry Healthy Merry War Powdered Lye mixed with feed or water according to directions on label, helps to make poultry sturdy and better able to resist White Diarrhoea, Diarrhoea from Indigestion, Cholera, Roup, Limberneck, Gapes, Worms, etc.



"There Are No Substitutes"



GENUINE GUARANTEED Wm ROGERS & SON **FREE** OAK DESIGN SUGAR SHELL

Send Only 3 "Merry War" Lye Trade-Marks

There are so many practical, every-day uses for Merry War Powdered Lye in the house and on the farm that we have made this remarkable gift offer to induce you to give it a common-sense trial. Don't send the entire labels—just cut out the trade marks—the large words "MERRY WAR" printed in red on the face of the label and send 3 trade-marks with coupon.

We will at once send you the Sugar Shell—one to a family on this special offer *and tell you how easy it is to get a complete set of this beautiful silverware absolutely free*—sufficient to last a lifetime.

For Sale Everywhere *None genuine without the words "MERRY WAR" and the picture of hog on the label.*

At grocers', druggists', and feed dealers'—10c a can. If your dealer will not supply you, we will see that you are supplied at $1.20 per dozen cans, all charges prepaid, and if requested we will take off 3 trade-marks and send Sugar Shell as offered also full particulars for obtaining full set *free*.

E. Myers Lye Co., St. Louis, Mo.
Premium Department 38

E. Myers Lye Co., St. Louis, Mo.
Premium Department 38

Enclosed find 3 "Merry War" trade-marks. Send me, *absolutely free, prepaid*, Wm. Rogers & Son Oak Design Sugar Shell and list of full set to match.

Name.....

Postoffice.....

R. F. D.....State.....

Write your own and dealer's name and address plainly.

Dealer's Name.....

Dealer's Address.....

Percherons, Durocs and Berkshires

Gallatin, Mo., Tuesday, November 9

Nine Head of High Class Percherons

CONSISTING OF THE FOLLOWING STALLIONS

PRINTANIER 44306 (60056); CARNOT S. 93123; NAVE 106110.
Also 2 yearling stallions that will be registered by sale day.

4 Extra Good Mares

HECTORFLOWER 70797; MAYFLOWER 93124; NELLIE GRAY 106109, and one yearling filly—certificate on file.

10 Head of Registered Berkshires

Carrying the blood of MASTERPIECE and other prominent animals at Gregory Farm, White Hall, Ill.

40 Head of Registered Durocs

Excellent breeding and choice individuals.

Sale at 12:30 P. M. Catalogs on application.

N. S. SHACKLEFORD, Gallatin, Missouri

COL. LOYD SEELEY, White Hall, Ill.; COLS. D. D. DEEM & SON, Gallatin, Mo., Auctioneers

The College of Agriculture

Offers Live Stock for Sale

A number of choice Poland China spring boars and gilts. Also some bred sows and gilts. Several desirable Duroc boars from spring pig to yearlings, also spring gilts and sows open or bred.

2 PERCHERON BROOD MARES a black and grey 4 and 7 years old. In foal to the stallion, Honorable. The above live stock is priced exceedingly reasonable for quick sale. Address

Departm't of Animal Husbandry, Columbia, Mo.

Shropshire Rams

One two-year-old Shropshire ram sired by Missouri University's Champion of 1912. A splended individual and a good breeder.

Also have other Rams for sale

J. M. GEORGE - - FAYETTE, MO.

MOLASSES Richest Feed Lowest Cost

St. Louis Molasses Co., Dept. MF., 400 S. Broadway, St. Louis.

Live Stock Notes

R. P. ROYCE, Fieldman

COMING SALES

POLAND CHINAS

Will G. Lockridge, Fayette, Mo., Feb. 2.
Bridges Bros., Slater, Mo., February 11.
W. A. Baker & Son, Butler, Mo., Feb 18.
Bennett Bros., Lee's Summit, Mo., Feb 19.

DUROC JERSEYS

Dowden & Partridge, Maryville, Mo., Feb. 11.

CHESTER WHITE

F. B. Goodspeed & Son, Maryville, Mo., Nov. 3.

PERCHERONS, BERKSHIRES AND DUROCS

N. S. Shackleford, Gallatin, Mo., Nov. 9.

Missouri Poland China Breeders Organize

Recognizing the need of an organization to push the breed the Missouri Poland China breeders met Wednesday evening of fair week and organized the Missouri Poland Chnia Breeders' Association. About twenty-five breeders were present and after electing the following officers: Park Bennett, Lee's Summit, Mo., president; E. D. Frazier, Drexel, Mo., vice-president; C. H. Walker, Kansas City, Mo., secretary-treasurer; directors, T. E. Durbin, King City, Mo.; J. F. Richards, Bevier; W. H. Bridges, Slater, Mo.; Will G. Lockridge, Fayette, Mo.; W. A. Baker, Butler, Mo., and M. D. Porter, Vandalia, Mo.. Each member was made a committee of one to secure other members.

It was decided to hold the annual meeting at Columbia, during Farmers' Week, where an effort will be made to federate each of the various breed associations into a state association for swine men.

Much good can be accomplished through organized effort and with such enthusiasm manifested among the Poland China men who attended the meeting some practical results can be looked for. Every breeder of Poland China hogs in this state should send in his name to the

Taylor Breeds and Sells Champion Durocs

A lesson to all breeders young and old may be found in the record of Chas. L. Taylor, Olean, M., whose herd of Durocs is already well known to many of our readers. This lesson has to do with the value of good blood properly and intelligently handled.

When Mr. Taylor started in the business of producing pure bred swine he made his purchases very much after the fashion of so many—he let price influence him in his selections. However, one trip to the state fair showed him the mistake he had made and without consulting onyone he disposed of his whole herd and after studying the breed and the blood lines of the winning herds he made a careful selection of a few bred sows. Included in the lot happened to be a bred gilt called Queen Ester. This gilt was sired by B & C's Col., grand champion at Iowa and Illinois in 1909 and her dam was by the first prize junior yearling at Iowa. Queen Ester was carrying a litter to the service of Crimson Wonder 3d, grand champion at Nebraska in 1908, he by Crimson Wonder Again, grand champion at Iowa in 1907 he by Crimson Wonder I Am, grand champion at Iowa in 1906, and he by Crimson Wonder, first in class at Nebraska in 1904 and third in class at World's Fair at St. Louis. In this little was a boar afterwards called Col. Wonder. It will be noted from the above that Col. Wonder came from a distinguished line of producing sires and dams. Col. Wonder was fitted and shown as junior yearling in 1912 and won first in class at Sedalia and at the American Royal. The following year he was made first prize aged boar, senior and grand champion at Sedalia. His dam was shown in 1911 and won first as junior yearling sow at Sedalia, and the following year was made first prize aged sow at the same show. In 1913 at Sedalia the get of Col. Wonder won 10 prizes. In 1914 his get won 7 prizes, and included in the list was the first prize junior yearling sow and senior and grand champion sow. In 1915 the Taylor herd won 35 prizes at Sedalia, including 15 first prizes, and juniour champion boar and senior and grand champion sow. At St. Louis the following week the herd was even more successful.

There is food for thought in the above record, and if it mean's anything at all, it means that blood will tell, and that Chas. L. Taylor has the kind of blood that talks. Mr. Taylor is offering a few choice gilts either sired by or bred to Col. Wonder at very reasonable prices. He also offers choice spring boars sired by. Col. Wonder at $25 etch. Here is a chance to get something worth while at unusually low prices. Mr. Taylor advises our readers who may be interested, to send check in first letter. You are safe in doing this as Mr. Taylor will send out only dependable boars. Mention this paper when you write.

Chester White Breeders for State Association

Following the lead of other swine breeders, the Chester White breeders met at Sedalia during fair week and organized the Missouri Chester White Breeders' Association. The attendance was rather light but every breeder present was enthusiastic and all pledged themselves to interest other breeders and to make every effort to haev a large representative at Columbia, where the next annual meeting will be held during Farmers' Week. The following officers were elected: J. J. Wills, Platte City, Mo., president; Col. T. E. Deem, Cameron, Mo., vice-president; S. D. Frost, Kingston, Mo., secretary-treasurer. J. H. Harvey, Maryville, Mo.; W. P. Doolittle, Woodland, Mo., and Henry Fehner, Alma, Mo., were chosen directors. All breeders of Chester Whites who are interested in seeing this breed make progress in this state should send in their name to Secretary S. D. Frost.

Andrews Has Good Sale

The annual sale of spotted Poland Chinas held by the Andrews Stock Farm, at Lawson, Mo., Thursday, October 14, resulted in the very satisfactory average of $33.25 on the forty-two head that were sold. This average is not quite up to last year, but the fact that practically the entire offering this yera was of spring farrow no doubt accounts for the difference.

A splendid crowd was on hand when Col. Gross started the selling and bidding was brisk from the start. No extreme high prices were registered but very uniform range of prices obtained. Col. Gross was efficiently assisted in the ring by Cols. Thompson and Mercer.

No. 1, R. L. Finch, Carrollton, Mo.	$46.00
No. 2, A. E. Hill, Lee's Summit, Mo.	30.00
No. 3, H. M. Caldwell, Lexington, Mo.	29.00
No. 4, Theo. Kirk, Plattsburg, Mo.	60.00
No. 5, R. L. Finch	44.00
No. 6, J. J. Atterbury, Plattsburg, Mo.	40.00
No. 7, J. A. Thompson, Holt, Mo.	40.00
No. 7½, S. W. Moore, Lawson, Mo.	31.00
No. 8, J. R. Legg, Lexington, Mo.	30.00
No. 9, E. S. Hutchins, Excelsior Springs, M.	29.00
No. 10, H. M. Caldwell	33.00
No. 11, C. A. Gooch, Orrick, Mo.	32.00
No. 12, L. A. Ridgeway, Higginsville, Mo.	37.00
No. 13, M. A. Hutchins, Excelsior Springs, Mo.	32.00
No. 14, Irwin Thieman, Aullville, Mo.	32.50
No. 15, H. L. Gregg	41.00
No. 16, W. G. Wilkinson, Plattsburg	22.00
No. 17, C. I. Shobe, King City, Mo.	30.00
No. 18, E. M. McCray, Lawson, Mo.	32.00
No. 19, John Nolker, Lawson	30.00
No. 20, W. A. Shanks, Holt Mo.	28.00
No. 21, J. E. Dacey, Lawson, Mo.	29.00
No. 22, A. Z. Lyons, Higginsville, Mo.	30.00
No. 23, J. W. Oliver, Dearborn, Mo.	20.00
No. 24, Irvin Thieman	29.00
No. 25, H. L. Gregg	26.00
No. 32, Theo. Kirk	36.00
No. 33, Guy Moore, Lawson, Mo.	29.00
No. 34, J. B. Thompson, Plattsburg, Mo.	55.00
No. 35, A. Z. Lyons	41.00
No. 36, Kit Nolker, Lawson	23.00
No. 37, L. A. Ridgeway	30.00
No. 38, Fred Rhodes, Excelsior Springs	31.00
No. 39, Same	31.00
No. 40, J. A. Petty, Cowgill	50.00
No. 42, E. M. McCray	32.50
No. 43, Same	28.50
No. 44, J. E. Dacey	31.00
No. 45, J. E. Dacey	29.00
No. 46, H. L. Gregg	35.00
No. 47, Thomas & Crenshaw, Lawson, Mo.	38.00
No. 49, J. E. Dacey	25.00

Baldwin Heights' Poland Chinas

Ralph Baldwin, owner of the Baldwin Heights Poland China herd near Rocheport, Mo., was in the office the other day and reports his spring pigs as coming along in great shape. Most of the stuff for sale is by Mr. Baldwin's splendid young boar, King Jumbo, by King of Wonders, and out of the great producing

Clydesdale Horses, Jacks and Jennets

Clydesdale Stallions, Mares and Colts, with quality and breeding, for sale at lowest prices. We also breed Jacks and Jennets and sell them as low as the lowest.

HIGHVIEW FARM F. L. CROSBY, Prop., Mexico, Mo.

POLAND CHINAS

Smooth Columbus
THE BOAR THAT PUT MISSOURI ON THE MAP. HEADS OUR HERD

75 extra choice March and April boars and gilts sired by SMOOTH COLUMBUS, the record sire of the state, LONG JOE, and BAKER'S HADLEY. Big type Polands with quality. All immune. Satisfaction guaranteed.
BENNETT BROS. R. 5, LEE'S SUMMIT, MO.

PAWNEE PRICE IS DEAD

You will want some of his blood in your herd because it makes for size and quality. We have a few extra good spring boars sired by Pawnee Price for sale at reasonable prices. First come, first served.

J. F. RICHARDS & SON - - - - - - - - - - Bevier, Mo.

A PRIZE WINNING BOAR FOR SALE OR EXCHANGE

I offer Pawnee Price 2nd, second prize winners in class and futurity, Missouri State Fair 1915, for sale or will exchange, in part, for Choice Poland China gilts. Also offer a number of choice boar pigs for sale. The big, smooth, prolific kind. Sired by SMOOTH COLUMBUS and BLACK BIG WONDER. Get my prices.
M. D. PORTER, - - - - - - VANDALIA, MO.

Mammoth Big-Type Polands for Sale

PFANDER'S Big Ben 69678 spring boars, weighing 175 pounds or more, offered at special prices during September. Herd headers a specialty. Best of breeding. Also nice lot of gilts, open or bred. Farmers' prices. Get our description and prices. Everything guaranteed. O. G. LEASE & SON, CENTRALIA, MO.

Spring Boars by the Grand Champion

A desirable lot of early spring boars by The Giant, acknowledged to be one of the greatest young Poland China boars of the breed. Prices within reach of all.
WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

Poland Chinas & Shorthorns

Spring boars and gilts, pairs, trios or more. A few sows and gilts bred for fall farrow. Several choice young bulls and heifers. Satisfaction guaranteed.
H. S. Williamson, Route 6 Centralia, Mo.

POLAND CHINA BARGAINS

I have some good Big Type Poland China hogs; some tried sows, one aged boar, some spring gilts and spring boars. Registered stuff. Cholera immune. Come and see them or write me. LOU LE FEVRE, Collins, Mo.

BALDWIN HEIGHTS BIG POLAND CHINAS

Spring boars by King Jumbo, by King of All, and out of sows bred in the purple. Satisfaction guaranteed.
R. F. BALDWIN, Rt 1, ROCHEPORT, MO.

MEGOWN'S SPOTTED POLANDS

No matured stock for sale but booking orders for pigs to be shipped later. Have length, bone, size and big spots. Sired by two of the biggest boars in the State for their age.
B. B. MEGOWN, - - - - - - NEW LONDON, MISSOURI

Bridges Bros.' Poland Chinas

There is a Reason why we can please Missouri Farmer readers who are needing a strictly big type Poland China spring boar. We have about twenty extra good ones sired by BIG BOB WONDER, LONG JUMBO 2nd, LONGFELLOW SAMPSON, WONDER EX., etc., and out of our carefully selected sows. Our herd boar is
KING JOHN 72135
Long Kings Equal's greatest son. Everything immune. Prices reasonable.
BRIDGES BROS., Slater, Mo.

BAKER'S REAL BIG-TYPE POLANDS

Our winnings at the State Fair proves that we "have the goods." Spring boars and gilts of excellent breeding and individuality at very reasonable prices. Also a number of fall boars; big, stretchy kind.
W. A Baker & Sons, Butler, Mo.

Morgan's Poland Chinas

Strictly big type. Cholera immune. Pigs of either sex sired by Mastodon King's Equal and Big Standard, weighs 700 pounds at 18 months old. Visitors welcome. Correspondence solicited.
E. A. MORGAN, - COLLINS, MO.

Linhardt's Polands

Choice spring boars and gilts. Fall boars and gilts. All sired by Giant Mammoth, Governor Hadley and Mammoth Wonder. Satisfaction is guaranteed. Have shipped to 23 states.
H. O. LINHARDT, LOHMAN, MO.

Dooley's Spotted Polands

Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pairs and trios no relation. Also registry furnished. Send check with first letter.
EDGAR DOOLEY, - Etterville, Mo

DUROC JERSEYS

Forty Duroc Boar and Gilt Bargains

We are offering 40 choice spring boars and gilts sired by Col. Wonder II, litter mate to the champion sow at Missouri State Fair 1914; Beauty's Col.; Col. Wonder, a champion; Col. Enough I Am; and Belle's Col. Pairs, twos or more of unrelated stock. Priced to sell and guaranteed to please.
W. H. & GEO. E. THOMSON - - - - - - Columbia, Missouri

SELECT COL. II Heads White's Durocs

27--BIG DUROC BOARS--27

Weight 175 to 200 lbs. in breeding condition, March farrow. Big bone, stretchy wide backs, good colors, direct from prize winning sires and dams, choicely bred. Forty gilts of the same type. Guaranteed. Prices moderate.
A. WHITE, JR. Box 422 PALMYRA, MO.

ANGUS CATTLE

ChoiceAberdeen-Angus

Established 30 years. 100 head in herd. We are offering good useful Bulls, and Heifers of excellent individual merit and breeding. Prices reasonable. Our customers make them popular.

D. L. Sutherland & Sons Windsor, Mo

Aberdeen-Angus

I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.

J. D. Blackwell Fayette, Mo.

ANGUS CATTLE

HERD FOUNDED 1904

Seven early calves—3 BULLS and 4 HEIFERS, sired by Dean's Eric 139686. Every one the right kind, and priced to sell.

V. E. LAWRENCE, SALISBURY, MO.

Angus Bargains

Registered bulls and heifers. The market topping kind. Leading families represented. Priced worth the money and satisfaction guaranteed.

Also Poland China Hogs

J. M. JONES, R. F. D. 3, EVERTON, MO

BROWN'S ANGUS

Choice young bulls; two heifers 2 yrs. old; several good cows. Also four extra Poland boars ready for service.
All Stock Registered
K. H. BROWN, - - BOLIVAR, MO.

JERSEY CATTLE

JERSEY CATTLE

Bulls ready for service. They are sired by the Owls Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

Jersey Cows

I want to sell 20 head of registered cows and heifers that are either fresh or soon will be. Also four young bulls.

J. B. SMITH Platte City, Mo.

SUNSET JERSEYS--TRIO

Two fancy heifers (both bred) and a fine bull, all of the famous Blue Belle—Golden Rosebay breeding. I will sell this trio for $250. This price cannot be equalled anywhere for such stock. Send for circular, description of herd, production etc.
The ENNIS STOCK AND DAIRY FARM,
Horine Station, Mo.
(Just south of St. Louis)

HOLSTEIN CATTLE

Dutchland Sir Hengerveld Rag Apple 99771

A few choice bull calves out of heavy producing dams sired by the above famous bull for sale.
BLACK AND WHITE FARM
Baden Station, Mo.
Tel. Colfax 1812 R. R. 30

IN MISSOURI

Eight bulls, 2 to 8 months, $100 to $175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.

S. W. COOKE & SON, MAYSVILLE, MO.

HIGH GRADE HOLSTEINS

I am offering a nice lot of well bred, high grade Holstein cows and heifers. Good strong individuals, nicely marked and priced reasonable.

E. L. ENSIGN - - Cameron, Mo.

HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndyke Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

M. E. Moore & Co., Cameron, Mo.

RED POLLED

RED POLLED CATTLE

HERD ESTABLISHED 16 YEARS

Young stock for sale at all times. Young bulls sired by Logan 13500. The dual purpose kind. Also Spotted Poland China spring boars and gilts.

M. L. SNYDER, - POLO, MO.

sow, Jumbo Wonder II. In King Jumbo Mr. Baldwin has a boar to be proud of, he is bred in the purple, is a splendid individual, showing an unusual combination of size and quality, but more important, he is proving to be a sire of first rank. The prices Mr. Baldwin is asking for King Jumbo spring boars make them mighty good buys. Mention this paper.

Percheron and Hog Sale

On Tuesday, November 9, N. S. Shackleford, of Gallatin, Mo., will hold a closing out sale of Percheron horses, Berkshire and Duroc Jersey hogs, at his farm, 4½ miles northwest of Gallatin, Mo. In this sale will be an opportunity to buy some of the best blood of the three breeds of live stock herein mentioned.

The Percherons are strong in the blood of Carnot, Mr. Shackleford having been a good buyer of the best, in Percherons. The Berckshires represent the blood of many grand champion sires and dams, the foundation having been purchased at Gregory Farm at White Hall, Ill. The Durocs represent the most approved breeding. The catalog will be ready to mail October 25. You should send for one. Kindly mention this paper.

Pawnee Price Boars

Look up the advertisement of J. F. Richards & Son, Bevier, Mo., in which they offer a nice lot of spring boars sired by their former herd boar, Pawnee Price. This great boar died this summer and the present crop of pigs will afford the last opportunity for farmers and breeders to secure his blood. Pawnee Price was one of the biggest quality boars the writer was familiar with. A boar by Pawnee Price will add size and bone and quality to any herd. These boars are priced so that the farmer can hardly afford not to own one.

The Austin Angus Sale

The dispersion sale of Angus cattle held by J. W. Austin at the Fairgrounds, near Carrollton, Mo., on October 5th, proved to be a good sale for both buyer and seller. A general average of $80 was made on the 104 lots sold, which included everything from calves to the herd bull. The cattle were taken off of pasture the Saturday before the sale.

Col. Igo did the selling and was assisted in the ring by Col. M. A. Judy, sale manager, and John D. Blackwell. Below is a list of the lots selling for $75 and over:

No. 1, Smith Arnold, Bosworth, Mo.	$135.00
No. 2, D. L. Sutherland, Windsor, Mo.	105.00
No. 3, Samuel Brown, Rutledge, Mo.	80.00
No. 4, sold with No. 14, O. D. Hitchings, Osage City, Kan.	150.00
No. 6, sold with No. 28, F. M, Frisby, Bethany, Mo.	125.00
No. 7, F. M. Frisby	85.00
No. 8, sold with No. 57, Smith Arnold, Bosworth	135.00
No. 9, A. McGehray, Mindon, Mo.	110.00
No. 12, with No. 45, S. P. Hughes, Vicksburg, Miss.,	135.00
No. 13, R. D. Barclay, Barry, Ill.	75.00
No. 15, sold with No. 81, W. P. Riley, Carrollton, Mo.	130.00
No. 16, O. D. Hutchings, Osage City, Kansas	80.00
No. 18, J. D. Blackwell, Fayette, Mo.	95.00
No. 21, sold with No. 98, Samuel Brown, Rutledge, Mo.	135.00
No. 23, Jacob Auer, Bogard, Mo.	130.00
No. 24, J. F. Davis, Greenwood, S. C.	105.00
No. 26, and calf, Samuel Brown, Rutledge, Mo.	140.00
No. 27, sold with No. 99, W. H. Cowherd, Norbourne, Mo.	125.00
No. 30, D. L. Sutherland	105.00
No. 31, Geo. C. Miller, Bosworth	110.00
No. 33, D. L. Sutherland, Windsor	95.00
No. 35, F. L. Shields, Tina, Mo.	120.00
No. 36, and heifer calf, W. H. Cowherd, Norborne	105.00
No. 37, sold with No. 43, D. L. Sutherland	110.00
No. 38, sold with No. 78, R. D. Barclay, Barry, Ill.	125.00
No. 39, O. D. Hitchings, Osage City, Mo.	85.00
No. 40, P. D. Barclay, Barry, Ill.	85.00
No. 41, I. J. Chapman, DeWitt, Mo.	120.00
No. 42, sold with No. 79, Rudolph Wise, De Witt	120.00
No. 46, W. H. Cowherd, Norborne, Mo.	100.00
No. 47, D. L. Sutherland	80.00
No. 48, Dan Welchous, Bosworth	90.00
No. 50, sold with No. 96, Jasper Aldridge & Son, Pattonsburg, Mo.	160.00
No. 51, Jacob Auer, Bogard	100.00
No. 52, W. P. Riley, Carrollton	100.00
No. 53, Smith Arnold	75.00
No. 56, R. D. Barcley	75.00
No. 59, W. H. Cowherd, Norborne	100.00
No. 60, D. L. Sutherland	105.00
No. 61, sold with No. 96, Jasper Aldridge & Son	100.00
No. 62, D. L. Sutherland	115.00
No. 64, W. H. Cowherd	140.00
No. 65, O. D. Hitchings	80.00
No. 67, W. H. Cowherd	140.00
No. 68, F. M. Frisby	75.00
No. 69, sold with No. 85, J. M. Harford, Carrollton	135.00
No. 70, Jacob Auer, Bogard	90.00
No. 71, F. M. Frisby	75.00
No. 72, R. D. Braclay	170.00
No. 75, Jacob Auer	80.00
No. 76, Henry Boyle, Bosworth	90.00
No. 82, W. H. Cowherd	135.00
No. 83, W. H. Cowherd	120.00
No. 84, Henry Boyle	80.00
No. 86, sold with No. 111, Wake Sylvester, Carrollton	90.00
No. 87, W. H. Cowherd	100.00
No. 88, J. S. Settles, Carrollton	115.00
No. 89, A. McGehray,	115.00
No. 104, C. E. Gorman, Wakenda, Mo.	80.00
No. 106, A. McGehray	75.00
No. 107, E. H. Quisenberry, Carrollton	75.00
No. 108, Cyrus Frazier & Son, Huntsville, Mo.	85.00
No. 109, C. W. Board, Bogard	85.00
No. 115, Geo. C. Miller, Bosworth	85.00

Bridges Bros.' Good Polands

Bridges Bros., Slater, Mo., are offering some rare values in Poland China spring boars, sired by Big Bob Wonder. Long Jumbo 2nd, Longfellow Sampson, Wonder Ex and other noted boars. The dams of these pigs are top sows purchased in several of the best sales last winter. Bridges Bros. are practical hog men in every sense of the word. They know how to breed and how to feed in order to get the size and bone so essential in breeding stock. We have seen this offering and know that our readers will like the kind Messrs. Bridges are producing and sending out—especially at the prices asked. Any one in need of a good herd boar prospect will do well to get in touch with this firm. Mention this paper.

Sutherland's Add to Their Angus Herd

At this recent dispersion sale of the J. W. Austin Angus herd at Carrollton, Mo., D. L. Sutherland & Sons, who advertise their herd in this paper, were among the heaviest buyers for the better sorts and secured many good bargains. Messrs. Sutherland have maintained their herd for over 30 years and are at all times on the lookout for opportunities to improve it. Just at present they have a very desirable lot of young stuff on hand that they are pricing worth the money. Included in the lot are most of the well known families.

Shorthorn Bulls and Heifers

June K. King & Sons are advertising a nice lot of Scotch topped bulls and heifers for sale at prices that should prove very attractive to Missouri Farmer readers. Messrs. King have one of the oldest and best known herd of Shorthorns in Missouri and were never in better shape to offer our readers good values than they are now with this lot of young stuff. When you buy from this firm you are assured of not only getting well bred stuff but you get a class of cattle that have made good for Messrs. King for over 30 years. The Peabody herd is maintained under good practical management. Mention this paper.

Col. Wonder Duroc Boars $25

At recent Missouri State Fair my herd won 35 ribbons—3 championships, 15 firsts. Col. Wonder sires my champions—he will sire them for you. Choice bred gilts. Spring boars by Col. Wonder $25 each. Send check in first letter. Nothing but the best sent on mail orders.

CHAS. L. TAYLOR - - - - - - - Olean, Mo.

Durocs With Size and Bone

I am offering a choice lot of early spring pigs with unusual size, bone and quality. Bred right and priced right. Visitors welcome.

A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

Duroc Boars For Sale

Anything from a 50-lb. weanling to a 500-lb. herd and show boar. We offer some first-class herd header prospects. Good strong boned farmers stock boars. Also gilts. I also have one 16-months and one weanling Shorthorn bulls. Write me your wants. Will try to please you—the price will be right. Over forty old customers are buying here because both prices and stock have been right. Write today for that boar. I have got him. J. E. WELLER, FAUCETT, MO.

A. NO. 1 DUROC SPRING BOARS

I am offering a few extra choice spring boars sired by ILLUSTRATOR and out of TATTLETALE 39th, junior champion International 1913. A few by CRIMSON CHIEF AGAIN. Write or come.
W. C. WATSON. - - - - - - NEW LONDON, MO

Duroc Herd Headers For Sale

Beauty's Model 152503, 1st Prize Senior Yearling, Missouri State Fair, 1914, a sire of unusual merit, Beauty's Model Again, a junior yearling of much promise, sired by Beauty's Model and out of Top Col dam, and a good line of spring pigs. For particulars address W. O. & B. A. SMITH, Thompson, Mo.

Prize Winning Blood Predominates.

Big type hogs with quality, plenty of bone, very prolific and early maturing, are found in

ADENHILL FARM DUROCS

Twenty big March, 1915, open gilts by the great Col. Wonder II from big, prolific sows, now selling. They will prove profitable additions to any herd.

R. L. HILL, Adenhill Farm Columbia, Missouri

Hazelwood Durocs

Seventy choice spring boars and gilts sired by HAZELWOOD CHIEF, by CRIMSON COL., and out of OHIO CHIEF bred sows. Get our prices.

E. P. POWELL & SON, Maryville, Mo.

150 Duroc Boars and Gilts

February, March and April boars and gilts sired by Golden Tat, Bob's Col. Wonder, Col. Wonder and Professor's Col. Stretch, size, bone and quality. Priced for quick sale. Write or come.

J. E. McPherson, Columbia, Mo.

75 Duroc Spring Boars and Gilts

Seventy-five (75) good boars and gilts. Rich breeding, and plenty of size and bone. Pairs, trios or more. Priced to sell.

J. C. Garrard & Son, McBaine, Mo.

HAMPSHIRES

Brookview Hampshires

Herd headed by GEN. TIPTON and SIR BROOKVIEW, both grand champions. Spring boars and gilts of choice breeding and individuality. Prices reasonable.

ISOM J. MARTIN, R 5. Lancaster, Mo.

CHESTER WHITES

RAUSCHER'S CHESTER WHITES!

Big, stretchy, heavy boned, March and April boars and gilts sired by Combination Giant, Mo. First and others. Pairs, trios or more. Prices reasonable and pigs must satisfy.

H. Rauscher & Son. Kahoka, Mo.

O.I.C.'s or Chester Whites

Express prepaid on O. I. C. and Chester White spring boars. Write for prices.

W. P. DOOLITTLE
WOODLAND, MARION CO., MO.

100 Prize-Winning O.I.C's

Our herd is headed by grand champion and champion boars of 1914 shows. Sows of equal merit. All backed by long line of prize winners. Early pigs, singles, pairs or more not akin, at rock bottom prices. We can please you. Write or come.

S. D. & B. H. FROST,
Box H Kingston, Mo.

SHORTHORN CATTLE

Shorthorn Bulls and Heifers

PEABODY FARM now offers 12 choice young bulls and 20 heifers. Good individuals; reds and roans. Priced to sell. Also 20 open BERKSHIRE gilts. Get our prices.

June K. King & Son Marshall, Mo.

WILLIAMS'

Closing Out Sale of Big Type Poland Chinas

Well Known Missouri Breeder to Disperse Entire Herd At SILEX, MO.

THIS GREAT POLAND CHINA BOAR GOES AT YOUR PRICE

THURSDAY, NOV. 18TH

THE OFFERING INCLUDES

LONGFELLOW SAMPSON—A massive three-year-old boar by Big Sampson, dam Lady Longfellow. Sold through no fault. Guaranteed. A great boar like this could only be purchased through a dispersion sale.

8 ROOMY SOWS—Yearlings to three-year-olds. Sired by Longfellow Sampson, Big Sampson, Blue Valley Expansion, Hadley Blain and Chief Price Jr. These will be bred.

40 BIG SPRING GILTS—Best I ever raised and best you can buy. Sired by Longfellow Sampson, Price Wonder, A Wonder and Major Look. Sold open. A fine growthy bunch and just right to breed. Are of February, March and April farrow.

14 SPRING BOARS — By Longfellow Sampson, Major Look, Price Wonder and A Wonder. These are big and growthy. Herd headers here.

AN A WONDER BOAR—We had intended to keep him, but as this is a closing out sale he goes.

The above mentioned boars and gilts are out of dams by Big Sampson, Pawnee Nelson, Monarch Big Bone, Expansive Quality, W's Wonder, Hadley Blain, Blain's Wonder, Longfellow Jr., Long Scamp and Blue Valley Expansion. I cannot tell you too strongly of the quality of the female end of the offering. You will be pleased with them.

REMEMBER: This is a closing out sale and the best goes. Write for the catalogue. There will be something in this sale that you will want.

W. E. WILLIAMS - - - SILEX, MO.

R. P. ROYCE, The Missouri Farmer

COL. R. L. HARRIMAN, Bunceton, Mo., Auctioneer

BAKER'S HERD BOAR SALE

RICH HILL, MISSOURI, MONDAY, NOVEMBER 15, 1915

35 Top Poland China Boars and Gilts

On the above date I will sell 35 head of very superior spring and fall boars and gilts from my well known Maple Grove Herd, Included in the offering will be several prize winning boars and among them will be

Junior Yearling Champion Boar

I am selling the great litter by KING JOHN 64099 and out of the grand champion sow of 1913. This litter contains a grand champion, a second prize junior yearling and three other prize winners. Here is your herd boar material. SIZE and QUALITY and PROLIFICACY.

15 EXTRA GOOD SPRING GILTS—Sired by KING JOHN and KING HADLEY and out of my best sows.

EVERYTHING IN THE OFFERING IS IMMUNE. Send at once for Catalog. Mention this paper. SALE IN TOWN.

W. Z. BAKER - - - - Rich Hill, Mo.

Clyde Robbins, Auctioneer **R. P. Royce, Fieldman**

College of Agriculture Offers Livestock For Sale

The department of Animal Husbandry of the College of Agriculture makes an interesting announcement on page 13. The department offers the buying public a choice lot of Poland China and Duroc breeding stock, and also a pair of Percheron brood mares. From time to time the various herds afford a surplus of breeding stock which must be sold.

In the way of Poland Chinas the department is offering 7 big, heavy boned, husky spring boars, sired by the herd boar, Shattack's Standard, and out of some very high class sows carrying the blood most popular in Poland China circles. Spring gilts, litter mates to above boars are also in offer, as well as a number of bred sows.

Some exceptional values are also to be found among the Durocs for sale. A yearling boar by a son of Col. Wonder is a good buy, and the spring boar by Beauty's Model Top, the three time champion, and out of a full sister to S. & C's Valley Chief, grand champion boar at Sedalia and St. Louis this year, is hard to beat. There are also a desirable lot of spring boar and gilts sired by Rexall Col. by the great boar Select Col. There are several useful and attractive spring yearling gilts sired by Tatarrax Again and Col. Wonder 4th that will be sold either open or bred. In addition to the above stuff are a number of tried sows that can be bought worth the money. The department also is pricing for quick sale a pair of Percheron mares. These mares are 4 and 7 years old, one a black and the other a grey. Both have raised colts and are again in foal to the Stallion Honorable, one of the best Percheron stallions owned in Missouri and a sire of demonstrated ability. These mares are offered for no faults but simply because the department can not use them to advantage. They are priced to sell. Here is a splendid chance for some one to get into the Percheron business with a little capital. Address all letters to the department of animal husbandry, College of Agriculture, Columbia, Mo. We would suggest to those of our readers who may be interested that they lose no time in writing as this stock will not remain unsold very long. It is worth something to be able to tell your neighbors that your livestock came from the College of Agriculture.

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Hog Stunted by Worms

I have done it for thousands of farmers and stockmen—I am doing it every day—I'll do it for you. All I ask is the privilege of sending you enough SAL-VET to last all your stock 60 days. If it doesn't do what I claim, I'll gladly cancel the charge. Don't stand by and let worms kill off your pigs and lambs. Don't let your hogs and sheep contract diseases and die. Don't let your horses and cattle continue gaunt and thin-looking as if fed on straw. Get rid of the blood-sucking worms that are stealing your feed and eating up your profits, and even sapping your animals' lives away. I'll rid your stock of these dangerous parasites—I'll do it quick if you'll just fill out the coupon below and mail it to me today.

Look Out for Worms!

Don't let stomach and intestinal worms kill off your lambs and pigs this year. Get the best of these deadly pests before they get the best of you. Now is the time to deal them a death-blow. Don't wait until they multiply by the hundreds — until your lambs and pigs are being eaten up alive. Accept my liberal offer; send the coupon today. Let me rid your stock of worms before you risk a penny. Read this letter:

"My lambs were so sick with worms they could hardly walk. One of them was nearly dead. I never expected it would live. After feeding them SAL-VET they got better and are all well and lively now."

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Lamb Afflicted With Worms

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Just fill out the coupon—tell me how many head of stock you have and I will ship you enough to last all your stock 60 days. You pay the freight charges when it arrives and feed it according to directions. If SAL-VET does not do what I claim and you make a specific report in 60 days, I'll cancel the charge, you won't owe me a penny. Address:

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Ship me enough SAL-VET to last my stock sixty days. I agree to pay the freight, feed it as directed, and will then pay for it if it does what you claim. If it fails, and I so report specifically in 60 days, you are to cancel the charge and I will owe you nothing.

I have.....hogs.....sheep.....horses.....cattle

Name.....

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THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE AND THE MISSOURI EXPERIMENTAL STATION

Let Us Be Thankful

In a few days the annual day of Thanksgiving will have arrived once more and while, as in other years, the most of us have had our share of lights and shadows since last we gathered around the family festal board, yet never has there been a time when, as a Nation, we have had more cause for solemn rejoicing than in this blessed year which will soon be a part of the recorded past.

That some of us have gathered rich harvests while others have come under the ban of the unkindly elements—these are things which the hour glass of time decrees with indiscriminate hand upon the just and the unjust—and there is aught left for us to do but to take up our burdens anew in the hope that the tomorrows of the future may be more kindly and considerate. After all, more important than all else is the health of ourselves and our loved ones—and so long as the good God on high grants us this boon, what matter the disappointments which merely have to do with dollars and which stout hearts can overcome in the sunshine of the days which await us just a little way around the corner? After all, red cheeks, a good digestion and a clear conscience are the real priceless gems of life—and the man who posseses these is a thousand times richer than he, who, with sunken cheeks and palsied hands hugs a bag of gold to his wheezing breast.

In the meantime, let us be profoundly thankful that the angel of peace still reigns within our borders and that no boom of angry guns reverberates through a land where neighborly love and wholesome thrift have not yet been poisoned by the frenzy of war which is grinding beneath its ruthless heel the best there is in European civilization—where liberty and love of principle have not yet surrendered to selfish ambition for commercial and territorial advantage—where it is still believed that nations as well as men should follow the holy mandate and "do unto others as they would be done by."

Let us hope that in the future as in the past our Ship of State may remain anchored in the peaceful haven in which it has so long reposed—that it will not be necessary for us to turn our attention from the quiet pursuits of our farms and factories to the business of building armies and navies and that in the saner moments of tomorrow the great powers across the seas may see the pitiful folly of a strife which is fast robbing them of the flower of their manhood and piling up billions of debts which will hang like a mill-stone about the necks of generations yet unborn.

To the furtherance of these ends, may He Who rules on high help us to bear with fortitude the insolence of those who dare to flaunt our National self-respect until the time when cooler heads once more rule in the councils of the World—for in that solemn hour no nation will dare tempt the just anger of the more than one hundred million souls who swear allegiance to the American flag.

From Plymouth Rock to the present hour there is no blot upon the fair name of our beloved Country. When we fought for liberty and at other times when we passed through the throes of writing certain great principles into our National faith with the point of a bayonet, we gave evidence of a splendid heroism which owes no apology to those who breathe the polluted atmosphere of foreign courts where statesmanship measures its accomplishments by the success of its intrigues, deceptions and bribes and where the sword is the weapon of avarice and greed rather than the instrument of broader human rights. All we ask is the untrammeled privilege to work out our destiny in our own way here in this land which was paid for and consecrated by the blood of our forefathers—and God grant that we may never be compelled to insist upon this right at the point of our swords which every true American hopes may remain in their sheaths for a hundred years to come. In conclusion, let us hope that ere another Thanksgiving day shall come the shepherd will have returned to his flocks, the spinner to his loom and that the Savior's benediction of "Peace on Earth, good will to men" may once more rule in the hearts of all mankind. —By the Author of After-Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VII NOVEMBER 15, 1915 NO. 22

WILLIAM HIRTH
PUBLISHER

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WORN BY MEN THE WORLD OVER

The Missouri Farmer's Market Club ought to be able to help you find a market for your surplus stuff as well as save you money on many of the things you need to buy. If you are interested write us for particulars.

THE LAND QUESTION AND FARM CREDITS

What to do for our landless farmers has become a most perplexing national problem. Everybody seems agreed that they should be turned into home owners. Everybody seems agreed, also, that absentee landlordism and its attendant evils, should be purged from American life. But when it comes to the "How," and when we must choose as to what means are to be adopted, confusion results, and a thousand tongues are heard in the land.

Yet the American nation must fix upon some policy; for the time-worn custom of considering this matter a personal problem for the individual farmer has failed.

Land ownership has rapidly moved toward concentration; absentee landlordism has sprung up, and a restless, floating landless class is wandering about over vast areas of farming country, shifting their homes from year to year.

In the twenty-five states which produce most of the perishable products, the grain, and the cotton of America, there are 2,5000,000 tenant farmers.

In the last ten years in both Texas and Oklahoma the percentage of increase in tenant farmers over the increase in land owning farmers has been two to one. In the states of Alabama, Arkansas, Tennessee, Georgia, Louisiana, Texas, Mississippi, South Carolina, North Carolina, Missouri, Kentucky, Indiana, Nebraska, Michigan, Wisconsin, Minnesota and California, there has been an actual increase since 1880 of 994,361 tenants, while home owning farmers have increased but 606,755.

In the state of Illinois, Iowa, Kansas, New York, Ohio and Pennsylvania tenant farmers have increased by 121,-167, while the number of home owning farmers has actually decreased by 62,915.

The figures are alarming, and present a grave problem when we consider that out of the 2,354,676 tenant farmers in the United States in 1910, 2,188,586 were found in the twenty-five richest states. The last federal census shows that the percentage of tenant farmers had increased from 25.6 in 1880 to 37 per cent in 1910. In the light of this information, absentee landlordism appears as a menacing problem of nation-wide significance. How to make it possible for the renter to acquire and pay out the farms of the country must surely become a matter for the consideration of statesmen; for it is a question which cannot be determined without the aid of legislation. How immediate is the need of legislation the tenant farmers know. What complications arise are often felt by the whole people.

The shifting tenant is a great menace to the formation of a successful marketing society. The cards of fate also are stacked against his becoming a home owner, under present arrangements for short time purchase at high interest rates. Yet the tendency continues toward a more complete domination by absentee landlords.

How to check this unwholesome tendency, and how to start corrective forces, will be discussed along with other kindred problems by those who take part in the Third National Conference on Marketing and Farm Credits to be held at the Hotel Sherman, Chicago, November 29 to December 2. At the Conference economists, farmers and bankers representing every section of the United States will join in an effort to frame rural credits legislation intended to encourage renters in acquiring farms.

Fortunately, the United States has the experience of European countries to guide it. Indeed, at the coming Chicago conference the story of what co-operation has done for Ireland, is to be told by Sir Horace Plunkett, Dublin, Ireland, founder and president of the Irish Agricultural Organization Society. David Lubin, American delegate to the International Institute of Agriculture, Rome, Italy, will describe continental conditions and constructive programs. Dr. John Lee Coulter, Dean of the College of Agriculture, University of West Virginia, former expert in charge of the United States Federal Agricultural census, will handle this problem of the landless man in its general American aspects. At this meeting also I expect to make my first public report of my investigation of the administration of land purchase systems in Ireland, Scotland and England.

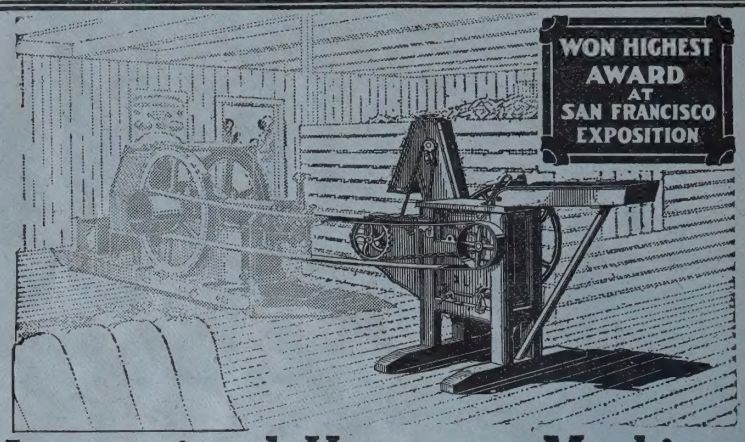
In a majority of cases, the tenant farmer is the left-over man of progress. His business ability and his intelligence are not so great as that of his more prosperous neighbor who owns a farm. But his lesser capital and inferior borrowing power are greater hindrances.

The tenant of the South lives in an unpainted, unsanitary, miserable shack. Poverty and usury force him to a sad and soggy existence. His little children are doomed to the fields with little hope of the future. The whole family toils; and when the year is over they survey their hopeless situation, load their goods into a covered wagon, tie the cow to the back of the wagon and drive to another country to try again. And who can blame them? The family has lived through the year on less than $90 a piece.

This great mass of shifting tenantry constitutes a menace to agricultural prosperity and a chief hindrance to the adequate and distribution of farm products. No device has yet been found equal to organizing them for the business-like marketing of their products —that is no device which will keep them organized.

The conference, November 29 to December 2, will have done a great work if the workers only thresh out that one question—how to turn landless men into land owners.

Charles W. Holman,
Secretary of the National Conference on Marketing and Farm Credits.



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The **Keystone** corn sheller is made in 1, 2, 4 and 6-hole sizes, to operate by hand, horse, or engine power. The one-hole pony shellers, in steel and wood styles, find a profitable place on farms of all sizes. The larger shellers are sold, mounted, unmounted, or down, for use on trucks or on barn floor.

Keystone corn shellers are noted for durability as well as clean shelling. You'll make no mistake if you buy a Keystone. See the I H C local dealer who handles them, or drop us a line and we'll send you our booklet, "For Better Crops," containing the opinions of experts on corn raising, and full information about the **Keystone** corn sheller.

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LYON'S PRACTICAL FARM PAPERS

We, that is "me," took a contract with myself to put in a couple thousand ears of stalk selected seed corn by or before October 1, besides helping the boys house some 6,000 sticks of tobacco; and while I did not get quite 2,000 ears in by the date set, I have the nicest lot of seed I ever saw.

Somebody got to talking about extra big ears, and I told him that as I planted for a heavy yield of ears above medium size, I did not have many extra size ears; then, again, as the stalk the ear came from, and its position on that stalk cut quite a figure in seed selection, I was not competing with the man who planted two grains in hills four feet apart each way.

The mice got at some of our seed ears, and as I was rehandling some 700 ears the other day when it was raining, I did some measuring and counting. Among the 700 ears I found 25 more than a foot long, 50 eleven inches long, 100 more than ten inches long, the rest ranging down to nine inches, very few being that short, and nine and a half inches is the shortest ear admitted to a show sample of Johnson County White Corn.

In town the other day a man to whom I sold seed in 1913, told me that he had hundreds of ears that were more than fourteen inches long, and I told him that I would take 100 of these at 5 cents an ear, but I am afraid they will never be delivered.

Going over my seed I put aside that which I intend to use next spring and I am not taking all of the largest ears neither am I so very particular about every ear having a perfect tip. Our fair is on this week, Oct. 4-9, and it is said that the large hall will not hold all the produce to come.

October 11—The fair is over, 10,000 persons passing the gates on each of the last two days. The show of corn was especially fine, but my man failed to find many fourteen-inch ears; the largest sample being of six ears, each thirteen inches, and the second largest six ears twelve inches long. I have seen ears that all measure more than thirteen inches.

As I am the officiating judge at our fair, I do not exhibit, but I hung up a sample of fourteen eleven-inch ears for the boys to see, and while there was other good corn at the fair I had them all beaten.

Heard at the Fairs

"Gee whiz! Bill, I have got 100 bushels of corn at home that will beat any I see here."

"Well, well, call them good apples? Why, Sam, we feed bigger apples than them to our hogs."

"Just watch that there corn judge. He put the blue ribbon on Tom Smith's corn, just because Tom paid $4 a bushel for his seed."

"I swear, fairs ain't what they used to be, for forty years ago, when the town was wet, I have seen a dozen fist fights in one day."

"By heck! Joe, let's don't come tomorrow. Let's get on the car and go to the city whar there is something goin' on, and we can git some beer."

Reported just as heard.

C. D. Lyon, Georgetown, Ohio.

The Missouri Farmer

VOLUME VII NOVEMBER 15, 1915 NUMBER 22

The Hour For Action Has Come

By William Hirth, Publisher

Not in years — if ever — have the Packers given a more brutal exhibition of power than several weeks ago when, within the short space of 48 hours, they smashed the price of hogs over one dollar per hundred. That there was neither rhyme, reason nor justification for this sudden upheaval in the hog market of course goes without saying—and it must be said to the credit of the brigands responsible for it that they have made no attempt to explain it. As a matter of fact, the farmers of the United States ought at this time to be enjoying the most substantial and steady prices for hogs and cattle they have known for a long while and were they permitted to reap the benefit of the normal laws of supply and demand this would undoubtedly be true. As Mr. Ellis pointed out in a recent editorial, in the eight months preceding the outbreak of the European war we exported $81,000,000 worth of American meat products while during the first eight months following the war we exported $174,482,000 worth—or an increase of $93,482,000—and since these figures were made public by the Government, many millions have been added to the credit side of our trade balance on meat exports. Does any sane man believe we would be threatened with a range of six to seven cent hog prices if farmers were permitted to reap the benefit of this tremendous increase in the foreign meat demand? When the unusual demand for American guns and cartridges turns Wall Street upside down and precipitates a wild speculation running into the hundreds of millions of dollars, should not the same unusual foreign demand for the products of the American farmer stiffen rather than depress the price of his commodities?

An Unjustifiable Assault

Furthermore, it cannot be explained on the theory that there has been a sudden or unusual decrease in the home consumption of meats because with the great steel plants which are turning out war munitions running at capacity, there is unquestionably a greater demand for labor than we have known for some time—and hence there unquestionably is also an increase rather than a decrease in the demand for meat among our own people.

While it is impossible for the average man to know exactly what is transpiring behind the scenes, to a man up a tree it looks as though the Packers waited until they had the contracts for the winter's European meat supply safely tucked away in their pockets—and then, as soon as the recent loan of $500,000,000 was made available for the Allies, started in by a common signal to hammer down the price of hogs in order that they might buy the winter's meat supply for the European armies who have access to our markets at the lowest possible dollar. That this substantially represents the true state of affairs there is little question—and it all goes to show how helpless the farmer is to protect himself against those who prey upon his sweat and toil under existing conditions. Thousands of farmers in the Corn Belt and elsewhere lost money in their feeding operations last winter and it now looks as though we will be compelled to repeat the performance again this winter—and this in view of the fact that we are in the midst of the greatest foreign demand for American meats we have known in a long while.

Facing a Grave Crisis

As a matter of fact, not one farmer in a thousand realizes how serious the present situation is and how gravely it menaces the future of the average farm home. In short, we have reached a point where the Packers are in practical control of the food products of the Nation. The raising of live stock is the very corner stone of American Agriculture. For years the farm papers and other capable Agricultural authorities have advised the farmer to turn more to live stock farming in order to maintain the fertility of his soil and by this means to obtain a better price for the crops he produces —and yet, squarely in the path of this necessary policy stand these industrial vampires who arbitrarily fix the price which the farmer shall receive for his cattle, hogs and sheep, while on the other hand they fix the price which the millions of American consumers shall pay for meat over the butcher's counter. By fixing the price of hogs and cattle, they automatically fix the price of corn and other feeds which, in the last analysis, must depend upon what the animal brings which consumes them. But this isn't all. In like manner they also dictate the price of Poultry products—eggs, chickens, turkeys, geese, etc., and as evidence of this fact, in nearly every cross-roads town and hamlet in Missouri, as well as in other states, there is a buyer for one of the big Packing concerns and this buyer fixes the price which the local merchants shall be permitted to pay for the Poultry products of that particular community. Likewise, their grip is slowly but surely tightening on their control of the butter situation by means of large centralized creameries which have already forced many small, independent creameries out of business. Only recently the Supreme Court of Missouri fined Swift & Co. $5,000 for its unfair methods of competition in this field—and likewise suspended an ouster shutting the concern out of the state pending its promised good behavior. Ever alert to every phase of the situation, the Packers have been buying up many of the cotton-seed mills in the South in recent years in order that they may be in position to wield a large measure of control over this product which is rapidly becoming a big factor in beef production.

Again, there are few if any more powerful figures in the Wheat Pit than Armour, who it is alleged has been one of the chief agents for the Allies in the filling of foreign wheat contracts—and for years he has been one of the dominant factors in the American wheat situation.

A Great and Vital Issue

Thus, in position to tell the farmer what he shall receive for his cattle, hogs, sheep, poultry and butter and powerful factors in determining the price of his wheat, are not the Packers in practical control of the great essential food products of the Nation and do they not today constitute the gravest menace confronting American Agriculture? On the other hand, do they not equally menace the well-being of the millions who toil in our large cities and who have no appeal from the prices which these influences establish for the things that hold body and soul together? Is not here your real answer to the cry of the "high cost of living" which is everywhere abroad in the land? Can not the farmer present an unassailable "alibi" when he cites the fact that the products which he sells for one dollar cost two dollars by the time they finally reach the table of the consumer? Can there be any greater issue before the American people than the one which seeks to break the strangle hold which these vampires maintain today upon the throat of the farmer and consumer alike? Does it not transcend in importance the question of a greater army or navy? Is it not well to pay some heed to the foes who threaten us from within as well as those who may menace us from without?

Time for Action Here

That the time has come when farmers must organize themselves together and stand shoulder to shoulder as never before is so manifest that it is a mere waste of words to dwell upon it—for the present condition of affairs hangs like a dark pall over the threshold of every farm home in the land and upon its solution depends not merely the future welfare of American Agriculture but that of the millions who toil in shop and factory. Farmers are helpless only because they themselves have consented to be helpless. For years we have followed the blind and foolish policy of "everybody for himself and the Devil take the hindmost." We have boasted of a stupid "independence" which has finally led us into a situation where we are economically bound hand and foot—which is driving thousands of our brightest country boys and girls to the already over-crowded cities with their pitfalls of vice and crime—which is rapidly increasing tenant farmers and decreasing rural population—which is taking the heart and the hope out of farm life because the laborer, however courageous, finally tires when there is

THE GREAT ISSUE

There is and can be no greater issue before the American people than that which seeks to break the strangle-hold of monopoly upon the Nation's foodstuffs—than that which, on the one hand, seeks to emancipate the farmer from a condition of servitude which hangs like a dark cloud across the threshold of every farm home in the land and which, upon the other, levies an unholy tribute upon the things which hold body and soul together for the millions who toil in shop and factory. Monopoly in any sphere where the law of supply and demand should prevail is reprehensible but when it lays its unclean hands upon the things men and women must eat it is damnable—an arch crime against society.

The farmers of the United States—whose calling is the hope of the Republic in the years to come—resemble a sleeping Hercules who is chained and helpless only because he has been indifferent to his latent power and his duty to himself, his loved ones and to society. That the men who produce the Nation's foodstuffs cannot dictate the channels through which these foodstuffs shall pass in reaching the consumer—that once they make up their minds to stand shoulder to shoulder they cannot free themselves from the industrial vampires who now levy their "pound of flesh" upon producer and consumer alike—this thought is as absurd as it is false.

The great crying need of the hour is for a "farm leader" in every school district in this great state—for a farmer with vision and heart and soul who will go to his neighbors and arouse them to the patriotic duty which calls to them through the silent tongues of the fields, barnyard and feed lot. Let us see to it that ere the winter's snows disappear a hundred thousand stalwart, fearless, determined Missouri farmers shall be banded together in a powerful, statewide farmers' organization—and then let us ask the farmers in other states to do likewise and gird on the armor in this great and good fight upon the outcome of which depends not merely the freedom of American Agriculture but the wellbeing of the millions who struggle in the crowded and smoke-begrimed cities.

no reward for his sweat and toil out under a summer's pitiless sun or out in the winter's biting cold.

As the man who feeds and clothes humanity, the farmer is entitled to at least the intelligent production cost of the things he produces—and this he is not receiving at this time nor will he receive it so long as present conditions are permitted to exist. Is there a way out? Is there a remedy? Beyond the slightest question there is, for as we have said before, the farmer is shackled only because he himself has held out his hands while a small coterie of industrial brigands have welded the fetters that bind him. As the producer of the Nation's foodstuffs he has it in his power to say through what channels these foodstuffs shall pass in reaching the consumer—**and here is the key to the whole situation and here is where the blow must be struck which will shake off the strangle hold which monopoly now maintains upon the farmer and the consumer alike!**

Organization—the Only Hope

Suppose that out of the 277,000 farmers in Missouri, 100,000 of them were banded together into a powerful statewide farmers organization and then suppose their efforts were supplemented by a similar organization of 100,000 farmers in Iowa, Kansas, Oklahoma, Nebraska, Illinois and Indiana? Does any one doubt that such an organization comprising 700,000 determined farmers in these seven great Corn Belt states would not almost instantly become a tremendous factor in the present situation and that, acting together, they would constitute a more powerful force than American Agriculture has ever known before—that, standing shoulder to shoulder, they would soon represent a power which could mark out a path of deliverance from the ills which beset us at this time?

The American farmer is a sleeping giant and once he becomes aroused, no set of men, however well intrenched through years of undisputed monopoly, or however resourceful in money, can prevent him from dominating the things which he himself produces and which the toiling millions in the cities must have in order to live and upon which no gang of conscienceless conspirators should be permitted to levy an unholy tribute. But in order to accomplish these ends we must shake off the lethargy which enthralls us. We must quit drifting aimlessly with the current. We must cease to labor merely with our hands. Opposed to us are shrewd, resourceful men who think and act—and so likewise, we must think and act as never before and upon the manner in which we do these things depends the future of the American farm home and that of the little ones who play around our firesides today.

Are You Ready to Act?

Heretofore, the farm organizations scattered here and there have devoted themselves chiefly to social matters and a discussion of farming methods —and while such objects are very necessary and splendid, yet in the present crisis we must have an organization much farther reaching and more serious in its aspirations than this; we must, in short, boldly and fearlessly take in hand the marketing of the things which the farmer produces—and this must be a battle cry to which farmers may rally in every nook and corner of the land. The first essential step is to organize a "Farm Club" in your school district. Call a meeting of the patrons of your district as soon as possible and see how many farmers will agree to become members. We have recently prepared a circular which tells you how to proceed and we will gladly supply copies of it upon request. As soon as 15 or 20 of such clubs have been formed in your county, a county convention of farmers should be called and at this time some strong, alert and progressive farmer should be named as president of the county organization—together with an executive committee of half a dozen good farmers from each township. This will give you the machinery through which your county can be organized from beginning to end—and as soon as 25 or 30 counties have been aroused in this fashion we will be ready to perfect a state organization. Acting upon suggestions contained in recent articles in The Missouri Farmer, many of our readers have already shelled off their coats and many school district "Farm Clubs" have been formed—or are in the process of formation. As soon as the movement is under good headway in your county we will help to supply able speakers who can assist in the final work of organization—but in the meantime there is no reason why farmers should not, of their own volition, come together and agree to organize school district "Farm Clubs" in order that these preliminaries may be out of the way and so that the speakers may take in hand the heavier work which lies ahead of us. There is no time to lose. The hour has struck when we must act. Too long we have been indifferent—and upon the outcome of this great issue depends the future prosperity and happiness of yourself and your loved ones.

Let's see to it that Missouri leads in this great fight in which is involved the emancipation of the American farmer and consumer alike. Before the winter is over, let there be not less than 100,000 Missouri farmers banded together in a great state-wide organization of "Farm Clubs"—and then let's ask the farmers of other states to join in with us. In conclusion, write us at once for literature which will aid you greatly in perfecting a "Farm Club" in your district. The crying need of the hour is for a "farm leader" in every school district in the state—and if you, my friend, are willing to gird on the armor in this great cause, you will find The Missouri Farmer squarely at your back, willing to help and advise with you every step of the way.

Anything to Sell or Buy?

Have you any surplus feeders, hogs, sheep or dairy cows to sell? Or have you some corn, hay or oats which you would like to dispose of to farmers who may be in need of it? Or have you any farm implements in a good state of repair which you can no longer use? Will you have good seed corn, alfalfa, cowpeas, timothy, bluegrass, clover or other good farm seeds for sale? If so, please write the full particulars to The Missouri Farmer at once. On the other hand, if you want to buy any of the above items, if you will let us know, te chances are we can put you in touch with farmers who have them for sale. We often get letters from farmers who want to buy certain things and it is always a pleasure for us to bring buyer and seller together. We are especially anxious to hear from farmers who will have good farm seeds of one kind and another for sale during the coming winter. We have recently heard from one of our subscribers who is in the market for a good span of Percheron brood mares from six to ten years old. So, too, we have had numerous requests from farmers in Southern Missouri who want to buy good dairy cows—so whether you have live stock, feed, seed, farm implements or anything else needed on the farm for sale, write us the full particulars at once.

TO SAVE LOSS IN STORED MANURE

About the most important product of the farm is manure and yet there is possibly less real knowledge about how to handle it so as to get the most value out of it of any other one thing the farmer must handle every day in the year. Manure should be considered the first money crop of the farm because we think that a careful investigation will show that on the average farm where any considerable number of live stock are kept the potential value of the manure produced if used to the best advantage is greater than most any crop marketed. Many farmers who appreciate the importance of saving and applying all the manure produced do not understand what a great loss there is in the present methods of holding the manure before it is spread on the land. Some valuable information is given in the following article from Dr. R. H. Carr, Indiana Experiment Station in the Purdue Agriculturist for November:

"There never has been a time," says Dr. Carr, "when such keen interest in intensive farming and conservation of resources has been shown as the present. Yet many of our farmers are continuing to draw upon the deposits of past ages and to waste manures. The store of available plant food is already insufficient in many soils to meet the requirements of the crops. As we look back and consider those who have made a financial success of farming, we usually find they were the men who conserved all available plant food, with the result that each year their acres yielded a little more than the year before. Many factors played a part in their success, but the important one always was that they guarded their manure from waste about as carefully as their money. Today a well kept manure pile is an indication of a successful farmer. It is not the purpose of this paper to advocate the use of manure as it has been used successfully for more than two thousand years but, rather to emphasize the fact that rapid loss occurs in this valuable farm product and to point out the best methods of preserving it.

Manure Is Very Unstable

"Manure contains a large number of bacteria and molds which cause decomposition to commence as soon as it is produced. It is a difficult matter to check completely the work of these organisms, hence under the most favorable storage conditions the loss may amount to 15% or more of the total nitrogen. This loss, which is greatest in loose piles of manure, is due largely to bacteria, (aerobic) which require free oxygen. They break down the nitrogen in urea, etc., by adding water and thus producing ammonium carbonate which is a very unstable compound and allows the ammonia to escape into the air. The bacteria (anaerobic) in manure which use oxygen in the combined form are not as destructive but are rather useful, producing mainly putrefactive changes in the carbohydrate materials. Thus, when they act on straw, it shows a dark color, shrinks in bulk, the temperature rises somewhat, and it soon becomes a well rotted mass. If the manure is loose and dry, molds tend to develop and cause a loss of nitrogen as well as non-nitrogenous compounds. This is usually evidenced by the white powdery substance which collects, especially on horse manure and is called "fire-fanging." It has been shown that manure stored loosely for 5 months loses 53% of its organic matter and 34% of its nitrogen, while in the same time, well compacted manure loses about 28% of its organic matter and about 15% of its nitrogen. Hence it is important to keep manure wet and well packed to avoid needless waste.

Methods of Preserving Manure

"There is no doubt but that the best place to preserve manure is in the soil, but, since it is not always practicable to haul it out and spread it over the field daily, many different chemical methods have been used in order to check fermentation. The following substances have been found more or less successful: Kainit, gypsum, rock phosphate, acid phosphate, sulphuric acid, salt, etc. Since manure contains only a small amount of phosphorus, it has been found most profitable to reinforce and preserve it with some phosphate, especially acid phosphate. Rock phosphate has also been found to be very efficient when mixed with fresh manure. In a test at the Ohio station the first produced a crop increase equal to four dollars and eighty-eight cents a ton and the latter, four dollars and forty-nine cents a ton. It would seem, therefore, if these figures are correct, that one could hardly afford not to use one of the phosphate compounds on fresh manure.

Storing Manures

"Since it is often impracticable to haul manure to the field daily, various kinds of storage are used to control the loses from leaching and fermentation which seriously affect not only the nitrogen but the phosphorus and potassium as well. The following are the important ones: deep stalls, composting, manure pits and covered yards. In the mind of the writer, the last method seems the most practical, especially when any considerable amount of manure is made. The covered shed protects the manure from the rain, thus preventing the alternate wetting and drying which cause destructive fermentation. The cattle and hogs tramping over it make it compact and moist to the right degree. Thus the shed serves not only to protect the manure from leaching and fermenting, but also the stock from the storms and provides a dry storage place for straw above. The loss of plant food in this method is small, especially if the shed has a cement floor.

Value of Farm Manures

"If we judge the value of manure by its nitrogen, phosphorus and potassium content, averaging 10, 5, and 10 pounds per ton respectively, it would have a market value of about two dollars. But this is not sufficient data on which to base its value as it gives no credit to its physical and bacteriological properties which are about as impotant as the chemical in all but muck soils. A ton of manure will carry about 500 pounds of organic matter which will tend to make more plant food available when it decays in the soil. This amount of organic matter will warm and aerate a clay soil so that its productiveness will be greatly increased over what it would have been by the addition of only the plant food elements contained. The bacteria added in the manure also play an important role, as manured soils have shown much greater production of nitrogen in available form than unmanured soils. This is probably due to the work of millions of bacteria which the manure carried. There is a close relationship between the lower forms of life in the soil and the growth of the higher forms of plants. Hence the value of manure must be considered from a three-fold aspect,

namely, chemical, physical, and bacteriological, each playing an important part, not for one season only but for many years."

THE MISSOURI LAND BANK

The last Legislature passed an act which proposes to create an institution to be known as The Missouri State Land Bank—the said bank to become a part of the State Banking Department and be under the supervision of the State Bank Commissioner at Jefferson City and under the direction of a board of governors comprising the Governor of the state, the Attorney General, Secretary of State, State Treasurer and State Auditor—the said board having the right to adopt such rules and regulations from time to time as are consistent with the act creating the said bank and not in conflict with the laws and constitution of the state. It is further provided that the next Legislature shall appropriate one million dollars as working capital for the above institution. This appropriation is a loan to be paid back out of the reserve fund whenever that fund is sufficiently large.

Powers of the Land Bank. The said Missouri State Land Bank shall have the power to make loans direct to the farmers of the state in amounts not in excess of 50% of the value of the farm lands owned by the borrower on promissory notes secured by a deed of trust in the nature of a first mortgage against the said land.

Sec. 7. The state shall be divided into appraisement districts and the manager shall appoint, subject to the approval of the Board of Governors, expert appraisers in their districts. The salary of appraisers shall be two thousand ($2,000) dollars per annum and expenses. When an application is made for a loan an appraiser shall be designated to make the appraisement of the land offered as security. He shall appraise the land at its cash value and make his report thereof under oath without delay, giving also in said report such information as he may have concerning the applicant and the land as to the desirability of the loan. The applicant must offer an abstract of title which shall be examined by the Prosecuting Attorney and a report made by him in writing, giving his opinion as to the state of the title, which then shall be examined by the Attorney-General and his opinion indorsed thereon. The manager may require any county officer and may ask any bank or trust company located in the county of the applicant's residence to give without charge any information desired relative to the applicant and the loan.

Length of Loans and Amounts. The loans shall run for periods of not less than five years nor more than 25 years and no loan shall be for less than $250 nor for a sum greater than $10,000—and since it is the purpose of the act to develop and improve the largest number of farms possible, the board governing the Land Bank shall give preference to those seeking loans for less than $5,000.

How Money May Be Used. Loans will be offered only to applicants who offer first liens on perfect fee simple titles (from courtesy, dower and homestead exemptions) and in no case shall loans be made for speculative purposes. To this end, money borrowed from the Land Bank may be used only for the following purposes:

1. To increase the production of the land mortgaged.
2. To make useful improvements thereon.
3. To pay off liens or incumbrances or to make part payment of purchase price where the borrower is paying part of the purchase money.
4. Twenty-five per cent of the amount borrowed may be used for the purchase of live stock and machinery.

How Loans Are Paid Back. Borrowers shall have the right to pay off their loans at any interest-paying date to pay annually or semi-annually the amount of interest due together with such an amount of the principal as will result in the amortization of the debt within the period selected to pay off the loan. If, for example, the amount borrowed should be $1000 and the rate of interest 4.3% (four and three-tenths per cent) it would be paid off approximately as follows within the period indicated below:

Annual payment on 5-year basis $224
Annual payment on 10-year basis $124
Annual payment on 15-year basis $ 91
Annual payment on 20-year basis $ 75
Annual payment on 25-year basis $ 65

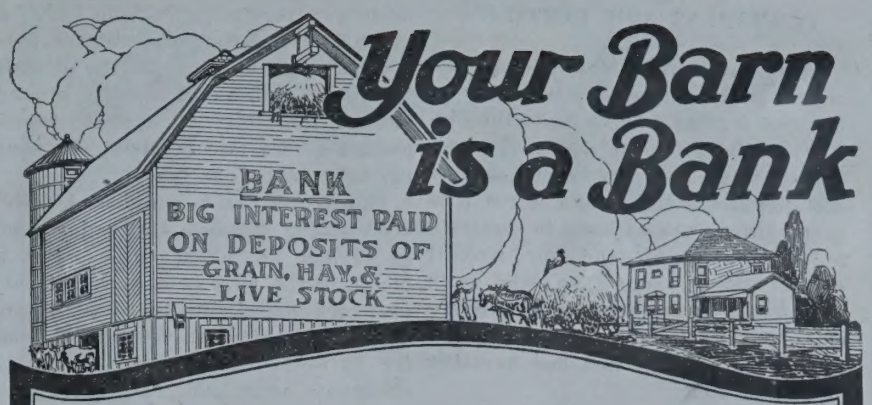
Suppose we compare the above figures with the ordinary loan at say six per cent interest, and there are few loans made at this rate without a commission charge. A $1000 loan at 6 per cent takes for the interest only $60 a year and at the end of 10 years you have paid out $600 and still owe the debt or $1600 in all as compared with only $1240 paid to extinguish the debt under the Land Bank plan. If it should run for 25 years it takes $60 a year—$1500 to pay the interest and the principal $1000 making $2500 to pay off the debt. But under the Land Bank the payment is $65 a year, only $5 more than the yearly interest and at the end of the time the debt is paid off with a total payment of $1625 or a saving of $875. This shows very clearly what the saving would be aside from the expense and annoyance of renewing the loan every five years as we must do under our present system.

Rate of Interest Charged. The first $500,000 shall be loaned to farmers at the above indicated rate of $4.3%. In addition, there will be an interest charge of one-half of one per cent to defray the expenses incident to conducting the Land Bank—thus bringing the total interest charge up to 4.8% (four and eight-tenths per cent) on the first half million dollars loaned. If it is found that the Land Bank can transact its business for less than the charge of one-half of one per cent, then it shall have the discretionary power to refund to each borrower whose loan has run for at least ten years or whose loan has been paid off in full, such a proportion of the remaining surplus as may belong to the said borrower. In other words, the purpose of the act is that borrowers shall contribute only so much of the one-half of one per cent as is absolutely necessary to create an adequate working capital and to pay the running expenses of the Bank.

Future Interest Charges. As stated above, the first $500,000 will be arbitrarily loaned at 4.8% (this includes the half of one per cent for paying the expenses of the institution). Then the State Bank Commissioner will take the $500,000 worth of farmers' notes which have been deposited with him to secure loans in the above amount and against these notes he will issue debenture bonds—and these debenture bonds he will offer for sale to the investing public and since these bonds will have back of them as collateral first mortgage notes against land appraised at not to exceed 50% of its value and since these bonds will be free from state, county and municipal taxes, it can be seen that they will be an exceedingly attractive investment to those who have surplus funds. Therefore, should the first issue of bonds sell on the basis of four and a quarter per cent interest, the loans made under this series would draw interest at the rate of four and three-quarters per cent—including the one-half of one per cent charged for defraying the expenses of the bank. Should the bonds sell on the basis of four and one-half per cent, the total rate charged would be five per cent, etc. In other words, while the first $500,000 will be arbitrarily loaned at 4.8%, the interest rate on subsequent loans will naturally depend on what the debenture bonds sell for in the open security markets of the country.

Low Interest Rates Assured. That the proposed Land Bank, however, will provide the lowest interest rates the farmers of Missouri have ever known there is not the slightest question for, since the bonds issued against the notes of farmers under the above plan will not only rest upon collateral of the highest character but be exempt from state, county and municipal taxes, they are sure to be greedily sought after by the investing public the moment they are offered for sale—and thus, for the first time, the credit of farmers will have been mobilized in such a way as to make it possible for them to borrow money on the most favorable basis obtainable in the money markets of the Nation. As matters stand now, both the borrower and the holder of the mortgage are compelled to pay taxes and the removal of this double taxation feature alone will possess much attraction to investors. Again, this plan does away with the commissions, etc., which, under the present system, the borrower must pay to loan agents—and that all these features will make the Land Bank bonds a much sought after investment should be apparent at a glance and in consequence, farmers

(Continued on page 9)



Your Bank On The Farm Is Your Barn.

¶ The deposits are live stock and stock feed.

¶ If your barn-bank is insecure, leaky, draughty, cold, inadequate for your needs—it will pay you no interest on deposits, it won't even keep intact the principal you place there.

¶ If you would draw maximum interest from the grain and forage you feed and from the animals you feed them to, the farm bank must be sound and secure—the deposits must be protected.

¶ **You Cannot Afford Poor Farm Buildings**—build a new, substantial barn this year! Build with

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PERMANENT SOIL FERTILITY

The tenant farmer who holds a lease on his land for a year only is not interested farther than to make the biggest possible yield at the least possible expense. But this is true only of the short-lease tenant and is not true of the man who expects to cultivate the same piece of land for several years. For the man then who owns his land or has a long-time tenure we think the question of maintaining soil fertility is the first and last question he should study.

A fertile soil is the foundation of any and all systems of profitable farming and fortunate indeed is the man who owns a farm of naturally fertile land. But whatever may be the natural condition of the land our greatest question is to know how to maintain its fertility.

In discussing soil fertility, Dr. Cyril G. Hopkins of the University of Illinois in a recent article says:

"'Five elements require careful consideration if lands are to be kept fertile. These are potassium, magnesium, calcium, phosphorus, and nitrogen, and every landowner ought to be as well acquainted with these five elements as he is with his five nearest neighbors.' This quotation is taken from Circular 167 of the University of Illinois Agricultural Experiment Station. It is in full harmony with the teaching of that institution during the past fifteen years, and also in harmony with the general practice of soil improvement in Illinois.

The normal soils of Illinois actually contain from 25,000 to 45,000 pounds of potassium per acre in the first 6 2-3 inches, corresponding to two million pounds of soil; while 200 pounds of the most common commercial fertilizer would add less than 4 pounds of potassium to an acre of land.

The Illinois system of permanent fertility does not provide for the purchase of potassium for normal soils, but it does provide for the liberation of potassium from the practically inexhaustible supply in the soil. This liberation is accomplished by the action of decaying organic matter plowed under in the form of farm manure or crop residues, including clover or other legumes.

Only where the soil is positively deficient in potassium susceptible of liberation need potassium be purchased in permanent systems of grain or live-stock farming. Such are some sand soils and most peaty swamp lands. In market gardening and in some other special types of farming, commercial potassium may be rerequired; and on some worn soils especially deficient in decaying organic matter temporary use of kainit often is advisable.

As a general average the normal soils of Illinois contain more than four times as much potassium as magnesium, while the loss by leaching and cropping in rational systems of grain farming or live-stock farming may be greater for magnesium than for potassium, so that magnesium is more likely to become deficient in such soils than is potassium. The calcium supply in normal soil is also only one-fourth that of potassium, while the average loss by cropping and leaching is four times as great; so that 16 to 1 expresses the relative importance of calcium and potassium in the problem of permanent fertility on normal Illinois soil.

All limestones contain calcium; and the dolomitic limestone in the almost measureless deposits of northern Illinois contains both calcium and magnesium in very suitable form both for plant food and for correcting or preventing soil acidity. In the Illinois system of permanent fertility ground natural limestone is applied where needed at the rate of about two tons per acre every four years.

Phosphorus can be purchased, delivered at the farmer's railroad station in Illinois, for about three cents a pound in the form of fine-ground natural rock phosphate; for 10 to 12 cents a pound in steamed bone meal, and for 12 to 15 cents a pound in acid phosphate or in basic slag phosphate.

Phosphorus can be used with profit in any of these forms, but the data thus far secured in comparative experiments indicate that, with equal amounts of money invested, the natural rock phosphate will give the greatest profit in rational permanent systems. At least 1,000 pounds per acre every four years should be applied, and for the first application even two or three tons per acre is not too much phosphate for those who best understand the need and value of phosphorus on normal Illinois land. On soils deficient in decaying organic matter, we advise the use of bone meal, slag phosphate or acid phosphate, rather than rock phosphate.

Rotation with such crops as corn, oats, and clover depletes the soil of all important elements of fertility, and almost results ultimately in land ruin on normal soils, unless some system of restoration is practiced. Clover takes large amounts of calcium and phosphorus from the soil, and the roots and stubble of the clover crop contain no more nitrogen than the clover itself will take from soils of normal productive power.

To increase or maintain the nitrogen and organic matter of the soil is the greatest practical problem in American agriculture. In an hour's time one can spread enough limestone or phosphate on an acre of land to provide for large crops of wheat, corn, oats, and clover for ten or twenty years, while to supply the nitrogen for the same length of time would require from 20 to 40 tons of clover, or from 80 to 160 tons of farm manure, to be added to the same acre of land, even though one of the four crops harvested secures its nitrogen from the air.

To provide nitrogen in the Illinois system of permanent agriculture requires the use of common sense and positive knowledge, the same as with limestone and phosphorus.

For the live-stock farmer on our most common soil, I would suggest a five-field system, a four-year rotation of corn, corn, oats, and clover, being grown upon four fields for five years, while the fifth field is kept in alfalfa. If the straw and half the corn stalks are used for bedding and all other produce for feed, and if 60 per cent of the nitrogen in the manure is used for the production of crops, then a permanent system is provided for the maintenance of nitrogen.

For the farmer who sells grain and hay, wheat may well be substituted for the first corn crop, clover being seeded on the wheat to be plowed under the next year for corn. If only the grain and clover seed and the alfalfa hay are sold, all clover, stalks, and straw being returned to the land, this also provides a system for the permanent maintenance of nitrogen.

While these systems are distinctly for live-stock farming or for grain and hay farming, they should be considered as only suggesting the basis for solving the nitrogen problem; and a combination of these systems in diversified farming will often be preferred to either one alone. The important point is that the landowner should know the essential facts and base his practice upon them in order to provide for permanent fertility.

These statements fairly represent the teaching of the University of Illinois and the practice of progressive farmers in this state."

WHEN NOT TO VACCINATE

The duty of the instructor and demonstrator sent out by the College is not to urge vaccination, but to show the farmers how they can avoid the expense as much as possible. And good service has been rendered in this direction by timely advice to farmers who expected to vaccinate their herds.

When a lot of feeding hogs are about ready for market and an outbreak of hog cholera occurs nearby, it is usually advisable to ship then, if the markets are favorable rather than to vaccinate them and hold them a short period.

There are other occasions when it is neither advisable to vaccinate nor to dispose of the hogs. Farmers have been advised by official bulletins to vaccinate their herds when the disease is within two or three miles of their farms. This is rarely necessary—since the disease can be checked if proper sanitary measures are promptly applied on the infected farms. The efforts should be directed to these rather than to the remote healthy herds.

Those who give such advice have evidently given but little thought what it means in the way of expense and the possibilities for evil, for the advice was also to use the simultaneous method on these farms where the disease had not yet appeared.

There are other good reasons why the farmers should not vaccinate their herds under these circumstances: First, on account of the unnecessary cost. Second, on account of the great probability of spreading the disease to many other parts of that six by six mile district. A third and important reason is that there are better and cheaper ways of eradicating the outbreak and protecting the herds that are even much closer to the infected farm than two or three miles.

A little calculation will show the inadvisability of vaccinating under the conditions mentioned.

Let us suppose that an infected farm lies somewhere near the center of a county. Measurements three miles to the north, east, south and west of the infected farm will cover an area of 36 square miles, or a geographical township, or 36 land measure sections of 640 each. In this state there is an average of five farms to the section, or 180 farms in the township, that is 179 farmers who have healthy herds have been advised not only to vaccinate their hogs because the disease is within two or three miles of their farms, **but they are advised to inject hog cholera germs into their hogs,** along with the anti-hog cholera serum, in order to secure a more lasting immunity.

In any good hog raising county in Missouri the number of hogs raised or fed on the farm runs from 10 to 100 head or more. The average in the hog raising and feeding districts is not less than 25 hogs to the farm, or 4500 to the township. The serum and virus bill, as shown by the official figures from one state that uses the simultaneous method puts the average cost at 60 cents a head, on a half million hogs. But, if we put it at 50 cents per hog taking all sizes into account, the total for a township will be $2250. The veterinary fees of 10 cents per head or $2.50 per farm would add $450 more. If we take into account the shrinkage in a good many of the vaccinated hogs while they are going through the vaccination fever period of 15 to 21 days, and the less profitable use of food during this period, the inadvisability of vaccinating all the hogs in two or three miles of an infected herd is apparent, if a better way to avoid the dangers from hog cholera is available. Some farmers estimate that the shrinkage, and loss of feeding condition will average on a bunch of stock hogs or feeders at least 50 cents per hog, if the loss should be placed at 25 cents, the cost to the whole township with its 4500 hogs would be $1125. A further loss would ensue from deaths following the "simultaneous" vaccination. Over a large territory the losses in individual herds are from zero to more than 90 per cent. The State Veterinarian of Indiana reported in one of the Swine Journals, that one day in a ride of 91 miles visiting sick herds of swine—made sick from simultaneous vaccination—the lowest loss was 12 per cent and the highest was 94 per cent, in herds that were healthy when vaccinated. There were of course many farms that the veterinarian mentioned did not visit and on which the simultaneous vaccination had been used, without hogs dying. But it is probable that some of the hogs on these farms had sufficient fever and diarrhoea to infect the grounds, with hog cholera germs. But if we accept the statements of the advocates of the extensive use of virus, that the general average loss does not exceed 2 per cent to 3 per cent, the total loss in the township under consideration would be 90 to 135 hogs on the 4500 hogs raised. If we place the loss at 100 hogs, of a hundred pounds weight, at 8 cents per pound, the loss would be $800 which is certainly conservative enough.

The total of all these figures is $4525, or something over a dollar a head vaccination tax, that the farmers are advised to pay for the privilege of raising hogs. This would not be so bad if there was any end to this special hog tax. But those who are interested in the sale of serum and virus seek to perpetuate this system. For the system cannot fail to multiply the number of infected farms. And the adjoining townships would soon be taken into the system. And it would continue to spread until the entire county is included. The hog raising couties of this state vary in size from ten to twenty-five geographical townships. The average is fourteen and a half townships. Multiplying the above figures by this factor, the cost to the average county would not be less than sixty-seven thousand dollars, and it would cost the whole state five million dollars or more when the virus system is spread all over the state. The advice to vaccinate when the disease gets two or three miles, while doubtless intended for the benefit of the swine industry, is unwise and harmful; and if followed the serum-virus business would ultimately eat up all the profits of the hog raising business. The better advice was advocated in this series of articles, which makes hog cholera control mainly an incident to better hog farm management, in which inexpensive and effective measures of sanitation and the use of serum alone are included, will in the end be more satisfactory to the swine users.

J. W. Connaway, D. V. S., M. D.,
Missouri Experiment Station.

SUPPLEMENTS FOR CORN FOR FEEDING HOGS

Tankage and Meat Meal.—These two feeds are so closely related that they may be treated under the same head. They are both a refuse product from the packing houses and are very high in protein and therefore require only a small quantity to balance a ration of corn. An average of six feeding trials at the Missouri, Nebraska, Iowa, and Indiana Experiment Stations gave the following results:

Where corn alone was fed the average daily gain was .72 pounds and it required 586.2 pounds of feed to make 100 pounds of gain and the 100 pounds cost $5.23.

With corn and tankage the daily gain was increased to 1.31 pounds and it required only 427.3 pounds of grain to make 100 pounds of gain at a cost of only $4.27.

It will be noted that the gain was increased quite appreciably and that the cost of gain was reduced from $5.25 per 100 pounds in the case of the corn alone to $4.47 per 100 pounds for corn and tankage. The costs are based on corn at 50 cents per bushel and tankage containing 60% protein at $44 per ton. These trials were made with varying amounts of tankage and do not show the maximum effect. It should never be fed in greater amounts than one part of tankage to 9 parts of corn and this only for young hogs. For hogs weighing 125 pounds only about one part of tankage to 12 of corn should be used and large hogs do not require a greater proportion than 1 to 15 and very good results are secured by using only one part of tankage to twenty parts of corn.

The tankage or meat meal can be fed either dry or as a slop. When ground feed is used, it should be mixed and fed with the other feed. When only whole corn is used, the tankage can be fed either dry or as a thin slop. In either case, however, a tight trough is needed because a small leakage represents a large per cent of loss on such a small quantity of feed.

Linseed Oilmeal differs very little from tankage in its effect on hogs. It is not as high in protein, however, and requires about double the amount to produce the same results as could be secured if tankage were used. It is not so high in price and is preferred by many feeders because it is free from the disagreeable odor found in tankage and to some extent in meat meal. A summary of four years' work at Purdue Experiment Station to determine the relative value of tankage and linseed oilmeal is as follows:

When corn meal and tankage were fed together the average daily gain was $3.88 and it required 394.5 pounds of feed. With corn meal and linseed oil meal the average daily gain was 1.49 pounds and the cost of 100 pounds gain was $4.09 and it required 410 pounds of feed for 100 pounds gain.

It will be noted that the gains were somewhat less rapid and the grain required to make 100 pounds gain was more when linseed oilmeal was used and that the cost of making gains with corn at 50 cents per bushel, tankage $45 per ton and linseed oilmeal $36 was $0.21 per 100 pounds cheaper by use of the former feed. There is such little difference, however, that the two feeds are considered of practically the same feeding value. Linseed oilmeal should not be fed in larger amounts than one part of meal to five parts of corn. The proper proportions of oilmeal for hogs of different sizes will be secured by doubling the amount of supplement recommended under tankage. The same method of feeding is employed as when tankage is used.

Shorts or Middlings.—These two by-products of flour mills are so nearly the same in feeding value that they can be considered in the same discussion. They are the most common and abundant of the supplementary feeds for dry lot hog feeding. It requires such a large amount of these feeds to balance a ration of corn that the cost of gains is greater when they are used as the only supplement than when milk, tankage or oilmeal is used. The following results compiled from ten trials at the Missouri and Illinois Experiment Stations gives the effect of adding shorts or middling to corn in dry lot:

Corn alone made daily gain .72 lbs. Corn and shorts made daily gain 1.10 lbs. Corn alone took 586.2 lbs. grain for 100 lbs. gain. Corn and shorts 510.1 lbs. grain for 100 lbs. gain. Corn alone cost $5.23 for 100 lbs. gain. Corn and shorts cost $5.10 for 100 lbs. gain.

It will be noted that the rate of gain was slightly increased and the cost of gain slightly decreased but in the cost the change was not very great. These trials, however, were with hogs weighing about 125 pounds. With pigs, the use of shorts for making a slop especially when mixed with a small amount of tankage or linseed oilmeal gives very much more marked results than when fed to large hogs. In fact, the proper use for shorts in a hog lot is for making a slop for young pigs and as a part of the brood sow ration and also for constituting a part of a slop fed to large fattening hogs when supplemented by other nitrogenous supplements. It adds palatability to a ration of corn and tankage or corn and linseed oilmeal and forms the body of the slop. It may very well constitute one-half of the ration for young pigs but should never constitute more than one-third of the ration for fattening hogs.

F. G. King,
Indiana Experiment Station.

A Good Tonic and Worm Preventive.

The following is a good mixture to keep before the hogs all the time as a tonic and worm preventive: "Sal soda, 3 pounds; Glaubers salts, 3 pounds; copperas, 3 pounds; common salt, 3 pounds; sulphur, 1 pound; charcoal, 4 pounds. Mix thoroughly and keep in a trough in a shed.

LIVE STOCK FARMING

Grain farming reduces the fertility of the soil. Stock farming increases it. Grain farming reduces the humus in the soil. Stock raising increases it. Grain farming spoils the mechanical condition of the soil. Stock farming improves it. Grain farming fosters weeds, plant diseases and insects while stock raising decreases them. Stock raising develops thrift—pay as you go. Grain farming develops the credit system. Grain farming brings on the mortgage. Stock raising pays it off. The labor for grain farming is expensive while that for stock farming is cheaper in that it is engaged by the year. Grain raising is dependent on the season. Stock farming is quite independent of the season. Taking care of stock is splendid training for the boys and girls. People with the instinct for stock raising are and have been the dominant people of the world. Grain farming is a soil robber; hence it is only possible on a new soil and then only for a short time.

The aim of every farmer should be to gradually work into some phase of live stock farming. This results in rotation of crops and a home market for the grain and hay. In this way, as much grain can be grown on the farm as though it were all given to grain, as the yield will be largely due to increased soil fertility, fewer weeds, less plant disease, better mechanical condition of the soil, etc.

The only permanent agriculture is that which is based on live stock farming and permanent agriculture means profitable agriculture.

C. W. Hickman.
Idaho Experiment Station.

WHY AND HOW TO CURE SEED CORN

The first requisite for a good crop of corn is good seed secured from a crop that was grown in your locality. Too often we depend upon imported seed which invariably brings disappointing results for several years.

Seed corn should be selected, as far as is possible and practicable in the district in which it is to be grown, and about a week before the first killing frost is expected. If the corn is fairly well matured a light frost will not hurt the husk covered ears but they should be picked, husked and put to fire drying the day following the frost.

The first test to apply to seed corn is maturity. In the northern part of this state where every day must be utilized for ripening a crop the question of getting seed that has matured in our latitude is of prime importance. We want a corn that will mature nine years out of every ten and this corn can only be secured from our own cornfields by selecting the best matured ears one week before the usual time for the killing frost. We want to raise large corn and get big yields per acre but maturity must not be sacrificed for size.

Having made our selection of about double the amount of corn we expect to plant our task is by no means completed. The ears, if left only over night when the weather is damp, will become covered with molds which will germinate and produce more spores or mold seeds which will become parasites and feed upon the young plants when the seed germinates the following spring.

As soon as the seed corn is picked it must be cured. Many devices have been used for drying seed corn. The most common of these are single string, double string, corn tree, frame covered with chicken wire and boards into which finishing nails have been driven. In the last method the seed ears are jabbed onto the nails. This device has the advantages over the others. It is inexpensive and easily made. When the corn is tested in spring the ears can be numbered very easily by writing the figures on the boards below the ears.

The curing of seed corn is dependent upon two conditions—a free circulation of air and a temperature above freezing until the corn is thoroughly dried. These conditions can best be secured by fire drying. Open the windows in the room in which the corn is stored and build a fire every day until the corn is thoroughly dried. After it has been thoroughly dried freezing will not injure its vitality and if it is kept in a dry place where it will not absorb moisture it will make the best seed corn that you can secure for your farm.—John Klinka, University of Wisconsin.

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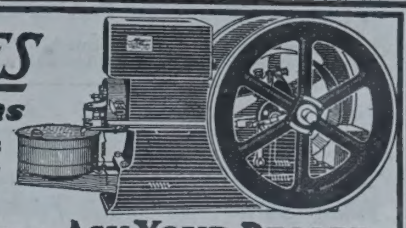

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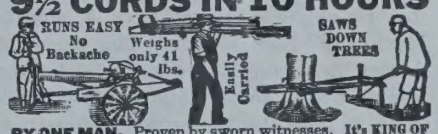

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The Cow and Her Product

The value of a calf depends on the productiveness of its mother, especially in grade cattle. A calf from a low-producing cow is worth only its beef value, but the higher the dam's production, the higher the premium on the calf.

Milk is the only food found in nature containing all the elements necessary to sustain life. At the same time, if it is not pure, it may cause diseases that end life.

When a cow is fed just enough to maintain her body weight, she can not be expected to give much milk. About half the nutrients in the average ration go to sustain the body. Always feed a full ration.—Clemson College Notes.

THE MISSOURI FARMER

Devoted to Better Farming, Better Farm Homes and Better Citizenship.

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Agents Wanted. We want some one to represent us in every community and make up clubs for which we will pay liberal commissions. Write us for terms and sample copies.

We solicit communications from farmers and members of the family on timely and practical subjects. Photographs illustrating farm life or plans for buildings, live stock, etc., are appreciated.

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Who fixes the price paid at the country store for eggs? Not the merchant.

Who fixes the price paid at the station for your cream? Not the local cream buyer.

Who fixes the price paid at the local stock yards for hogs, sheep and cattle? Not the local stock buyer and shipper.

The prices for most food products are fixed by the big packers and they can do so because of the power of their millions filched from both producers and consumers. But what are we farmers going to do about it?

Shall we sit still and do nothing to remedy this evil just because we have been doing so in the past? If we break the shackles our hands are tied with we must use the same methods to some extent the packers have used to get control of the marketing of our products. First, we must stand together and to do that we must have our farmers' clubs organized in every school district in the Corn Belt. We must learn to save the waste and thereby increase our profits. We must co-operate so we can do business on a bigger scale so that our profits will come from the large amount of business rather than large individual profits. The time is right now when every school district in Missouri should have a good working farmers' club.

There is plenty of work to do for a meeting once a week during the winter time and at least once a month during the busy season. The study of better farming, better schools, better roads, better social conditions will all help to hold the organization together while we are working out a plan for better marketing.

REDUCING THE FARM DEBT

We are running in another column of this issue a letter from F. H. Irvin of Benton county which tells a story too familiar to be pleasant to thousands of farmers of Missouri. This farmer says it keeps him working hard six days in the week to pay the 8 per cent interest on a farm mortgage and to donate his share towards making millionaires of the packers.

The remedy for high interest rates is to have the state put into operation some plan of co-operative farm loans as provideed by the Land Bank Bill fully explained on page 5 of this paper. If farmers will charge up as an expense item the value of their own labor and the cost of replacing the fertility of the soil removed by crops, they will find that few farms are making a net profit on the investment of even 5 per cent. Estimating the farm mortgages of this state at $150,000,0000 which is probably below the actual total, farm mortgage indebtedness of Missouri, the yearly saving to the 88,486 farmers who are paying interest if they were borrowing under the Land Bank plan at 4.3 per cent interest plus .5 per cent for expenses, would be $4,800,000 as compared with the rate the Benton County farmer is paying. Compared with a rate of only 6.5 per cent—and few men get money for a less rate when all commissions are counted—there would be a saving of more than $2,500,000.

The most money farmers have made during the last ten years or even twenty years, has been made on increased values of land. In the future we can not possibly hope for such a great rise in land prices and the farmer must look to actual profits from his business.

Statistics prove that both the number of farms operated by tenants and the amount of farm mortgage indebtedness are on the increase and these are serious facts for every man to consider no matter if he does own a debt-free farm. The adoption of an amendment to our state constitution that will make it possible to put the Land Bank Bill into operation will not solve all our difficulties but it will be one long step in the right direction.

The campaign is now on, the petitions are going out to those who are willing to do something to emancipate the farmers of this country from the yoke of the money power. If you are willing to help a little, Mr. Farmer, you can get a blank petition by writing to this office and get your neighbors to sign it. Better do it today.

BE CAREFUL WITH STALK FIELDS

About this time of year reports begin to come in of losses of cattle and horses on account of being pastured in the corn stalk fields and we just want to issue a word of warning to those who will feed their corn stalks in this way. The exact cause of such losses does not seem to be definitely known, even by the best veterinarians, but whatever the cause may be we know that a little precaution may save a lot of loss.

Where cattle and horses can have the run of a good green pasture such as rye, wheat, bluegrass, etc., and are allowed to go into the stalks at will we have never known of loss from corn stalk poisoning. Where the stalks must be pastured off, however, without a run on pasture, or where moldy shock fodder must be fed, it will pay to feed enough laxative feed along with the corn stalks to keep the animals in a thrifty condition. Linseed oil meal, thrashed oats, sheaf oats, bright oats straw are all excellent feeds to go with corn fodder and while the owner may sometimes think it a little expensive to buy these feeds if he does not happen to have any of them, he should know that the money loss of one cow or horse would be enough to buy quite a lot of feed.

Furthermore, these richer feeds given in combination with the corn fodder will ordinarily pay for themselves in the gain and better condition of the animals fed. The man who keeps any kind of live stock will find that it pays to keep them healthy, thrifty and gaining all the time even though he must pay out something for extra feed.

ORGANIZATION AMONG FARMERS

The farm problem has many sides to it and is entirely too big for a man of only one idea to tackle. The farm problem is also too big for one man however great and powerful he may be. All other industries have learned the benefits of organization and co-operation and why not the farmer? The postmasters, the mail carriers, the printers, the barbers—but the list is too long to name—and we do not know of an industry or profession which has not some form of organization for self improvement and mutual benefit except farmers. Why, even the politicians we elect to office band themselves together for their own selfish interests. Unless farmers wake up to the necessity for getting together in clubs for the study of better farming and better marketing they may soon find themselves as hopelessly shackled as the Irish farmers or the Russian peasants have been.

If you have not already done so better write today for our plan of organizing farmers' clubs and for getting better marketing facilities. When writing us just mention any article you may have that you want help in selling or any article you may want to buy in the near future. It may be interesting to you to know how we can help you.

MAKING A SEED CORN CENTER

We have many times pointed out in the columns of The Missouri Farmer the great value it would be to any community or county to build up a good reputation for producing some product for which there is general use. We all realize what the value of a good reputation is to the individual but we have not thought of it as a community asset. If we wanted to buy a bunch of good dairy cows we would naturally turn to some neighborhood where a number of men were raising dairy cows and whose reputation would assure us that we could get good dairy cows in that vicinity and surely those cows would bring a better price than cows not backed by such a guarantee of quality.

There is not a township in Missouri but what could build up a good name for producing some market product if a bunch of farmers would get together and go after the work in some sort of business-like way.

A movement of this kind is being fathered by the farm bureau of Saline County and their first aim is to make that county a great seed corn center. Saline county is naturally one of the best corn counties of the state and if the farmers will generally agree to grow only one variety on a farm or better only one variety in a neighborhood and will adopt the latest methods in corn cultivation, and in seed selection and care, then every bushel of standard Saline county seed corn will find a market at an advanced price.

To start this organization the Saline County Farm Bureau has arranged a Thousand Dollar Corn Contest to be held in Marshall, the county seat, on December 3-4, and have asked the corn growers to make exhibits in ten-bushel lots. The show corn will all be sold after the contest and the money turned into a prize fund. Thus the farmers will finance their own show at very little expense to themselves and if the plan is followed up for a few years it will be worth thousands of dollars to Saline County both in the way of getting a better price for seed corn and in a better general interest in the whole subject of raising good corn. The corn donated will be passed upon by a committee and that of sufficient quality will be sold for seed and by that means a lot of well bred seed corn will be distributed over the county. If the corn raisers of Saline County will co-operate with their farm bureau and follow the plan persistently for a few years Saline County can become the great seed corn center of the state.

Along the same general plan any county in Missouri could in a very short time become the center for breeding good horses, cattle, sheep or hogs. About the first benefit from such an organization would be the stimulation for closer investigation and a more intimate knowledge of the class of stock being bred which would come most naturally from rivalry among members. Not only would such a movement in any county add quality and value to the stock produced but it would aid in the economical production of the stock because of the larger use of high class sires that could be made under such a plan.

The work of starting a seed corn club or a breeding club for live stock is not dependent on a county farm bureau and in counties where there is no such organization or where the bureau fails to see the value of such work it might well be one of the first things to be taken up by a district farmers' club in any neighborhood in Missouri. If any of our readers are interested we will gladly help them by giving suggestions for such an organization. If we can handle these small organizations successfully it will help us in the handling of bigger problems.

SOME NEW BOOKS

Productive Feeding of Farm Animals is a new book by Dr. F. W. Wool, University of California, written for students in agricultural schools and colleges as well as for practical farmers. In this book you will find the latest and best experience on feeding all types of farm animals as well as a discussion of all kinds of feeds—the composition of feed stuffs, feeds, the balancing of rations, etc. Published by J. B. Lippincott Company, Philadelphia.

Productive Poultry Husbandry by Harry B. Lewis of the New Jersey Agricultural College treats a subject that is of much greater importance than most people realize. In a very practical way this book gives information on shipping, feeding, breeding, housing, marketing, etc. Published by J. B. Lippincott & Company.

Productive Orcharding by Fred C. Sears of the Kansas State Agricultural College is a thorough treatise on growing and marketing fruit. The kind of soil, the variety suited to the section, methods of planting, pruning and cultivation are leading subjects. Spraying is given the attention it deserves as well as picking, storing, packing and marketing. Published by J. B. Lippincott Company, Philadelphia.

Productive Vegetable Growing by John W. Lloyd, University of Illinois, has been prepared to give vegetable growers of the Corn Belt a useful guide to the underlying principles of growing all the principal vegetable crops and information about harvesting, storing and marketing. A good book for vegetable growers of the Central West. Published by J. B. Lippincott Company, Philadelphia.

"Productive Horse Husbandry" is one of the best books we have seen on the subject. The author is Carl W. Gay of the University of Pennsylvania and in his own words, "This book is intended to present to students of live stock husbandry the same systematic and complete study of the horse that has been accorded the other classes of live stock." We find this a very complete text and will be useful to any young farmer who wants to handle horses in a really intelligent way. Published by J. B. Lippincott Company, Philadelphia.

THE MISSOURI LAND BANK

(Continued from page 5)

will receive the benefit of the low interest rates which will naturally result.

Longer Time Loans. Not only will the new plan afford farmers a lower interest rate than they have ever known before, but the fact that borrowers have the right to pay the interest and a small part of the principal in equal annual installments running from 5 to 25 years, gives them plenty of time in which to liquidate their loans without hardship or embarrassment. While the present rates of interest which farmers are compelled to pay are excessively high, yet equally burdensome is the short duration of the average present-day loan which gives farmers no opportunity to develop their farms to a stable and paying basis.

Default of Payment. The State Bank Commissioner shall be named as trustee in all deeds of trust given to secure loans and in the event of default of payment necessitating foreclosure, he shall have the power to sell the land in question—or at his request the sheriff of the county in which the land is located may be required to officiate in this capacity.

Will Bring Money Into State. That the Land Bank bonds offered under this act will, in time, bring millions of dollars of outside capital into Missouri there is little question for their undisputable collateral and freedom from taxation will unquestionably make them stand out as the most desirable forms of investment in the Nation.

Is the Land Bank Assured?. By no means. Before it can become an established fact an Amendment to the State Constitution, exempting the Land Bank debenture bonds from state, county and municipal txaes will have to be adopted at the November election in 1916 **and this Amendment must receive a majority of the votes cast for or against it at the above election!**

How Can Farmers Assure Its Enactment? First, by arousing the farmers of every community in the state to the true significance of this great act which means more to them than any other measure ever passed in the history of the state. Second, by seeing to it that every farmer in your community signs a Land Bank petition. Third, by asking your friends and the business men in the nearby towns to help you out in this great fight which means so much for the future Agricultural prosperity of Missouri by giving them an opportunity to sign a Land Bank petition—for the vote of a man in town will count just as much as the vote of a farmer.

A Danger to Be Feared. One danger to be feared is that a multiplicity of amendments may be offered and that, as in past elections, there will be a clash of conflicting interests which will cause thousands of men to vote against all Amendment offered. For this reason, farmers should be careful in signing petitions for other Amendments which might endanger the adoption of this one in which they are so vitally interested.

By writing to the office of The Missouri Farmer we will be glad to send you a Land Bank petition for circulation in your community. Along with it we will also send our circular telling you how to orgnaize a "Farm Club" in your school district—for such an organization will more easily enable your community to present a solid front on this great issue which means so much to the farmers of this state.

BUCKSHOT BY THE PROFESSOR

It always did make me sore to see a little two by four congressman or other official dignitary swell up with imagined importance like a poisoned pup. A public office is no bigger than the man who fills it.

Why don't you and your neighbors get together and organize a school district "Farm Club?" Write in to the editor and have him send you full particulars as to how to proceed. It's time to do something.

Ordinarily I am not very strong for woman's suffrage—but when I see some drygoods box mechanic shift his cud of long green to the other cheek and hear him say that "wimmin ain't got sense enuf to vote," I come mighty near going over to the Petticoat Brigade boots and saddles.

If you are going to have any good Seed Corn, Oats, Alfalfa, Timothy, Clover, Cowpeas, Soybeans, Bluegrass or other farm seeds for sale this winter, write to the editor of this paper about it at once. He receives a lot of inquiries about farm seed from time to time and he will be glad to tell you where you can sell any good seed you may have for sale.

I notice where the big meat packers held a banquet in St. Louis some days ago and the stuff they ate and drank cost $20 a plate. In the meantime, the poor devil of a farmer who raises the hogs which they buy at their own price goes to the "Greasy Spoon" restaurant and pays a quarter—and thanks the good Lord that he has the price.

I met a farmer the other day who said he didn't know whether he was in favor of the Land Bank bill or not. Well, all I've got to say is that the probate judge in this fellow's county is neglecting his official duty. The chances are he spends his time shooting quail and hunting rabbits while he ought to be appointing guardians for people who are not capable of looking after their own interests.

Now don't commence to knock. You don't have to read about that White House wedding if you don't want to. There's nothing to hinder you from filling up on "Old Whiskers" proclamations down in Mexico or gorging yourself with the startling information the Dutch exploded a can of gasoline for the English over in Belgium day before yesterday. Just because people have made up their minds to get married and the newspapers print a lot of stuff about it is no reason why you should develop an ingrowing grouch.

Looks Mighty Good to Me

The Missouri Farmer:

I have just been reading The Missouri Farmer for November 1 and I am enclosing a stamped envelop for your plan of organization. I gather by reading through the paper that you intend to organize the school districts as units and then a county organization and then one for the state. This looks mighty good to me and with The Missouri Farmer as the official organ wonders could be done. We had a good Farmers' Club here for a while but we were alone and after we raised a crop again and did not have to buy feed again the interest waned. One farmer can not do much. One club acting independently can not do much but a federation of clubs all on the same plan will win in time.

I am reminded of the story in our old reader about the man that had several sons and thinking himself not long for this world he called his sons, who were not agreeing among themselves, to him, and handed them a bundle of sticks tied together and asked them to break them, in this they all failed. Then he took them, untied the strings that bound them and taking the sticks one at a time broke them all. Why would not a bundle of sticks be a good emblem or badge for the club?

Really I did not expect to take so much of your time, but I am wound up. I am ready to circulate the Land Bank petition in my neighborhood as soon as received. J. B. Johnston,
Barton County.

Co-operation a Crying Necessity

The Missouri Farmer:

Replying to your very, very able editorial, "Who Fixes the Price" in the issue of November 1st, will say that I am anxious to learn the plan you suggest through the best of all farm papers, The Missouri Farmer.

It don't take much of a philosopher to know that farm co-operation is becoming a crying necessity and if there is anything I can do in this locality to bring it about I am at your service.

Please send particulars in inclosed envelope and oblige. Appreciating the splendid stand you have taken in this as well as other farm problems I beg to remain, Gust. Spaht,
Gentry County.

The Land Bank the Best Thing

The Missouri Farmer:

I think a little merited praise is appreciated by most all of us and in this connection I want to say that your efforts in behalf of the farmers of Missouri are highly meritorious and worthy the support and appreciation of us farmers. We are regular readers of several papers and we think The Missouri Farmer the best of them all for you are always supporting every movement that is in the interest of the farmer.

In a recent issue you ask, 'If anyone has made a dirt road with the plow and drag?" I have made a good dirt road with nothing but the drag and it is on a stretch of road where the water stood 8 inches deep before.

Send me some Land Bank petitions to circulate. I have little time for I have to work hard six days every week to help make millionaires out of the packers and to pay 8 per cent interest on a farm mortgage, but if you will send me a blank petition I will try to find a little time to get signatures. I think it is the best thing now offered us and I am for it first, last and all the time. We are also heartily in favor of your plan of organization. It is time we farmers were getting together and looking after our own interests or they will soon have us where we will have to work seven days in the week to satisfy their greed. Wake up, brother farmers, and let us stand by the editors of The Missouri Farmer in this fight they are making.
E. H. Irvin, Benton County.

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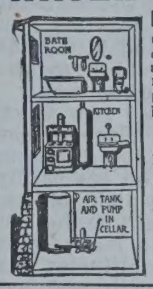

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The Plunderer

By ROY NORTON

Author of "The Garden of Fate"

Dick went to his bed with a critical admission of the truth, and from any angle it appeared foolish. How had it all happened? He was not prone to be easy of heart. He had known the light, fleeting loves of boyhood, and could laugh at them; but they had been different to this. And it had come on him at a time when everything was at stake, and when his undivided thoughts and attention should have been centered on the Croix d'Or. He reviewed his situation, and scarcely knew why he had drifted into it, unless it had been through a desire to talk to some one who knew, as he knew, all that old life from which he had been, and would forever be, parted.

Not that he regretted its easy scramble, and its plethora of civilized concomitants; for he loved the mountains, the streams, the open forests, and the physical struggles of the wild places; but—and he gave over reasoning, and knew that it was because of the charm of Miss Presby herself, and that he wanted her, and had hoped unconsciously. Sternly arraigning himself, he knew that he had no groundwork to hope, and nothing to offer, just then; that he must first win with the Croix d'Or, and that it was his first duty to win with that, and justify the confidence of the kindly old Sloan who had backed him with hard dollars.

He had not appreciated how much the daily meeting of Miss Presby meant to him until, on the following morning, and acting on his hardly reached solution of the night before, he went up for what might be the last time. It was difficult to realize that the short summer of the altitudes was there in its splendid growth, and that it had opened before his unobserving eyes, passed from the tender green of spring to the deep-shaded depths of maturity, and that the wild flowers that carpeted the open slopes had made way for roses. Even the cross on the peak was different, and it came to him that he had not observed it in the weeks he had been climbing to the slope, but had always waited eagerly for the light of a woman's face.

She came cantering up the trail, and waved a gay hand at him as she rounded the bend in the crag. There was a frank expectancy in her face—the expectancy of a pleasant hour's visit with a good comrade. He wondered, vaguely and with new scrutiny, if that were not all—just friendliness. They talked of nothing; but his usual bantering tone was gone, and, quick to observe, she divined that there had come to him a subtle change, not without perturbation.

"You don't seem talkative today," she accused as he stood up, preparatory to going. "Have you finished work on your pipe line?"

He flushed slightly under the bronze of his face at the question, it being thus brought home to him that he had used it as a pretext for continuing their meetings for more than two weeks after that task was completed and the pipemen scattered—perhaps working in some subway in New York by that time.

"Yes," he said, "the work is finished. I shall not come up here again unless it is for the sole purpose of seeing you."

There was something in his tone that caused her to glance up at him and there was that in his eyes, on his face, in his bearing of restraint, that caused her to look around again, as if to escape, and hastily begin donning her gloves. She pulled the fingers, though they fitted loosely, as if she had difficulty with them—even as though they were tight gloves of kid, and said: "Well, you might do that, sometimes—when you have time; but you mustn't neglect your work. I come here because it is my favorite ride. You must not come merely to talk to me when there are other duties."

"Yes," he said, endeavoring to appear unconcerned. "The Croix d'Or is apt to be a most insistent tyrant."

"And it should come first!" He was obtuse for the instant in his worriment, and did not catch the subtle shade of bitterness in which she spoke.

She tugged at the reins of her horse, and the animal reluctantly tore loose a last mouthful of the succulent grass growing under the moisture and shadow of the big steel pipe, and stood expectantly waiting for her to mount. She was in the saddle before Dick could come around to her side to assist her. He made a last desperate compromise, finding an excuse.

"When I feel that I must see you, because you are such a good little adviser, I shall come back here," he said, "morning after morning, in the hope of seeing you and unburdening my disgruntlement."

She laughed, as if it were a joke.

"I'm afraid I'm not a very good miner," she said, "although I suppose I ought to be a yellow-legged expert, having been brought up somewhere within sound of the stamps all my life. Good luck to you. Good-by."

His reply was almost a mumble, and the black horse started down the trail. He watched her, with a sinking, hungry heart. Just as the crag was almost abreast of her mount, she turned and called back: "Oh, I forgot to say that I shall probably come here almost every day."

He did not understand, until long afterward, the effort that speech cost her; nor did he know ever that her face was suffused when her horse, startled, sprang out of sight at the touch of her spurs. He did not know, as he stood there, wishing that he had called her back, that she was riding recklessly down the road, hurt, and yet inclined to be strangely happy over that parting and all it had confessed. With a set face, as if a whole fabric of dreams had been wrenched from his life, the miner turned and walked slowly over the trail, worn by his own feet, which led him back to the Croix d'Or, and the struggle with the stubborn rock.

As he topped the hill he suddenly listened, and his steps quickened. From below a new sound had been added to the melody of the hills; a new note, grumbling and roaring, insistent and strong. Its message was plain. The mill of the Cross was running again for the first time in years; and, even as he looked down on the red roof, the whistle in the engine-house gave a series of cheerful toots in salute of the fact.

Down on the flat in front of the long structure which held, in its batteries, almost two-score stamps, a tall figure came out, and looked around as if seeking him, and then, casting its eyes upward, beheld him, and lifted a battered hat and swung it overhead. It was Bill, rejoicing in his work.

A car of ore slid along the tramway, with the carboy dangling one leg over the back end while steadying himself by the controller, as if he had been thus occupied for years. Dick tore his hat off, threw it in the air, and shouted, and raced down the hill. From now on it must be work; unless they met with great success—then—he dared not stop to think of what then.

He hastened on down to the mill and entered the door. Everything about it, from the dumping of the cars sixty feet above, the wrench of the crushers breaking the ore into smaller fragments, the clash of the screens as it came on down to the stamps, and their terrific "jiggerty-jig-jig," roared, throbbed, and trembled. Every timber in the structure seemed to keep pace with that resistless shaking as the tables slid to and fro, dripping from the water percolating at their heads, to distribute the fine silt of crushed, muddy ore evenly over the plates in the steady downward slant. Already the bright plates of copper, coated with quicksilver, were catching, retaining, amalgamating the gold.

"The veneers need a little more slant, don't you think?" bellowed his partner, with his hands cupped and held close against Dick's ear in the effort to make himself heard in that pandemonium where millmen worked the shift through without attempting to speak.

In the critical calculation of the professional miner, Dick forgot all other affairs, and leaned down to see the run of water. He nodded his head, beckoned to the mill boss, and by well-known signs indicated his wish. He scrambled above and studied the pulp, slipping it through his fingers and feeling its fineness, and speculating whether or not they would be troubled with any solution of lead that would render the milling difficult and slime the plates so that the gold would escape to go roistering down the creek with waste water. It did feel very slippery, and he was reassured. He was eager to get to the assay-house and make his first assay of "tailings," refuse from the mill, to discover what percentage of gold they were saving, and, in parlance, "How she would run on mill test."

Fascinated in his inspection and direction of certain minor changes, he was astonished when the noise suddenly dropped from fortissimo to a dull whine, as the mill slowed down to a stop for the noon hour. And the afternoon passed as quickly while he worked over the bucking board—a plate used to crush ore for assaying—in the assay-house, and watched the gasoline flare and fume in his furnaces to bring the little cupels, with their mass of powdered, weighed, and numbered samples, to a molten state. He took them out with his tongs, watched them cool, and weighed, on the scales that could tell the weight of a lead pencil mark on a sheet of paper, the residue of gold, thus making his computations. He was not pleased with the result. The green lead was not as rich as they had believed.

"It won't pay more than fifty cents a ton with the best milling we can do," he said to Bill, who came eagerly into the assay office.

"But you know the old idea—that she gets richer as we go down?" his partner asserted. "If it pays fifty cents a ton at the mill plates, we'll open up the face of the ledge and put on a day and night shift. We can handle a heap of ore with this plant. It begins to look to me as if the Cross is all to the good. Come on. Let's go down to the power-house and see how things look down there when we're working."

They had been contemplating a new timber road, and, after visiting the power plant and finding it trim, and throbbing with its new life, they cut across and debouched into the public road leading up the canon, by the banks of the stream, to the Rattler. When almost at the fork, where their own road branched off and crossed the stream to begin its steep little climb up to the Croix d'Or, they saw a man standing on the apron of the bridge, and apparently listening to the roar of their mill. His back was toward them, and seemingly he was so absorbed in the sounds of industry from above that he did not hear them approach until their feet struck the first planks leading to the heavy log structure. He turned his head slowly toward them, and they recognized him as Bully Presby. It was the first time either of them had seen him since the evening in the camp.

"So you're running, eh?" he asked Dick without any preliminary courtesy.

"Yes, we started the mill today."

"On ore, or waste?" There was a sneer in his question which caused Dick to stiffen a trifle; and Bill frowned, as if the question carried an insult.

Still the younger man was inclined to avoid words.

"Naturally, we shouldn't put waste through the mill," he said coldly. "We have opened up an old vein which the other managers did not seem to think worth while."

"And so, I suppose, showing superior knowledge, you will demonstrate that the men before you were a set of dubs? Humph! From babes and fools come wisdom!"

His voice was hard and cynical, and his grim lips curled with a slightly contemptuous twitch. The hot, impulsive streak in Dick leaped upward. His eyes were angry when he answered.

"If you apply the latter to me," he retorted hotly, "you are going pretty far. I don't know what business it is of yours. We have never asked you for any advice, and we don't want any. I expect no favors from any one, and if I did, am certain, in view of your attitude, that I shouldn't ask them from you."

"Steady! Steady, boy!" admonished his partner's drawling voice at his side. Dick did not utter other words that were surging to his tongue, and finished with an angry shrug of his shoulders.

Bill turned cooly to the owner of the Rattler, and appeared to probe him with his eyes; and his stare was returned with one as searching as his own.

"Who are you?" Presby asked, as if the big miner were some man he had not noticed before.

"Me? My name's Mathews. I'm The miners' union stirred up by that answered, as calmly as if the form of question had been ignored.

"And I suppose the young Mister Townsend relies on you for advice, and that he——"

"He don't need to rely on any one for advice," interrupted the soft, repressed voice. "I rely on him. He knows more than I do. And say," he added, taking a step toward Bully Presby, and suddenly appearing to concentrate himself with all his muscles flexed as if for action, "I've mined for thirty-five years. And I've met some miners. And I've never met one who had as little decency for the men on the next claim, or such bullying ways as you've got."

Presby's face did not change in the least, nor did he shift his eyes. There was an instant's pause, and he showed no inclination to speak.

"'Most every one around these diggings seems to be kind of buffaloed by you," Bill added; "but I sort of reckon we ain't like them. I'm handin' it to you right straight, so you and me won't have any trouble after this, because if we do—well, we'd have to find out which was the better man."

Bully Presby's eyes flashed a singular look. It seemed as if they carried something of approval, and at the same time a longing to test the question of physical superiority. And then, abruptly, he laughed. Astonished by this strange, complex character, Bill relaxed, and turned toward his partner. Dick, seeing that the interview was ended, as far as the necessity for saying anything was concerned, moved across the bridge, and Bill took a last hard stare at the mine owner. He laughed again, with his cold, cynical rumble.

"I think," he said, "that when the Cross shuts down for good, I'd like to give you a job. When it does, come and see me."

Without another word, or sign of interest, he turned his back on them, and marched up the hill toward the Rattler.

CHAPTER X

TROUBLE STALKS ABROAD

August had come, with its broiling heat at midday and its chill at night, when the snow, perpetual on the peaks, sent its cold breezes downward to the gulches below. Here and there the grass was dying. The lines on Dick's brows had become visible; and even Mathews' resolute sanguinity was being tested to the utmost. The green lead was barely paying expenses. There had come no justification for a night shift, and use of all the batteries of the mill, for the ledge of ore was gradually, but certainly, narrowing to a point where it must eventually pinch out.

Five times, in as many weeks, Dick had crossed the hill and waited for Miss Presby. Twice he had been bitterly disappointed, and three times she had cantered around to meet him. Their first meeting had been constrained. He felt that it was due to his own bald discovery that he wanted her more than anything in life, and was debarred from telling her so. In the second meeting she had been the good comrade, and interested, palpably, in the developments at the Croix d'Or.

"You should sink, I believe," she had said hesitatingly, as if with a delicate fear that she was usurping his position. "I know this district very well, indeed; and there isn't a mine along this range that has paid until it had gone the depth. Do I talk like a miner?"

She laughed, in cheerful careless-

ness as if his worries meant but little to her.

"You see, I've heard so much of mines and mining, although my father seldom talks of them to me, that I know the geological formation and history of this district like a real miner. I played with nothing but miners' children from the time I was so high, pigtails and pinafores, until I was this big, short skirts and frocks."

She indicated the progressive stages of her growth with her riding crop, as if seeing herself in those younger years.

"Then my father sent me to an aunt, in New York, with instructions that I was to be taught something, and to be a lady. I believe I used to eat with my knife when I first went to her home."

She leaned back and laughed until the tears welled into her eyes.

"She was a Spartan lady. She cured me of it by rapping my knuckles with the handle of a silver-plated knife. My, how it hurt! I feel it yet! I wonder that they were not enlarged by her repeated admonitions."

Dick looked at them as she held them reminiscently before her, and had an almost irresistible desire to seize and crush the long, slender, white fingers in his own. But the end of the meeting had been commonplace, and they had parted again without treading on embarrasing ground.

Dick had heard no more from the owner of the Rattler, save indirectly, nor met him since the strained passage of the bridge; but mess-house gossip, creeping through old Bells, who recognized no superiors, and calmly clumped into the owner's quarters whenever he felt inclined, said that the neighboring mine was prodigiously prosperous.

"I heard down in Goldpan," he squeaked one night, "that Wells Fargo takes out five or six bars of bullion for him every mill clean-up. And you can bet none of it ever gets away from that old stiff."

"But how does this news leak out?" Dick asked, wondering at such a tale, when millmen and miners were distinguished for keeping inviolate the secrets of the property on which they worked.

"Wells Fargo," the engineer answered. "None of the boys would say anything. He pays top wages and hires good men. Got to hand that to him. He brags there ain't no man so high-priced that he can't make money off'n him—Bully Presby does. And they ain't no better miner than him on earth. He can smell pay ore a mile underground—Bully Presby can."

The old man suddenly looked at the superintendent, and said: "Say, Bill, You been down to the camp a few times, ain't you?"

"Yes, we've been down there several times. Why?"

"Well, I suppose you know they's a lot of talk goin' around that the Cross is workin' in good pay now?"

"Oh, I've heard it; but don't pay any attention when it's not so."

Bells Park leaned farther over, and lowered his shrill, garrulous voice to a thin murmur.

"Well, I cain't tell you what it is, but I want to give you the right lead. When that gets to goin' on about newcomers in the Blue Mountains—fellers like you be—look out for storms."

"Go on! You're full of stuff again!" Bill gibed, with his hearty laugh. "If we'd litsened to all the mysterious warnin's you've handed us since we came up here, Bells, we'd been like a dog chasin' his tail around when it happened to be bit off down to the rump and no place to get hold of. Better look out! Humph!"

The old engineer got up in one of his tantrums, fairly screamed with rage, threatened to leave as soon as he could get another job, and then tramped down the hill to the cabin he occupied with the other engineer. But that was not new, either, for he had made the same threat at leat a half-dozen times, and yet the men from the Coeur d'Alenes knew that nothing could drive him away but dismissal.

It was but two or three days later that the partners, coming from the assay-house to the mess late, discovered a stranger talking to the men outside under the shade of a great clump of tamaracks that nestled at the foot of a slope. They passed in and sat down at their table, wondering who the visitor could be. The cook's helper, a mute, served them, and they were alone when they were attracted by a shrill, soft hiss from the window. They looked, and saw Bells Park. Nothing but his head, cap-crowned, was visible as he stood on tiptoe to reach the opening.

"I told you to look out," he said warningly. "Old Mister Trouble's come. Don't give anything. Stand pat. A walkin' delegate from Denver's here. God knows why. Look out."

His head disappeared as if it were a jac-in-the-box, shut down; and the partners paused with anxious eyes and waited for him to reappear. Dick jumped to his feet and walked across to the window. No one was in sight. He went to the farther end of the mess-house and peered through a corner of the nearest pane. Out under the tamaracks the stranger was orating, and punctuating his remarks with a finger tapping in a palm. His words were not audible; but Dick saw that he was at least receiving attention. He returned to the table, and told Bill what he had seen. The latter was perturbed.

"It looks as if we were goin' to have an argument, don't it?" he asked, voicing his perplexity.

"But about what?" Dick insisted. "We pay the union scale, and, while I dont' know, I believe there isn't a man on the cross that hasn't a card."

"Well," replied his partner, "we'll soon see. Finished?"

As they walked to the office, men began to hurry across the gulch toward the hoist, others toward the mill, and by the time they were in their cabin the whistle blew. It was but a minute later that they heard someone striding over the porch, and the man they assumed to be the walking delegate entered. He was not of the usual stamp, but appeared intent on his errand. Save for a certain air of craftiness, he was representative and intelligent. He was quietly dressed, and gave the distinct impression that he had come up from the mines, and had known a hammer and drill—a typical "hard-rock man."

"Gentlemen," he said, "I am representing the Consolidated Miners' Association."

He drew a neat card from a leather case in his pocket, and presented it, and was asked to seat himself.

"What can we do for you?" Dick asked, wasting no time on words.

"I suppose this mine is fair?"

"Yes. It is straight, as far as I know."

"It has no agreement."

"But we are ready to sign one whenever it is presented."

The delegate drew a worn wallet from his pocket, extracted a paper, and tendered it.

"I anticipated no trouble," he said, but without smiling or giving any sign of satisfaction. "Would you mind looking that over, and seeing if it meets with your approval?"

Dick stepped to the high desk at the side of the room which he had been utilizing as a drawing board, laid the sheet out, and began reading it, while Bill stood up and scanned it across his shoulders. Bill suddenly put a stubby finger on a clause and mumbled: "That's not right."

Dick slowly read it; and, before he had completed the involved wording, the finger again clapped down at another section. "Nor that. Don't stand for it!"

"What do you want, anyhow?" Bill demanded, swinging round and facing the delegate.

The latter looked at him coolly and exasperatingly for a moment, then said: "What position do you occupy here, my man?"

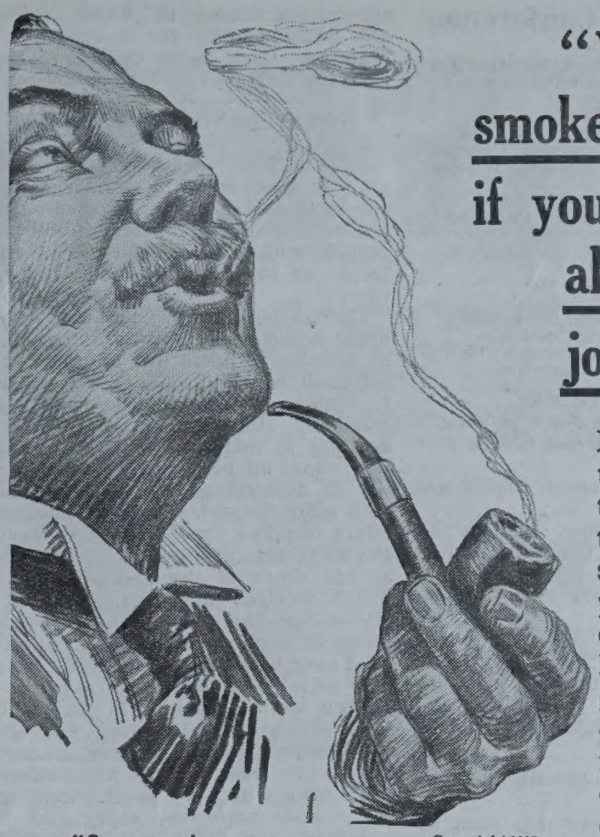
Dick whirled as if he had been struck from behind.

"What position does he occupy? He is my superintendent, and my friend. Anything he objects to, or sanctions, I object to ,or agree with. Anything he says, I'll back up. Now I'll let him do the talking."

The delegate calmly flicked the ash from a cigar he had lighted, puffed at it, blew the smoke from under his mustache toward the ceiling, and looked at the thin cloud before answering. It was as if he had come intent on creating a disturbance through studied insolence.

"Well," he said, without noticing the hot, antagonistic attitude of the mine owner, "what do you think of the proffered agreement?"

"I think it's no good!" answered Mathews, facing him. "It's drawn up on a number-one scale. This mine ain't in that class."



"Say, *you* ring-one up with some P. A., too!"

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"Well, smoke it yourself if you want that all-fired joy-feeling!"

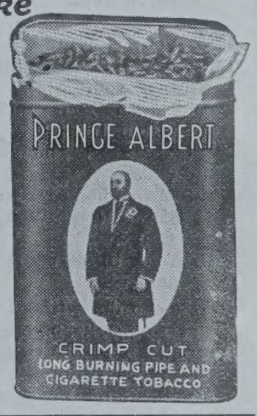
Prince Albert is the cross-lots cut to tobacco satisfaction, whether you smoke a jimmy pipe or makin's cigarette! It hands out more genuine happiness each puff, and fresher fragrance each puff than you ever did dream would fall to your lot. The patented process *fixes that*—and cuts out bite and parch! From dawn's early light until turn-in-time you can smoke away, *man-like,* because there isn't any unpleasant comeback in

PRINCE ALBERT

the national joy smoke

Don't linger about what you're going to do about this pipe-packing and makin's-material question. Because, men, you're losing fun and contentment.

You buy some Prince Albert in the toppy red bag at a nickel or get a tidy red tin for a dime; or pick the handsome pound and half-pound tin humidors. But of all the P. A. packages, you'll find that classy crystal-glass pound humidor what you *need most!* The sponge-moistener top keeps the friendly tobacco in such bang-up trim!



R. J. REYNOLDS TOBACCO COMPANY
Winston-Salem, N. C.

"Oh! So you've signed 'em before."

"I have. A dozen times. This mine has but one shift—the regular day shift. It has but one engineer and a helper. It has but one mill boss."

"Working eight batteries?"

No. You know we couldn't work eight batteries with one small shift."

"Well, you've got to have an assistant millman at the union scale, you know," insisted the delegate.

"What to do? To loaf around, I suppose," Bill retorted.

"And you've got to have a turn up in the engine-house. You need another hoisting engineer," continued the delegate, as if all these matters had been decided by him beforehand.

Dick thought that he might gain a more friendly footing by taking part in the conversation himself.

"See here," he said. "The Croix d'Or isn't paying interest. Maybe we aren't using the requisite number of men as demanded under this rating; but they are all satisfied, and——"

"I don't know about that," interrupted the delegate, with an air of insolent assurance.

"And if we can't go on under the present conditions, we may as well shut down," Dick concluded.

"That's up to you," declared the delegate, with an air of disinterest. "If a mine can't pay for the working, it ought to shut down."

The partners looked at each other. There was a mutual question as to whether it would be policy to throw the delegate out of the door. Plainly they were in a predicament, for the man was master, in his way.

"Look here," Bill said, accepting the responsibility, "this ain't right. You know it ain't. We're in another class altogether. You ought to put us, at present, under——"

"It is right," belligerently asserted the delegate. "I've looked it all over. You'll agree to it, or I'll declare the Croix d'Or unfair."

He had arisen to his feet as if arbitrarily to end the argument. For a wonder, the veteran miner restrained himself, although there was a hard, glowing light in his eyes.

"We won't stand for it," he said, restraining Dick with his elbow. "When you're ready to talk on a square basis, come back, and we'll use the ink. Until then we won't. We might as well shut down, first as last, as to lose money when we're just breakin' even as it is. Think it over a while, and see if we ain't right."

"Well, you'll hear from me," declared the delegate, as he put his hat on his head and turned out of the door without any parting courtesy. "Keep the card. My name's Thompson, you know."

For a full minute after he had gone, the partners stared at each other with troubled faces.

"Oh, he's a bluff! That's all there is to it," asserted Mathews, reaching into the corner for his rubber boots, preparatory to going underground. "He knows it ain't right, just as well as I do. If he can put this over, all right. If he can't he'll give us the other rating."

He left Dick making up a time-roll, and turned down the hill; and they did not discuss it again until they were alone that night.

Get all pullets to laying before cold weather. If you do not, it will be hard to get them to lay during the winter. Pullets which lay in the fall make better breeders in the spring than those which wait till spring to begin laying.

Home Makers Conference

This Department is Edited by Miss Alice Kinney, New Franklin, Mo.

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FROM DAY TO DAY

IF.—From a Woman's Point of View.

If you can let your foot-free friends surprise you
When all your household wheels are out of gear,
If you can get a meal when all about you
Are piled the things there wasn't time to clear,
If you can serve them simple things serenely,
Without a word about the plight you're in,
The while you say unto your soul, 'Be seemly,"
And, in the bosom fight that follows, win,—

If you can love your child with all that's in you,
Yet firmly say the word that must be said,
Face tearful eyes and never let them daunt you,
And in the din that follows keep your head;
If you know life, yet trust your children in it
Because you see that God, who made the gale,
To vanquish sin gave unto man the Spirit,
Just as to fight head winds He gave the sail,—

If you can win respect from those who serve you,
And run your home, and not let it run you;
If you can face details nor let them dwarf you,
And keep your outlook broad, your vision true;
If you can let your sands of time run daily
Into a headlong stream of endless tasks,
And do the things you hate and do them gladly,
Because to serve is all the joy Love asks,—

If you can do, without the dust of doing,
And toiling, keep your soul and body fine,
If you can right the word and deeds you're ruing,
And lean on Love yet not become a vine;
If you can be a worthy wife and mother
And wisely meet all this shall bring to you,—
Fear not to share the burdens of your brother;
What Time shall ask, that, Woman, you can do!

—Jane Dowling Foote in Sunday Magazine.

RELATION OF STATE UNIVERSITY TO THE WORK FOR WOMEN

The University of Missouri should be a leader of public thought. Any phase of life in the state that can be improved by investigation of new truth or the extension of truth already well established is a function of the University

All universities have found it necessary and desirable to organize specialized courses and professional curricula for men. A few universities have organized a small number of specialized courses for women. The work of women is becoming increasingly important. There are more persos engaged in the profession of home making than any other single profession. Home making and housekeeping have been largely empirical and hence so far have been learned by a system of apprecentiship, but the practice of housekeeping is founded upon well established scientific principles. Such principles can be learned and taught.

It is far more important to the state that its women be educated for homekeeping than for other professions. It is more important because ninety per cent or more of the women follow the vocation of house-keeping.

A University supported by the people must provide higher education for all the people. It will not have accomplished this result until it has provided a thoroughly well organized and specialized course in home making and housekeeping for women.—F. B. Mumford, Dean of the College of Agriculture, University of Missouri.

HOME ECONOMICS EXHIBITS

This is a subject which I am very glad to discuss with you, because it seems to me that we are accomplishing such a small per cent of the good results which we should be gettin from our exhibit work. Now, why is this?

Let us look for a moment at the usual home economics exhibit. A list of articles is made out and the prize for each is noted. What articles are to appear on this list is usually decided by the committee in charge, keeping in mind those things which will show up best, but frequently the list is determined by the merchants who offer the prizes. Each man who offers one has the privilege of saying for what this prize shall go, and gets as his share of the spoils the entry which receives this prize. It is not at all strange under such conditions that there is a predominance of pie and cake over breds and other more necessary articles of food.

Each woman decides in just which rank she prefers to enter, and it is quite noticeable how full are the ranks where the best prizes are offered, while others may be quite depleted. She spends upon her entry just the length of time which it takes to make that definite article, or perhaps one woman has made a day of it and enters several articles. All the entries are brought together and some one decides which is best. One of the number gets the prize and each one of the others wonders why she did not get it. Each goes home no wiser than she was before, whether her cake takes the prize or not. It is a game of chance to most of them. How often have you heard a woman say, "I was lucky enough to get this prize."

But how can they be made more worth while? what have the men been doing in their exhibits? Let us look for a momet at the corn show and if we cannot get help. Here the men come from far and near, each bringing his selected ears. These are judged according to a definite standard—a score card it is called. This score card has been worked out by experts who have determined what characteristics in each grain and ear of corn are more worth while, and have assigned a numerical value to each of these characteristics. They are not chosen arbitrarily, but are selected according to the definite value of that special point to the corn and any influence it may have on the future plant. Each lot of corn entered is compared with this ideal standard and scored according to it, usually by an expert. The man who shows the best corn knows why his is best, the man who fails knows where he has failed. But that is not all—discussions are had, led by this expert, experience meetings, you might call them. Ideas are exchanged and each man goes home not only enthused with the idea that he will make his corn the best next year, but with a store of information that will enable him to make his better, if not the best.

Can not we do something similar to this in our home economics exhibits? I believe we can. First of all, we wish to establish definite standards or score cards. These will not only set more definitely a standard for the article to be made, but will serve to emphasize the characteristics which are most important in that article, and by the comparative ideal score will show the relative importance of these different characteristics. Then if to each entry could be pinned a score card showing rank and why and where it has failed, each would know in what way her entry might be bettered another year. Then a step further—let us always have in connection with these exhibits talks telling the "whys and hows," discussions into which all may enter. This done, would not these women go home stimulated with the desire to make better things all the year. It would cease to be luck, but would be very much more a question of definite application of knowledge. Definite ingredients, combined in a definite way, must give definite results.

This would possibly mean a cutting down in the number of articles exhibited—but why have the same cake with three differet kinds of icing, why the same pie crust with several different fillings? Are not our exhibits tending to elaboration rather than the simplification which modern life demands?

These same points hold true with the sewing. We have an equally good opportunity here for the development of standards—our American ideals of everyday sewing are very poor. Let us still do all we can to encourage beautiful handiwork, but is it not still more important to encourage beautiful machine work, and to raise the standards of our women. The usual bargain counters of overtrimmed underwear in our department stores exemplify better than anything else I know the usual standard. Is not the raising of these standards quite as important as encouragement along lines of handiwork? Handwork which, in many cases, has no other function than wearing out the eyes and nerves of sensitive women, and using much time which should be spent out of doors. Let us still encourage sewing, both by hand and with the machine, but most of all let us use these exhibits to raise the standards of our women, and give them a sense of the really beautiful, and an appreciation of proper relation between health and handwork.

We cannot do all this at once, but let us try next year, in every home economics exhibit over the state, at least, to make a beginning. Let us select those entries which are really worth while. Copies of score cards for some of these may be had by application to the department of home economics, University of Missouri, and the State Board of Agriculture is always glad to send out judges to the county fairs. Then let the women get together for discussions and exchange of ideas. One woman makes delicious bread; let her pass the secret on to her neighbors. Do not just exchange the recipes, but discuss the reasons why. In this way I think we can obtain much that is good from our home economics exhibits.—Louise Stanley, Department of Home Economics, University of Missouri.

THE RETIRING FARMER

There is a lot of discussion going on now about the best way and place for the farmer and his wife to spend their last years. We think it is largely an individual matter for we see on the one hand so many old people enjoying life on the old farm their hard work has made comfortable, and again about an equal number who are enjoying the new-made home in town that we are convinced that no one fast rule will fit all cases. More important we think, than the "place" is the "way" in which our old age is spent. No matter where the father and mother spend their declining years, we think it is better to spend them actively than passively, and hence we don't like the word retired for those who must of necessity cease so much hard manual labor. That old age which is spent in usefulness of some kind for making the world better never needs to retire although the hands may cease hard labor.

Here is a presentation of this subject which sets forth very clearly one side of this subject from a woman who has already seen many years of the strenuous side of farm life. "I fail to see where any great credit is reflected upon the man or woman who was born, reared, married, raised a family, died and was buried on the same little patch of ground called an eighty-acre farm, without ever having ridden on a railroad, talked over a telephone and never having been away from the spot for a few days in seventy or eighty years," writes Mrs. Geo. Myers in the Iowa Homestead. "To me it lacks the spirit of progressiveness that has made our country what it is, and shows the 'This is good enough for me, let the world move on' spirit.

"I fail to see why a man and woman who have worked hard for forty or fifty years must still remain where the work lasts every day from 'sun till sun.' When people who have been used to working get to the place where they are not able to work as they once did, it tires and worries them to sit down and watch other people work. The only way for a tired person to rest is to get away from the work he has been doing for years. When a farmer is not able to work hard and must hire help it adds to the work for his wife, who is also past hard work. A man gets to the place where he is not able to stand the strain of 'bossing the job' and keeping incompetent hired help.

"Let your son and his family move into the home and take the responsibility. Very well, then we have the old story of the big house which is too small for two families. John doesn't farm just like his father used to and the poor old man thinks the place will go to ruin. John's wife is a good woman, but she can't save like John's mother does, and the poor mother soon thinks she ought to take a hand in things. Only trouble for both women will follow. Then two or three children come. The babies are nice, but the noise those boys do make! O, the blissful, happy days that follow for worn-out father and mother on the farm! How satisfied and contented John and his wife are!

"Suppose father and mother had said, 'We are not able to manage the work on the farm, so we will let John move here and we will buy a cozy little home at the edge of the town where we have done our trading for a long time and feel acquainted. We

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can keep a cow, a few chickens and our faithful old horse, and with a garden patch we shall have all the work we are able to do. In this case John and his wife are young and happy on the farm, doing the work according to their own ideas. Father and mother are happy and contented to be away from all the hard work and yet have all the work they feel able to do.

"The farm is a very good place for people to live who are well and strong and able and willing to work. But if some of these town people who know so well what the farmer ought to do would follow in his tracks for a few months they might know less. How much time does the farmer's wife have to don a white dress and sit on the front porch with her fancy work? Country cream and butter, fresh eggs and friend chicken, with fruit and vegetables from the garden are delicious eating, but it takes work, hard work and lots of it, to get them.

"If the farmer and his wife would do all the things that the farm papers and city people tell them to do in managing their farm it would take all they could make to pay the hired help to do the work. Not but that it would be very nice to have everything done so—but who can do it? We country women like to have our homes nice and in order, besides trying to make butter and raise chickens to pay the grocery bills, to say nothing of caring for the garden. Someone will say, 'O, let the men do that.' The men generally have more than they can get done as it should be done.

"The farm is not the place for the tired, worn-out farmer and his wife. And if they are financially able to live without working let them, by all means, leave the large farm and enjoy their declining years in town or on a few acres at the edge of town. To this I would add: leave the farm before you and your faithful wife are too worn out to enjoy yourselves anywhere."

POULTRY TROUBLES DURING THE FALL SEASON

The success of the flock during the winter season depends greatly upon how the birds pass through the fall season, which usually finds the flock composed of birds of all ages and all conditions and stages of moult.

The roosting quarters are found scattered all over the place, some roosting on fences, some in the poultry house, some in trees, and some in hovers or jammed into the corner of a house till they are two or three deep during cool nights. The ones roosting in houses and on the floor in the corner or some house are the ones which need attention.

One of the most common troubles noticed in the fall and early winter is colds and roup. A cold is usually the first stage or stepping stone to roup so that if colds are prevented, roup will be avoided. The two common causes for colds are an unequal heating of the body and the rapid reduction of the temperature. Roosting in a draft will cause a cold according to the first cause, and crowding will cause it by the second.

If a man's temperature gets too high from exercise or extra clothing, nature sends out a perspiration or sweat onto the surface and by evaporation the heat units are taken up and the body is cooled. A hen's temperature is not reduced in this way, for she has no sweat glands in the skin. The moisture with the hen is carried out through the breath so for this reason, if a hen is very warm she will have per mouth open forcing the air in and out to take out the moisture and not to get an extra supply of oxygen into her lungs. If the chickens are crowded at night they are very warm then come out into a cold frosty morning, the breathing organs are so chilled that a cold is the result, which paves the way for roup.

Many cases of roup attributed to the winter season had their real origin in the fall season. A hen's temperature is 106½. She is covered with a coat of feathers for protection. Therefore, hens should not be expected to live under conditions which are comfortable for man. More birds are injured by housing too closely and crowding than by the opposite.

While we do not believe in a "balm for all ills," yet we find the following a good preventive and treatment for roup, canker, chicken pox, etc.:

Magnesium Sulphate	10 oz.
Magneisum Oxide	1 oz.
Sulphate of Iron	2 oz.
Ground Ginger	2 oz.
Sulphur	3 oz.

Give one tablespoonful in moist mash to 12 birds each morning for three mornings and discontinue till needed.

The Magnesium Sulphate acts on the intestines; the Magnesium Oxide on the kidneys; Sulphate of Iron acts on the blood; the ground ginger stimulates all organs, and the sulphur is a general antiseptic. This is therefore a good system treatment or tonic for the fowls.

For severe cases the dose mentioned above should be increased.

No one, however, should ever try to control a disease without first removing the cause. If your birds have a cold, first remove the cause, then administer treatment.

During the fall season all grains, weed seeds, etc., ripen, so that if the birds have free range, they have an abundant supply of food, but the ration is often unbalanced for the ration usually contains too much fat producing elements with not eough tissue forming elements. If the birds have range on clover, alfalfa, cowpeas, etc., the ration is more apt to be balanced, but if they range in a corn field, the hens shold be fed protein in some other form, for without it, the hens will get very fat but produce no eggs.

WHITE RUNNER DUCKS AS I KNOW AND BREED THEM

This rare and lovely variety of pure bred Runners is separate and distinct from the common duck family.

The White Runners have been raised in America only a few years, the first Indian Runners having been imported from England twelve or fifteen years ago. Runners were introduced into England some 80 years ago from India. They were called Indian because of coming from India and Runner because, when frightened, they have a peculiar way of standing nearly erect and running unlike any other duck. They have upright, finely moulded bodies, thin, slender necks, surmounted by keen, finely chiseled heads and are of pure white plumage. Their superiority of type, style and action put them in a class by themselves and always on top.

I remember of reading soon after the White Runners were first brought to this country, that they were the leghorns of the duck family, and that more money was to be made with them than with any other kind of poultry. But at that time, prices were so high that I waited awhile before investing.

When I did make up my mind to give them a trial, I received my start from a breeder, one of the most successful in the country, who had taken more than one "blue" at the big shows, and who was breeding for eggs as well as the show room. I have never had cause to regret my investment.

These ducks have many merits and few faults. They are the most prolific layers, laying in the winter time when eggs are high. The eggs are much larger than a hen egg and are pure white. Please do not overlook what I say about its whiteness for I have never found a tinted egg. Eggs have been known to bring from 10 to 15 cents more than hen eggs at the same time of the year in New York City.

I might add that on account of the fact that some other kinds of Runners lay a greenish colored egg, this tends to decrease the sale of Runner eggs. The eggs are perfect in flavor and quality, free from any coarseness and highly appreciated by the most fastidious palates. As table birds, they are plump, fine flavor of flesh but do not attain great weight.

I have never had an old duck show signs of sickness and have never lost one by death, and can say almost the same for my young ones.

If you follow a few simple rules you will have no trouble. Never let them stay out in a rain, for they will stand with mouths open until they drown and it takes only a few minutes, at most, for this to happen, when they are but a few weeks old. Use good judgment in feeding and don't forget to give them all the water they want to drink. Finally, keep their quarters clean for they respond quickly to good treatment.

Acid Stomach Claims Millions Of Hogs!

An enormous percentage of all hog losses is due to stomach disturbances and stomach disturbances are largely due to acidity, which interferes with the digestive juices and thereby impairs digestion. Result—thin, scrawny hogs that seem half-starved no matter how much they eat. Millions die. Thousands of hog raisers have proved that the safe and reliable way of neutralizing this acid and preventing its forming again is to mix just a little

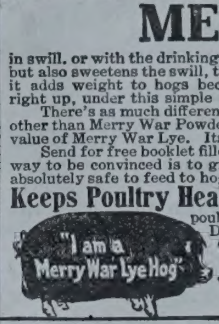
MERRY WAR LYE

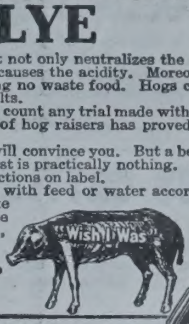
in swill, or with the drinking water, if the hogs are on dry rations. It not only neutralizes the acid but also sweetens the swill, thereby preventing the fermentation that causes the acidity. Moreover, it adds weight to hogs because it helps thorough digestion, leaving no waste food. Hogs come right up, under this simple treatment which produces amazing results.

There's as much difference in Lyes as there is in Doctors, so don't count any trial made with any other than Merry War Powdered Lye. The experience of thousands of hog raisers has proved the value of Merry War Lye. Its use is *not* an experiment.

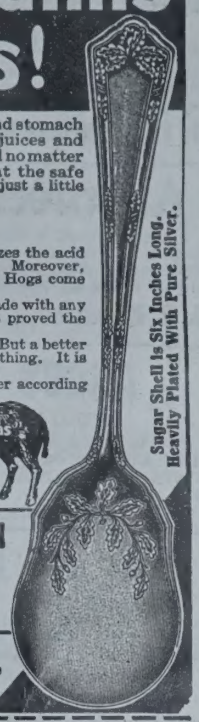
Send for free booklet filled with letters from hog raisers. They will convince you. But a better way to be convinced is to give it a trial on your own hogs. The cost is practically nothing. It is absolutely safe to feed to hogs according to plain, easy-to-follow directions on label.

Keeps Poultry Healthy Merry War Powdered Lye mixed with feed or water according to directions on label, helps to make poultry sturdy and better able to resist White Diarrhoea, Diarrhoea from Indigestion, Cholera, Roup, Limberneck, Gapes, Worms, etc.





"There Are No Substitutes"



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We will at once send you the Sugar Shell—one to a family on this special offer *and tell you how easy it is to get a complete set of this beautiful silverware absolutely free*—sufficient to last a lifetime.

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Premium Department 38

Enclosed find 3 "Merry War" trade-marks. Send me, *absolutely free, prepaid*, Wm. Rogers & Son Oak Design Sugar Shell and list of full set to match.

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Write your own and dealer's name and address plainly.

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To the fancier, Indian Runners are a veritable treasure, a fascinating study, a never-failing source of pleasure, and wherever exhibited they are bound to be the center of highest interest and enthusiasm.

Elbert E. Lawrence, Craig, Mo.

Ownership of The Missouri Farmer

In accordance with the law enacted by Congress which requires newspapers and magazines to file a statement showing the name of the editor, business manager, the owners of the publication and the names of any bondholders, mortgagees and other security holders, The Missouri Farmer has filed the following statement with the Postoffice Department: The managing editor is Geo. B. Ellis. The business manager is William Hirth. The Hirth Publishing Company, which owns The Missouri Farmer, is incorporated for $20,000 divided into 200 shares, 189 of which are owned by William Hirth and 10 shares by Lillian Hirth.

We would like to have our farm women readers write us their experiences with raising chickens, turkeys, ducks and other fowls. Give us an account of the profits you have made on poultry. These articles will make useful and interesting reading for our poultry raisers.

Our booklet on the control of Hog Cholera contains two chapters on Hog Breeding and Feeding which render it invaluable to every farmer. If you will send us a dollar for three years' renewal to the paper we will send it to you free.

The Chicago & Alton Railroad
For Chicago, St. Louis and Kansas City
For further particulars write
JOHN E. FISH
Div. Frt. & Pass. Agt., Mexico, Mo.

Winter tourist fares!

It's Texas time! —and attractively low fares invite you to take advantage of it. Tourists tickets

to Texas

are on sale every day at the following reduced fares:

Austin	$35.30	Ft. Worth	$26.40
Brownsville	$47.60	Galveston	$35.05
Corpus Christi	$41.30	Houston	$35.05
Dallas	$26.40	San Antonio	$35.05
El Paso	$48.95	Waco	$28.80

Liberal stop-over privileges and good for return until May 31st, 1916. For full details, see, or write

H. L. WILSON, Ticket Agent, Columbia, Mo.

ANGUS CATTLE

Choice Aberdeen-Angus

Established 30 years. 100 head in herd. We are offering good useful Bulls, and Heifers of excellent individual merit and breeding. Prices reasonable. Our customers make them popular.

D L. Sutherland & Sons Windsor, Mo

Aberdeen-Angus

I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.

J. D. Blackwell Fayette, Mo.

ANGUS CATTLE

HERD FOUNDED 1904

Seven early calves—3 BULLS and 4 HEIFERS, sired by Dean's Eric 139686. Every one the right kind, and priced to sell.

V. E. LAWRENCE, SALISBURY, MO.

Angus Bargains

Registered bulls and heifers. The market topping kind. Leading families represented. Priced worth the money and satisfaction guaranteed.

Also Poland China Hogs

J. M. JONES, R. F. D. 3, EVERTON, MO

BROWN'S ANGUS

Choice young bulls; two heifers 2 yrs. old; several good cows. Also four extra Poland boars ready for service.

All Stock Registered

K. H. BROWN, - - BOLIVAR, MO.

JERSEY CATTLE

JERSEY CATTLE

Bulls ready for service. They are sired by the Owls Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

Jersey Cows

I want to sell 20 head of registered cows and heifers that are either fresh or soon will be. Also four young bulls.

J. B. SMITH Platte City, Mo.

SUNSET JERSEYS--TRIO

Two fancy heifers (both bred) and a fine bull, all of the famous Blue Belle—Golden Rosebay breeding. I will sell this trio for $250. This price cannot be equalled anywhere for such stock. Send for circular, description of herd, production etc.

The ENNIS STOCK AND DAIRY FARM, Horine Station, Mo. (Just south of St. Louis)

HOLSTEIN CATTLE

Dutchland Sir Hengerveld Rag Apple 99771

A few choice bull calves out of heavy producing dams sired by the above famous bull for sale.

BLACK AND WHITE FARM
Baden Station, Mo.

Tel. Colfax 1812 R. R. 30

IN MISSOURI

Eight bulls, 2 to 8 months, $100 to $175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.

S. W. COOKE & SON, MAYSVILLE, MO.

HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndyke Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

M. E. Moore & Co., Cameron, Mo.

HIGH GRADE HOLSTEINS

I am offering a nice lot of well bred, high grade Holstein cows and heifers. Good strong individuals, nicely marked and priced reasonable.

E. L. ENSIGN - - Cameron, Mo.

RED POLLED

RED POLLED CATTLE

HERD ESTABLISHED 16 YEARS

Young stock for sale at all times. Young bulls sired by Logan 13500. The dual purpose kind. Also Spotted Poland China spring boars and gilts.

M. L. SNYDER, - POLO, MO.

Live Stock Notes

R. P. ROYCE, Fieldman

COMING SALES

POLAND CHINAS

Will G. Lockridge, Fayette, Mo., Feb. 2.
Bridges Bros., Slater, Mo., February 11.
W. A. Baker & Son, Butler, Mo., Feb 18.
Bennett Bros., Lee's Summit, Mo., Feb 19.

DUROC JERSEYS

Dowden & Partridge, Maryville, Mo., Feb. 11.

Market Topping Durocs

We are in receipt of a very interesting letter from W. O. Smith, senior member of the firm of W. O. & B. A. Smith, Thompson, Mo., in which they have the following to say:

"We are today in receipt of a letter telling us that the highest priced load of hogs sold on either of the five leading markets this year, was sired by a boar we bred and raised. Furthermore, this was the only load of heavy hogs to top the market so far this year. Naturally, we take considerable pride in this record. We have a few good boars on hand now that are bred practically the same as the above boar, and they are just as good at the same age.

We want you to see our new boar, and believe that you will pronounce him a popper. He is by Pal's Col. and is out of a Fancy Col. dam; second dam a grand daughter of Proud Advance. Mr. R. C. Watt, who bred him, said, 'There will not be a bigger or smoother yearling sold this year and he is ready to go into the best shows and win his share of the ribbons. He has demonstrated his ability as a sire.' Col. Igleheart said of him: 'I think he is a great boar. In fact, I think he is as good as Pal's Premier or Pal's Success. The Premier boar sold for $860 and Pal's Success sold for $1500 I am sure he would be in the money in any show ring.' We have a great line of gilts by Beauty's Model, Col. Bob, S. & C's Valley Chief, and Instructor, that we are breeding to the above boar, and we are prepared to book orders for these gilts to be shipped when safe in pig. We really believe that this new boar is the largest, smoothest, longest, heaviest boned, big type boar of his age in the West."

The Smith herd has long been recognized as one of the progressive herds in the state and from the above letter our readers can gain an idea as to the quality of the Durocs now offered for sale. Get in touch with this firm at once. Please mention this paper.

Porter's Polands

Notice the change in the advertisement of M. D. Porter, the veteran breeder from Vandalia, Mo. Mr. Porter is now offering several richly bred spring boars at prices that should move them in a hurry.

Mr. Porter is one of the oldest Poland China breeders in this state and for years has been among the successful exhibitors at the Missouri State Fair. This last year Mr. Porter not only made a fine showing in the futurity but he had the grand champion sow. When you buy from this herd you buy on a guarantee of satisfaction. Mention The Missouri Farmer.

Shropshire Specials

Look up the advertisement of C. W. Chandler, Kellerton, Ia., who advertises Shropshire sheep in this paper. Mr. Chandler is offering some good values in ewes and rams.

Angus Cows and Heifers

J. D. Blackwell of Fayette, Mo., is offering a few good registered Aberdeen-Angus cows due to calf in early spring, also yearling heifers and bulls, fancy bred and in good thrifty condition at attractive prices, if taken in the next few weeks. Mr. Blackwell will be glad to correspond with any prospective purchaser and will be glad to give detailed information concerning these cattle.

Megown's Spotted Polands

Judge B. B. Megown, New London, Mo., advertises a choice lot of early spring spotted Poland Ccina boars. Judge Megown is one of the most ardent supporters of the spotted Poland to be found anywhere, and his herd has been built up on the best blood and individuality he could buy. At present a few cracking good boars, sired by Silver King, by the great Spotted King, are being priced in keeping with the quality offered. The writer regards Silver King as one of the most valuable spotted boars owned in Missouri.

Clydesdale Horses, Jacks and Jennets

Clydesdale Stallions, Mares and Colts, with quality and breeding, for sale at lowest prices. We also breed Jacks and Jennets and sell them as low as the lowest.

HIGHVIEW FARM F. L. CROSBY, Prop., Mexico, Mo.

POLAND CHINAS

Smooth Columbus
THE BOAR THAT PUT MISSOURI ON THE MAP. HEADS OUR HERD

15 Extra Choice Spring Boars—Bargains! Sired by SMOOTH COLUMBUS, the record sire of the state, and others by BIG JOE. Head boar material here. Must be sold as we need the room. Get our prices. All immune. Satisfaction guaranteed.

BENNETT BROS. R. 5, LEE'S SUMMIT, MO.

PAWNEE PRICE IS DEAD

You will want some of his blood in your herd because it makes for size and quality. We have a few extra good spring boars sired by Pawnee Price for sale at reasonable prices. First come, first served.

J. F. RICHARDS & SON - - - - - - - - - - Bevier, Mo.

REAL POLAND CHINA BOAR BARGAINS

A few very choice big type Poland China boars. Good quality and the very best of breeding. Weight, 150 pounds and upwards. Priced very reasonable. Satisfaction guaranteed.

M. D. PORTER - - - - - - VANDALIA, MISSOURI

Spring Boars by the Grand Champion

A desirable lot of early spring boars by The Giant, acknowledged to be one of the greatest young Poland China boars of the breed. Prices within reach of all.

WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

Poland Chinas & Shorthorns

Spring boars and gilts, pairs, trios or more. A few sows and gilts bred for fall farrow. Several choice young bulls and heifers. Satisfaction guaranteed.

H. S. Williamson, Route 6 Centralia, Mo.

POLAND CHINA BARGAINS

I have some good Big Type Poland China hogs; some tried sows, one aged boar, some spring gilts and spring boars. Registered stuff. Cholera immune. Come and see them or write me. LOU LE FEVRE, Collins, Mo.

BALDWIN HEIGHTS POLAND BOARS $25

Choice spring boars sired by King Jumbo by King of All, and out of sows bred in the purple. Your choice for $25. Satisfaction guaranteed.

R. F. BALDWIN, Rt 1, ROCHEPORT, MO.

MEGOWN'S SPOTTED POLANDS

No matured stock for sale but booking orders for pigs to be shipped later. Have length, bone, size and big spots. Sired by two of the biggest boars in the State for their age.

B. B. MEGOWN, - - - - - - NEW LONDON, MISSOURI

Bridges Bros.' Poland Chinas

There is a Reason why we can please Missouri Farmer readers who are needing a strictly big type Poland China spring boar. We have about twenty extra good ones sired by BIG BOB WONDER, LONG JUMBO 2nd, LONGFELLOW SAMPSON, WONDER EX., etc., and out of our carefully selected sows. Our herd boar is

KING JOHN 72135

Long Kings Equal's greatest son. Everything immune. Prices reasonable.

BRIDGES BROS., Slater, Mo.

BAKER'S REAL BIG-TYPE POLANDS

Our winnings at the State Fair proves that we "have the goods." Spring boars and gilts of excellent breeding and individuality at very reasonable prices. Also a number of fall boars; big, stretchy kind.

W. A. Baker & Sons, Butler, Mo.

Morgan's Poland Chinas

Strictly big type. Cholera immune. Pigs of either sex sired by Mastodon King's Equal and Big Standard, weighs 700 pounds at 18 months old. Visitors welcome. Correspondence solicited.

E. A. MORGAN, - COLLINS, MO.

Linhardt's Polands

Choice spring boars and gilts. Fall boars and gilts. All sired by Giant Mammoth, Governor Hadley and Mammoth Wonder. Satisfaction is guaranteed. Have shipped to 23 states.

H. O. LINHARDT. LOHMAN, MO.

Dooley's Spotted Polands

Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pairs and trios no relation. Also registry furnished. Send check with first letter.

EDGAR DOOLEY, - Etterville, Mo

DUROC JERSEYS

THOMSON'S PREMIUM DUROCS

State Fair and Futurity winners offered, also 3 great spring boars out of 800-lb. sow, and by grand champion sire, and sire of grand champions. Also have other good boars and gilts. Satisfaction guaranteed.

W. H. & GEO. E. THOMSON - - - - - - Columbia, Missouri

SELECT COL. II Heads White's Durocs

27--BIG DUROC BOARS--27

Weight 175 to 200 lbs. in breeding condition, March farrow. Big bone, stretchy wide backs, good colors, direct from prize winning sires and dams, choicely bred. Forty gilts of the same type. Guaranteed. Prices moderate.

A. WHITE JR., . Box 422 Palmyra, Mo.

Col. Wonder Duroc Boars $25

At recent Missouri State Fair my herd won 35 ribbons—3 championships, 15 firsts. Col. Wonder sires my champions—he will sire them for you. Choice bred gilts. Spring boars by Col. Wonder $25 each. Send check in first letter. Nothing but the best sent on mail orders.

CHAS. L. TAYLOR - - - - - - Olean, Mo.

Lockridge's Champion Polands

Several years ago Will G. Lockridge, of Fayette, Mo., said to the writer: "I feel rather well pleased with the herd at present—it has paid its way and made a little money, and whenever it fails to register a profit I will quit—but I am not satisfied and will not be, until I have the best. I have used some mighty good boars, but I want better."

In a nutshell that is the plan Mr. Lockridge has pursued in building up his herd. He started with small capital and his herd has made its way, he was never satisfied with what he had, and was always on the lookout for a chance to improve.

A year ago last winter he attended the McClarnon sale and purchased a Colossal sow bred to Hercules, the boar that attracted so much attention about that time. In the litter farrowed by this sow was a boar pig that just seemed to grow away from the rest. We remember the pig quite well and remarked on his unusual size. Later in the fall we saw this same pig and could hardly believe he was the same. By this time Mr. Lockridge was convinced that he had the making of a great herd boar and he began to watch the boar. When he began breeding sows for his February sale, he bred a number of his best ones to the young boar. The day of the sale, The Giant was a regular sensation and gilts bred to him were in sufficient demand to average $57. The Giant continued to develope, and his owner decided to take him to the State Fair and let the public see him. He was shown and won first in his class and was later made grand champion. It was conceded by all that The Giant was the largest junior yearling seen at Sedalia in years. A giant in size, this boar shows remarkable smoothness and quality. His back is exceptional and it would be hard to find a boar as good on his feet. The spring boars that Mr. Lockridge is offering are mostly by this grand champion and show the same qualities, to a degree, that made the sire a champion. The prices are very reasonable, and when one stops to think of the added value of having a boar sired by a grand champion they look positively cheap. Only a few are left but they are good. Mention this paper.

The College of Agriculture

Offers Live Stock for Sale

A number of choice Poland China spring boars and gilts. Also some bred sows and gilts. Several desirable Duroc boars from spring pig to yearlings, also spring gilts and sows open or bred.
2 PERCHERON BROOD MARES a black and grey 4 and 7 years old. In foal to the stallion, Honorable. The above live stock is priced exceedingly reasonable for quick sale. Address
Departm't of Animal Husbandry, Columbia, Mo.

CHESTER WHITES

RAUSCHER'S CHESTER WHITES!

Big, stretchy, heavy boned, March and April boars and gilts sired by Combination Giant, Mo. First and others. Pairs, trios or more. Prices reasonable and pigs must satisfy.
H. Rauscher & Son, Kahoka, Mo.

O.I.C.'s or Chester Whites

Express prepaid on O. I. C. and Chester White spring boars. Write for prices.
W. P. DOOLITTLE
WOODLAND, MARION CO., MO.

O. I. C. Fall Pigs

Seventy (70) choice ones now ready to ship. Can furnish pairs, no kin. Guarantee accompanies each sale. They are from prize-winning stock on both sides. Order now while you can get the best at bargain prices.
S. D. & B. H. FROST,
Box 4 Kingston, Mo.

BERKSHIRE HOGS

Big Type Berkshires

Choice Berkshire breeding stock sired by grand champion boars of Illinois and Missouri state fairs. Also S. C. Black Minorca chickens. Prices reasonable.
J. V. FISH, Route 7 BOLIVAR, MO.

SHROPSHIRE SHEEP

RAMS - EWES

Forty big yearling and 2-year-old rams from champions of North America. Importation of 200 registered Shropshire ewes to arrive November 20. Foundation flocks for new breeders. Just north of St. Joseph, Mo.
C. W. CHANDLER, KELLERTON, IOWA

AUCTIONEERS

THOMAS E. DEEM
AUCTIONEER
Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased.
Dependable service at a reasonable charge. Address, Cameron, Mo.

Harry W. Graham
AUCTIONEER
PURE BRED LIVE STOCK
Seventeen years experience with America's best breeders.
Chillicothe, Missouri

W. D. ROSS
Auctioneer
Pure bred live stock. Sales made anywhere on reasonable terms. Write for dates.
Otterville Missouri

MOLASSES Richest Feed Lowest Cost
St. Louis Molasses Co., Dept. MF., 400 S. Broadway, St. Louis.

Baker & Son's Undefeated Boar

W. A. Baker & Son, Butler, Mo., who advertise Poland Chinas in this paper, are prepared to offer some real bargains in spring boars sired by Big Bone's Son Jr., their undefeated boar. Messrs. Baker purchased this boar a year ago after he had won at most of the Mid-West fairs. He was shown again this year and returned home undefeated as a senior yearling. Big Bone's Son Jr. is by the celebrated Big Bone's Son. His dam was Anna Price 11th by Pawnee Lad. Other boars by Big Look and Missouri Wonder are also in offer, and buyers will be pleased with the general quality of the get of either of the three boars. Messrs. Baker are real hog men and their herd is among the best in the state. Mention this paper.

Frost's O. I. C's

In sending in a change of copy for their advertisement S. D. & B. H. Frost, Kingston, Mo., say that the fall pigs they are now offering for sale make up just about the most desirable lot they have ever raised. They have a bit more size and stretch than last year's crop, and show as much quality. The Frost herd has been before the buying public for over thirty years and today it occupies a place secure in O. I. C. circles. Our readers who are in the market for O. I. C's should take advantage of the opportunity to buy a trio of unrelated pigs. Prize winning blood predominates in the Spring Grove herd. Mention this paper.

McPherson Has Durocs With Size

J. E. McPherson, Columbia, Mo., is advertising a very attractive lot of Duroc spring boars and gilts. Mr. McPherson has been engaged in breeding Durocs for a number of years, but it was not until this season that he felt that he was ready to offer his stock to the buying public. We doubt if more size can be found than is shown in the February and March boars for sale. Most of them are sired by the good boar, Golden Tat, by Tatarrax Again. Tatarrax Again is the boar that has given such a good account of himself in the herd maintained by the College of Agriculture. The dams of the offering are, very largely, sows rich in the blood of Ohio Chief. Get his prices before buying.

Fish Offers Berkshires

J. V. Fish, Bolivar, Mo., is advertising some attractive buys in Berkshire breeding stock of various ages. Mr. Fish writes that he can furnish either boars or gilts sired by the grand champion boars of Illinois and Missouri. Mr. Fish also offers S. C. Black Minorca poultry.

Smooth Columbus Boars

Spring boars sired by Smooth Columbus, the boar that has attracted so much attention in the Belcher herd, are offered our readers at very reasonable prices. It will be recalled that Bennett Brothers recently purchased a half interest in this boar for $750. Among the boars now offered are two very attractive spring pigs. One is by Smooth Columbus and the other is an extremely large youngster sired by the noted Big Joe and out of the great sow Fessey's Lady. Either of these boars are likely herd boar material and are being priced so that the man with a few good sows can afford to buy. Bennett Brothers are preparing for a bred sow sale and are therefore anxious to dispose of these boars. Everything offered is immune and sold on a guarantee. Please mention this paper.

Durocs Bred Deep in the Blood of Champions---

It costs no more to buy Durocs sired by proven champions. Spring boars and gilts sired by Col. Wonder, Instructor, and other boars. Plenty of size and stretch. Pairs or more of unrelated stock. Price $25.00 each.

Rockwood Farm - - - - - Iberia, Mo.

Durocs With Size and Bone

I am offering a choice lot of early spring pigs with unusual size, bone and quality. Bred right and priced right. Visitors welcome.
A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

Duroc Boars For Sale

Anything from a 50-lb. weanling to a 500-lb. herd and show boar. We offer some first-class herd header prospects. Good strong boned farmers stock boars. Also gilts. I also have one 16-months and one weanling Shorthorn bulls. Write me your wants. Will try to please you—the price will be right. Over forty old customers are buying here because both prices and stock have been right. Write today for that boar. I have got him. J. E. WELLER, FAUCETT, MO.

A. NO. 1 DUROC SPRING BOARS

I am offering a few extra choice spring boars sired by ILLUSTRATOR and out of TATTLETALE 39th, junior champion International 1913. A few by CRIMSON CHIEF AGAIN. Write or come.
W. C. WATSON. - - - - - - - NEW LONDON, MO.

SMITH'S DUROC BOARS

The good yearling BEAUTY'S MODEL AGAIN, an extra good breeder and a number of spring boars. Some fine gilts mated to PAL'S FANCY ADVANCER for spring farrow. W. O. & B. A. SMITH, Thompson, Mo.

A Splendid Chance to Buy a Shorthorn Herd Bull

Elsewhere in this paper will be noticed the advertisement of J. F. Richards & Son, Bevier, Mo., in which they offer for sale their herd bull Lord Collynie 388445. This bull was bred by S. C. Hanna, and was sired by the great old bull Collynie 135022, and out of the cow, Emma Cowslip; second dam Imp. Emma 33rd. Lord Collynie is not only a royally bred bull, but he is an individual of exceptional merit. He is a roan bull of plenty of scale, lots of character about the head, carries as good top and underline as one could ask, and is naturally a very thick fleshed bull. Lord Collynie has given a good account of himself in the Pen-Yr-Hyl herd, as is evidenced by the class of heifers that are being kept. Ordinarily a breeder would not sell a bull of this caliber, but because of the fact that Messrs. Richards maintain a small herd they find it not practical to retain him. This bull must be seen to be appreciated and we urge any of our readers who may be interested to communicate with Messrs. Richards at once.

Brockman's Duroc Spring Boars

A. C. Brockman, Centralia, Mo., is offering a very desirable lot of Duroc spring boars and gilts that are bred along the same lines as the spring stuff he exhibited at the State Fair. Mr. Brockman keeps his herd up to a very high standard and it is no idle statement to say that he has one of the most valuable collections of brood sows in Missouri.

Raucher's Chester Whites

As usual the well known firm of H. Raucher & Son, Kahoka, Mo., is offering the trade a valuable lot of spring boars and gilts. For thirty years this herd has been counted among the really good collections of the breed and the fact that it is stronger today than ever is proof of the progressiveness of the firm. Get their prices before buying.

Hereford Bull for Sale

Hugh Whiteford, Guilford, Mo., is offering a cracking good two-year-old bull for sale at a bargain. This bull is right in every way and is bound to please a critical buyer. He has plenty of scale, and is the wide, deep thick-fleshed kind that will add quality and dollars to any herd. Write Mr. Whiteford for his price. You will be surprised how reasonable you can buy this bull.

REXALL COL. FOR SALE

To close an existing partnership between myself and the College of Agriculture we are offering the above boar for sale. Here is an exceptional chance to secure a high class boar for a reasonable price. I also have a number of choice gilts bred for early spring farrow.
R. L. HILL - - Columbia, Mo.

Hazelwood Durocs

Seventy choice spring boars and gilts sired by HAZELWOOD CHIEF, by CRIMSON COL., and out of OHIO CHIEF bred sows. Get our prices.
E. P. POWELL & SON, Maryville, Mo.

150 Duroc Boars and Gilts

February, March and April boars and gilts sired by Golden Tat, Bob's Col. Wonder, Col. Wonder and Professor's Col. Stretch, size, bone and quality. Priced for quick sale. Write or come.
J. E. McPherson, Columbia, Mo.

75 Duroc Spring Boars and Gilts

Seventy-five (75) good boars and gilts. Rich breeding, and plenty of size and bone. Pairs, trios or more. Priced to sell.
J. C. Garrard & Son, McBaine, Mo.

DUROC BOARS

Good Duroc boars from the best of breeding. They will give satisfaction. Will sell cheap. Large enough for service.
JOHN P. LANEY, WINDSOR, MO.

Duroc Hogs for Sale

THE BLOOD OF CHAMPIONS
Am offering my entire herd, 2 herd boars, 10 herd sows, young boars, bred gilts, a few yearling gilts, 50 fall pigs. Not related. Write me if you want the best.
BUCKEYE STOCK FARM, OLEAN, MO.

HEREFORD CATTLE

HEREFORD BULL

For sale, a registered Hereford bull, two years old. A good individual and priced right for a quick sale.
Hugh Whiteford - - Guilford, Mo.

SHORTHORN CATTLE

Shorthorn Bulls and Heifers

PEABODY FARM now offers 12 choice young bulls and 20 heifers. Good individuals; reds and roans. Priced to sell. Also 20 open BERKSHIRE gilts. Get our prices.
June K. King & Son Marshall, Mo.

SPLENDID SHORTHORN HERD BULL

LORD COLLYNIE 348445, a proven sire of merit and a splendid individual. Sired by Collynie and out of the great cow Emma Cowslip. Write for price.
J. F. Richards & Son, - Bevier, Mo.

Your Hogs

Rid Them of Worms—Like This

For every two hogs put one tablespoonful of Dr. Hess Stock Tonic in the swill twice a day and I guarantee it will get the worms.

Worms are responsible for nine-tenths of all your hog troubles at all seasons of the year, but especially in the fall.

Now, don't be misled thinking your hogs have some other ailment. Nine times out of ten it is worms. My Stock Tonic will positively expel these worms—it will keep your hogs in a healthy condition, thereby enabling them to resist disease and lay on fat. Feed my Stock Tonic to your hogs right now to expel the worms. Feed it also to your horses, cattle and sheep during the winter months, when they are on dry feed; it is a splendid conditioner and tonic and an aid to digestion.

Dr. Hess Stock Tonic

25-lb. pail, $1.60; 100-lb. sack, $5.00. Why pay the peddler twice my price?

My Stock Tonic will keep your stock in prime condition, vigorous and healthy, aiding digestion and assimilation. It has been tested by farmers all over this country for 24 years; it has been sold under my famous guarantee for all that time; that guarantee has been backed up by over 27,000 dealers, one of whom lives right in your town—not a peddler, mark you, but a reliable storekeeper whom you know.

My Stock Tonic is highly concentrated, as the small dose quantity will prove; and as I have no peddlers, wagons and horses to pay for I am able to sell my Stock Tonic through a reliable dealer in your town at rock-bottom prices.

It will put your horses, cows and sheep in fettle, and if your hogs are wormy, put one tablespoonful in the swill twice a day for every two hogs, and I want to tell you that it will be good-bye to the worms or my tonic won't cost one cent. And here are my prices—just half what the peddler charges: 25-lb. pail, $1.60; 100-lb. sack, $5.00. Smaller packages as low as 50c (except in Canada and the far West and the South).

Dr. Hess Dip and Disinfectant

One Gallon Makes 70 to 100 Gallons Solution

One gallon can, $1.00; smaller packages as low as 25c.

Except in the far West and Canada

A powerful disinfectant and germ destroyer. I urge you men to use it around your hogpens, stables, poultry houses, outhouses, troughs, garbage cans, drains, etc. It sure does kill lice on hogs, cures skin and parasitic diseases.

Remember, the germs of disease are often carried from farm to farm—use Dr. Hess Dip and Disinfectant to destroy the germs and keep away foul odors. Sold in pint bottles, quart and gallon cans. Buy from the dealer in your own town—he stands back of my guarantee.

So sure am I that Dr. Hess Stock Tonic will put your animals in a thriving condition, make the ailing ones healthy and expel the worms, that Dr. Hess Dip and Disinfectant will destroy disease germs and foul odors, that I have authorized my dealer in your town to supply you with enough for your stock, and if these preparations do not do as I claim, return the empty packages and my dealer will refund your money.

Dr. Hess Poultry Pan-a-ce-a

Helps Hens Lay

A splendid tonic for moulting hens. It gives them vitality to force out the old quills, grow new feathers and get back on the job laying eggs all winter. It tones up the dormant egg organs and helps to make hens and pullets lay. Economical to use—a penny's worth is enough for 30 fowl per day. 1½ lbs. 25c; 5 lbs. 60c; 25-lb. pail, $2.50 (except in Canada and the far West). Guaranteed.

Dr. Hess Instant Louse Killer

For Poultry and Farm Stock

Dust some on what you think is the cleanest hen in your flock, wait a minute, then spread out a sheet of white paper and ruffle the hen's feathers. Talk about dead lice! you'll be surprised. Sprinkle it on the roosts, in the cracks and dust bath. Also destroys bugs on cucumber, squash and melon vines, cabbage worms, etc., slugs on rose bushes, etc. Comes in handy sifting-top cans. 1 lb. 25c; 3 lbs. 60c (except in Canada and the far West). I guarantee it.

I have a book about Dr. Hess Stock Tonic and Dr. Hess Dip and Disinfectant that you may have for the asking.

DR. HESS & CLARK, Ashland, Ohio

If you have a sick or injured animal, write Dr. Hess, telling symptoms, enclose 2c stamp for reply, and he will send you prescription and letter of advice free of charge.

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE
MISSOURI FARMER
COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE
AND THE MISSOURI EXPERIMENTAL STATION

A Christmas Prayer

Not long since, I had to spend several hours one night in a dingy railroad station in central Missouri. The agent had gone to supper and so, for a while, I was "monarch of all I surveyed" and my only diversion was studying the various instructions of general officers to railroad employees and an old lithograph of the Veiled Prophet which had seen a dozen summers come and go and which, though faded and frayed, was still proclaiming the splendors of its pageantry. After a while, however, a farmer and his stalwart young son came in and sat down a few seats from the place where I was huddled up in a corner—almost unseen. The farmer was a clean faced, intelligent and apparently poor man whose counter part may be found in any farming community in the Country. The son was a fine, bright eyed, hopeful young chap who was about to seek his fortunes in a great city—and the solemnity of the occasion weighed heavily upon both of them and the father expressed keen regret that the boy would be gone during the Christmas holidays. During the more than two hours that the three of us sat there, these two—oblivious to all their surroundings, talked of almost everything—of "Mother" and her health—of the other smaller children—of the debt which hangs over the old farm home—of the terrible foreign war and about a lot of other things trivial to all but themselves. From the first I was deeply interested in their conversation which I was compelled to overhear—for not in a long while have I heard sentiments more simple and beautiful than those expressed by this poor and yet highly intelligent farmer who was a living example of that splendid God-fearing citizenship which has meant so much to the Nation in the past and which constitutes its "Rock of Ages" for the future. I am sure that in his humble home the beautiful old custom of saying grace at the table still holds sway and as I think of the things he said to his son in the little dirt-begrimed station that night I can hear him offer up this prayer on Christmas Eve—and while he may not use my words I know I am using the thought which dwells deep in his care-worn heart.

"Our Father Who art in heaven, I thank Thee tonight that our children are well in mind and body and I beseech Thee that, in the year to come, as in the one which is almost gone Thou wilt continue to bless them in like manner. I can stand the buffeting of life's storms, however fiercely they may beat so long as the health of my loved ones is spared. Guide Thou by day and by night the footsteps of my boy who henceforward will be exposed to the pitfalls of a great city where a human life counts for so little. Help him to lead an honest and upright life and to remember the teachings of his mother who, from his cradle to this hour has taught him to reverence Thy name and never to forgetThee in success or failure.

And Father, deal gently with Mother who has been my faithful companion for these many years—whose sweet face is showing more and more the lines of care which devotion to me and mine and the long years of racking toil have brought—whose patience and long suffering know no end and whose gentle ministrations have made our home a place of refuge when all other habitations have seemed cold and heartless. Help me to be more thoughtful of her welfare and of her health—to speak more kindly and gently to her—to plant more roses along the rest of the pathway which still awaits her to the end that life may represent, in part at least, the bright visions of her young womanhood.

And I pray Thee to bless us with bountiful harvests in order that I may, while I am still possessed of the full vigor of manhood, pay off the mortgage which has so long haunted my thoughts by day and my dreams by night—that wife and I may leave it an unhampered heritage to our loved ones when our race is run. And lastly, Father, may the time soon come when there will be an end of a war which is making the World hideous and when the Savior's benediction of "Peace on Earth, good will to men" may once more dwell in the hearts of all mankind."

—By the Author of After-Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VII DECEMBER 15, 1915 NO. 24

WILLIAM HIRTH
PUBLISHER

"The Quality Goes IN Before the Name Goes ON"

A Piano To Be Proud Of

No matter who calls—no matter how fine a musician—a Crown Piano is a piano to be proud of.

The Crown is not only beautiful in design, artistic in proportion and finely finished, but a high grade musical instrument in every respect.

It answers perfectly to every touch of practiced fingers, and to every mood of the artist musician, in pleasing tones appreciated by all music lovers.

Crown Pianos

are the result of over 30 years of experience and research, and possess beauty of tone and responsiveness of action that are at once recognized by everyone.

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Send for our booklets which explain piano value, also what to look for in the selection of an instrument for your home. These booklets contain real piano information, and guided by them you are sure to select a good piano. They are FREE for the asking. Mail the coupon *TODAY.*

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10 sizes 2 to 25 H. P., capacity 6 to 200 bushels. Conical shaped grinders — different from all others. Investigate.

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WHAT IS AGRICULTURAL CO-OPERATION?

The cheese producers of Sheboygan county, Wisconsin, have given a practical demonstration of the benefits of co-operation, both in producing and in marketing. Wisconsin produces more than one-half of the cheese made in the United States, and Sheboygan is the banner cheese county of the state. The short and simple story of what co-operation has done for the farmers of Sheboygan county explains what co-operation is.

The farmers were selling their milk to the cheese factories, but were not getting what they thought was a fair price for their product. Some of the cheese factories were operated on the co-operative plan; that is, the farmers took their milk to the cheese factory owned by themselves and received the prevailing market price for it each month, and at the end of the year the profit on the cheese sold was divided among the farmers on the basis of the amount of milk delivered to the factory during the year. These co-operative cheese factories were not joint-stock companies, in which the profits were divided among the stockholders, or in which the stockholders controlled on the basis of the amount of stock they owned. They were organized on the basis of "one man one vote" regardless of how much stock was held by any one person. There had to be some capital stock, to be sure, and there had to be some return upon the stock. But the co-operative cheese factory was not organized to make money on the capital invested in the cheese factory. Rather it was organized to pay a dividend upon the money which the stockholders had invested in cows. Therefore, the dividend paid upon the capital stock was confined to 6 per cent. And the surplus was divided among the farmers on the basis of the amount of milk delivered. In this way, every farmer received the full return upon the milk he brought to the factory. The man with one share of stock and twenty cows received a much larger return than the man with twenty shares of stock and one cow. That was co-operation. The policy of the cheese factory was decided upon the vote of all the stockholders, "one vote, and only one, for each man." The man with twenty shares of stock and one cow had no larger voice in the management than the man with one share of stock and twenty cows. That, too, was co-operation.

But, still the farmers of Sheboygan county were not satisfied. They were selling the cheese made in their co-operative factories to the wholesale dealers in Plymouth, who fixed the price at whatever they saw fit. And the price of cheese as fixed by these dealers was so low that even the co-operative factories could not pay a fair price for milk.

So the farmers took another step in co-operation. They organized the Sheboygan County Cheese Producers' Federation to market on the co-operative basis the cheese produced in the co-operative cheese factories. This co-operative selling agency has been doing business for almost two years, and by every standard known to the farmers has proved an unequalified success. The farmers have received from 20 to 30 cents per hundred pounds more for their milk than formerly. Sheboygan county farmers have received about $300,000 a year more for the same quantity of milk than in the days when the cheese was sold to dealers. This is more co-operation.

While this is a benefit that anyone can understand, it is not the only benefit that came to Sheboygan county and to Wisconsin as a whole. Not only did the co-operators get more for their milk, but every farmer in Wisconsin who sold his milk to a cheese factory, whether that factory was co-operative or not, received more for his milk. And every cheese factory, whether co-operative or not, received more for its output of cheese.

Farmers' Co-operative Elevator

The Missouri Farmer: Your letter desiring information regarding our "Farmers' Co-operative Company," of Windsor, Mo., received and it gives me real pleasure to inform you of our methods and success.

Some good patriotic farmers south of Windsor declared that they would not pay the prices for grain, hay and other feeds which were asked by the local elevators here in 1913. The united and ordered all their feed in carloads and saved themselves much money and all of us were greatly benefitted because the dealers all reduced their prices. Then some one said why not organize the farmers and build an elevator? So some of these good farmers went about the country and made speeches at the school houses and organized lodges to help build and equip an elevator. The first general meeting of all these sub-lodges was held at Windsor in the spring. We there decided to incorporate with a capital of $6000 and elected fifteen directors to look after the erection of the building. We had the building ready to handle wheat by July 10, 1914.

We made $2000 clear of all expense by the 1st of January, 1915. Since then we have been getting along all right. I am enclosing a copy of our Constitution and By-Laws.

Hoping this may be a means of many other communities by your help of combining and doing their own business, I submit this to you with best wishes for you and success to farmers' co-operation.

W. D. Walkup.

Co-operative Elevators Successful

Editor Missouri Farmer: Enclosed find check for $1 to apply on subscription for The Missouri Farmer. I think the time is ripe for organization among farmers for self-protection. There are now some three or four Farmers' Co-operation Elevator Companies organized in Henry County and they are doing well. The one at Montrose has been buying 75 to 100 wagon loads of corn a day during last week at about 8 cents per bushel more than the price given at Appleton City where no co-operative company exists. At LaDue we have a modern elevator of more than 12,000 bushel capacity in addition to a good storage room. We have handled 6 cars of coal, 3 of chat (crushed rock for concrete purposes), 2 of flour and feed—all since September.

If you desire I will send you names and address of a goodly number of our stockholders (farmers). We have about 160.

C. A. Rice,
Henry County.

To be sure we want all the names of good farmers who are interested in oc-operation that we can get.

How can you get more for one dollar than when you pay it for three years subscription to a good paper like The Missouri Farmer? Please send the dollar now for renewal.

Get Them NOW

Eggs! Eggs! Eggs!

GILBERT HESS, M. D., D. V. S.

Eggs are high now. Are your hens laying well to make up for the scarce egg crop during moulting? With no green stuff, no worms or insects and no exercise, hens must have a tonic during the winter or they won't lay. I have succeeded in compounding a tonic that will make your poultry healthy, help hens lay and keep the egg organs active.

DR. HESS
Poultry Pan-a-ce-a
A Tonic—Not a Stimulant
Formula printed on every package

I have had Pan-a-ce-a on the market now for 22 years; for nearly a quarter of a century it has stood the test and it has made good in every nook and corner of this country. My Pan-a-ce-a has in it blood builders, tonics, and internal antiseptics, carefully compounded, which, from my lifetime experience as a veterinary surgeon, doctor of medicine and successful poultry raiser, I know will do their work.

During all these years I have never asked a single poultry raiser or farmer to buy my Pan-a-ce-a on claims or say-so, but on a genuine money-back guarantee. Here it is:

So sure am I that Dr. Hess Poultry Pan-a-ce-a will help to keep your poultry healthy and help to make your hens lay, that I have authorized my dealer in your town to supply you with enough for your flock and if it doesn't do as I claim, return the empty package and get your money back.

1½ lbs. 25c; 5 lbs. 60c; 25-lb. pail $2.50 (except in Canada and the far West). Pan-a-ce-a costs only 1c per day for 30 fowl.

My new poultry book tells all about Pan-a-ce-a. It's free.

DR. HESS & CLARK, Ashland, Ohio.

Dr. Hess Stock Tonic
Your cows, horses and hogs are pretty apt to get out of fix during winter. Dr. Hess Stock Tonic contains tonics that improve the appetite and tone up the digestion, laxatives for regulating the bowels, and vermifuges that will positively expel worms. I guarantee it. 25-lb. pail $1.60; 100-lb. sack $5.00; smaller packages as low as 50c (except in Canada and the far West and the South).

Dr. Hess Instant Louse Killer
Kills lice on poultry and all farm stock. Dust the hens with it, sprinkle it on the roosts, in the cracks, or if kept in the dust bath, the hens will distribute it. Also destroys bugs on cucumber, squash and melon vines, cabbage worms, etc., slugs on rose bushes, etc. Comes in handy, sifting-top cans, 1 lb. 25c; 3 lbs. 60c (except in Canada and the far West). I guarantee it.

Galloway Offers Great Bargains For 1916

Four-color catalog free

1915 has proven a wonderful year. Bigger business, more customers, lower prices than ever before. Now comes 1916. Plans are all made. Factories will increase capacity and decrease manufacturing cost. Galloway customers will get the benefit Will you be one of them—and

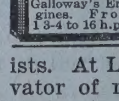
Save 35 to 50% On Your Purchases in 1916

Get a piece of the melon Galloway will divide. Cream separators, manure spreaders, gasoline engines, farmobiles, farm implements. Everything for the farm and household. Sold direct; wholesale factory prices will make you our customer for life. Get 4-color catalog. Shipped from K. C., Mpls., Spokane, Waterloo, Chgo. or Omaha. Wm. Galloway Co., 597 Galloway Sta., Waterloo, Iowa.

Galloway Farmobile or Tractor. Right in price

Galloway's Engines. From 1 3-4 to 16 h.p.

Galloway Spreaders. Built right and work right



Galloway Separators. Perfect in construction.

The Missouri Farmer

OLUME VII DECEMBER 15, 1915 NUMBER 24

The Warren County Farmers' Association

By William Hirth, Publisher

Continuing the discussion of a werful state-wide farmers' organi-tion for which The Missouri Farmer s been making a plea for a number months, we feel sure our readers ll be keenly interested in knowing t this great new movement has en definitely launched in Warren unty. Several weeks ago, a pre-inary meeting—to which we re-red in our last issue—was held and that time a lot of leading farmers embled at the county-seat—and er the matter was thoroughly dis-ssed it was decided to launch the npaign for a County Farmers' As-iation. To this end, a committee six aggressive farmers were ap-nted in each township and these mers pledged themselves to can-s their respective townships from l to end with the idea of bringing farmers of the entire county to-her in a big mass meeting at ich the project could be finally eshed out.

his mass meeting was held at rrenton Saturday, December 4th, the reader may judge of the in-st displayed by the fact that ens of farmers were unable to wd through the doors of the circuit rt room which, perhaps never in history, held a bigger crowd. In t, not only was every seat, bench l window crowded with farmers—in every isle of the court room ree of farmers stood for three long rs while the crowd listened to Sam Jordan, who needs no introduction any audience of Missouri farmers to the writer of this article. At conclusion of the addresses the ners voted overwhelmingly to form Warren County Farmers' Associa-and to push the organization of a m Club into as nearly as possible y school district in the county.

ust C. Polster of near Warrenton splendid farmer whose heart is oughly enlisted in the new move-t and who enjoys the respect and idence of farmers throughout the nty, was unanimously elected Pres-t of the County Association. Gar-Bockhorst of Hickory Grove town-, another splendid, progressive ner, was made Vice-President, e E. H. Winter of Warrenton, a l-horse to whom much of the suc-of the new movement in Warren nty thus far belongs, was made etary. These gentlemen will e as the chief officers for the next when a regularly delegated con-ion representing all of the Farm s in the county will choose their essors.

the meantime, the six committee-from each township were perma-ly elected, and each of these men be a member of the Executive mittee of the County Association, e looking particularly after the work of organizing Farm Clubs as nearly as possible throughout their respective townships. Thus we have an organization composed of three distinct units—the school district, the township and the county—the county later on to become part of a Missouri Farmers' Association. For the present, the chief work in hand will be the organization of school district Farm Clubs with the idea of covering the county from end to end at the earliest possible date. In the resolutions passed by the mass meeting, annual dues to the amount of one dollar were recommended for all Farm Club members—50c to be retained by the school district club and the other 50c to go into the treasury of the county association. Clubs were also asked to meet at least twice per month and no member to be absent except upon good excuse.

Thus has been launched the first County Farmers' Association in the history of American Agriculture—an organization which welds the farmers of a whole county into one compact body with a strong Executive Committee which, together with the officers, is charged with looking after the interests of the farmers of the entire county—and also specifically to supervise the work in the different townships. "This looks more like getting down to brass tacks than anything I have ever seen in my life" was the comment of "Sam" Jordan at the conclusion of the mass meeting—and Jordan comes mighty near being a "bell weather" in the farm game. Continuing, he said, "Suppose we had gotten down to business this way ten years ago? Suppose at that time every county had gotten into the harness in this way? Do you suppose they would be able to rob us out of millions of dollars on hogs, cattle, wheat and other farm products like they are today? Not on your life. Now, if other counties will pull off their coats and get into the fight we'll soon show 'em whether farmers know how to organize and stand up for each other or not. Oh it's almost too good to be true"—and the last the writer saw of this thin visaged evangelist of the cornfields, he was still muttering to himself, "It's certainly fine. It's certainly fine."

It is not the idea that the school district Farm Clubs shall be clubs in name only. On the contrary, as stated above, they will be expected to hold a meeting at least every other week and a definite subject for discussion will be provided for each meeting. Thus, for instance, the following are some of the subjects which will be taken up: "Who Fixes the Price of Farm Products?" "How Can Farmers Co-Operate in Marketing Farm Products?" "How Does Dealing in Futures Affect Price of Farm Crops?" "The Land Bank Bill," "Soil Fertility," and explanation of different fertilizers, "Co-Operative Creameries," "How to Grow Alfalfa," "Is the Silo a Profitable Investment?" "Explanation of Missouri Road Laws," "Forage Crops," "Consolidated Schools," etc.

Arrangements have been made by which each of these subjects will be prepared in simple form by the "Question and Answer" method so that every club member can easily get at the gist of each subject. Copies of each subject will be furnished to club members two weeks before the matter comes up for discussion—while the President or some other members of the Club will be commissioned to act as the "leader" at each meeting night and if there is any question which isn't entirely clear to all the members, an answer will be obtained and will be available at the next meeting. Thus this plan is intended to do two things: First, to make these school district Farm Clubs the greatest agency for the discussion of vital farm questions we have ever known; and, Secondly, to prepare each subject in such a simple and complete manner that farmers will be able to thresh them out themselves without the aid of an outside "speaker." In short, the machinery has been provided which will enable each school district Farm Club to stand upon its own bottom—and that it will soon make the little local school house the greatest rendezvous for the discussion of vital problems affecting every phase of Agriculture where farmers get up behind this program in the right spirit there is little question.

Among other things, it will develop a lot of "farm leaders" who are so sorely needed at this time—teaching farmers the spirit of self reliance and the ability to express themselves before an audience which a little practice brings so easily to many men. For years the farm has furnished the Nation's greatest lawyers, bankers and business leaders. There is no soil in the World more fruitful of leadership

WHERE DO YOU STAND?

The Missouri Farmer is the first farm paper in the United States that has ever inaugurated a fight which is intended to rescue farmers from the plight which now surrounds them and which makes them the helpless victims of the industrial vampires who have long waxed fat upon their sweat and toil—and the question is, Brother, where do you stand? Are you willing to put your shoulder to the wheel and help? If so, then send us a dollar bill or a check when we will mark up your subscription for three years. It takes more than "good wishes" to buy presses, carloads of paper, ink, etc., and to pay the printers when Saturday night comes. The Missouri Farmer is a young paper and is not yet on a self-sustaining basis financially—and if we are to succeed in the great task we have undertaken we must have the help and co-operation of EVERY farmer who reads the paper. We are fighting your battles and unless we can have your support we cannot hope to win.

So, here goes a kind of Santa Claus appeal to you. First, send us a dollar to renew your own subscription. Then see if you can't get two or three of your good neighbors to do likewise—and send us a little club. There are still thousands of fine farm homes in which The Missouri Farmer is not a visitor—farm homes which ought to join in the great fight we have undertaken and upon which so much depends for the future. If YOU and every other farmer who gets the paper will do this, how tremendously it would strengthen us in the great work which lies ahead of us? During the last few weeks, scores of school district Farm Clubs have been organized—thus showing that our efforts are bearing fruit. Soon a number of new County Farmers' Associations will be formed and thus this great new movement is already well under way.

But remember that The Missouri Farmer cannot carry on this fight without your active help. For years endless columns have been written about what farmers could do if they would stand together—and now that, for the first time, a definite and practical plan has been mapped out, everything depends on the support we receive from the farmers of Missouri—and this means YOU! If the farmers of every community will get up behind The Missouri Farmer and help to make this great movement a success, there isn't the slightest doubt that it will result in saving them millions of dollars during the next few years. So, when you talk things over with Santa Claus, don't forget the paper which is fighting for your interests as no farm paper ever fought for them before—and which, in its struggles, has no one else to look to for help.

WILLIAM HIRTH, Publisher.

We are now preparing a new circular on school district "Farm Clubs" which is free for the asking. It tells you how to proceed and contains a suitable Constitution and By-Laws.

except that in the past we have lacked the agencies which call it forth. Again, where is there a farmer who whose views will not be greatly broadened by spending an evening twice per month at the little local school house discussing how the Packers fix live stock prices, how the dealing in futures affects the price of wheat and other farm crops and a technical analysis of the Land Bank Bill and what its enactment will mean to the farmers of this state? Would not you and your neighbors, my friend, be greatly benefited by a Farm Club of this kind? Wouldn't it put new zest and enthusiasm into the monotony of farm life for you? Will we be able to win the great fight ahead of us so long as farmers keep on drifting along in the old way? Again, could there be a finer method by which to get the young farmer boys of your community interested in the farm?

However, the reader should not come to the conclusion that this is all that the local Farm Clubs will take in hand. Back of this great new movement of course lies the great object of perfecting a powerful farmers' organization which, once it has gathered sufficient strength, will market the products of the farm direct to the consumer and thus throw off the strangle hold which the Packers and others now maintain upon the throat of producer and consumer alike—a situation which has placed the control of the Nation's foodstuffs in the hands of a few men and which is becoming more and more unbearable. But while we are gathering strength and girding up our loins for this greater struggle, there are many other lesser practical things which a County Farmers' Association can take in hand—and it is matters of this kind which President Polster of the Warren County Association is preparing to take up with the school district Farm Clubs as soon as they are formed.

For instance, Warren County farmers use a good deal of commercial fertilize and by ordering in carload lots for the members of a given club, it will be possible to save them several dollars per ton in the cost. Here alone is an item of no mean significance. Again, recently a carload of crushed limestone was shipped into Warrenton by Mr. Polster for use upon his farm —and the price paid, together with the freight, made the cost come close to $4 per ton which is practically prohibitive. In the meantime, there are millions of tons of fine limestone rock going to waste all over the county and the plan now under consideration is for a number of Farm Clubs to buy a rock crusher for their common use. Such a machine will cost around $700 and will crush the limestone at an expense, including labor, of about $1 per ton. The crusher can be kept in a community until its farms have been limed—and then it can be moved into the next community and not only will this plan cut the cost down tremendously but it will save a lot of long distance hauls from the railroad station. This is only another instance which will give the reader an idea of what this new plan of co-operation means.

So, also, President Polster has obtained carload prices on bran, shipstuff, oats, hay, corn and other feeds for farm club members—and the saving on every car will amount to a good many dollars. Had the Warren County Farmers' Association been doing business during the drouth years of 1913 and 1914, here is an item which would have saved many thousands of dollars to its members—and who knows but what similar conditions may prevail next year? During the above years the farmers of Colorado and other western states raised splendid crops of alfalfa and had the farmers of the average school district in Missouri been organized so they could have ordered by the car they could have saved $3 or $4 per ton—and do not such matters as these within themselves justify a County Farmers' Association in your county? Again, the binder twine manufactured at the State Penitentiary sells on an average for 5 cents per pound less than commercial twine—but it must be ordered in quantities and the authorities must also have advance notice. Then there are such items as tankage and cottonseed meal, on which buying in bulk will affect a saving worth while. Lastly, there is the feature of adding to the social life of the community—of bringing farmers and their friends, neighbors and wives together from time to time and putting more enjoyment into farm life generally.

Thus, when all the different phases of the matter are considered, is it not plain to any thinking, serious-minded farmer that indeed the "hour for action has come?" Here we have been talking about the disorganized state of farmers for years and now that a definite, practical plan has been worked out, isn't it time for you and your neighbors to get busy? Isn't it time for a little real action as well as everlasting talk! talk!! talk!!!? Again, we call upon every reader of The Missouri Farmer to pull off his coat and get to work. Call your neighbors up over the telephone and get them to promise to talk things over at the little school house without delay. Then if they mean business, begin to plan for a big county mass meeting—and either "Sam" Jordan of the State Board of Agriculture or the writer will help you agree upon a date when one or both of us will be glad to deliver addresses and aid in getting a County Farmers' Association upon its feet at the earliest possible moment. We are now standing on the threshold of the winter season—the ideal time for this kind of a movement. But there isn't a moment to lose. Every mail brings us letters from farmers scattered all over Missouri, saying, "we are ready for business"—but how about **you?** The chances are The Missouri Farmer raeches a good many of your neighbors and doubtless therefore they have also been reading these articles and are familiar with what we are trying to do. We would like to see a thousand school district Farm Clubs organized before January 15th. Will you help organize one in your? We will be glad to mail a suitable constitution and by-laws and further instructions to all who ask for them.

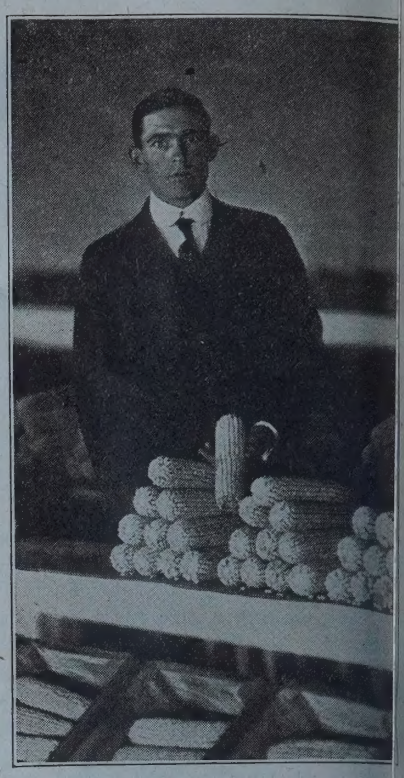
SALINE COUNTY'S SEED CORN AUCTION SALE

Saline County, Missouri, is fairly tingling with enthusiasm over the results of her First Annual Seed Corn Auction Sale which was sure a unique and successful co-operation enterprise and these results, without attempting to classify them according to their importance, may be enumerated as follows: 1st, An unprecedented amount of time and effort put into the selection of the seed corn which afterward found its way to the exhibit hall and auction ring; 2nd, A magnificent display of corn, "three times as big as any county show I have ever seen" in the words of Sam Jordan of the Missouri State Board of Agriculture, and, "far superior in quality to the World's Fair display at St. Louis" according to Hon. Matthew W. Hall who had charge of the St. Louis show; 3rd, 534 bushels of pure seed corn sold through the auction ring in two hours and thirty-five minutes time (by the watch) for a grand total of $1902.75, or an average of $3.54 per bushel; 4th, A whole county believing in and enthusiastic over the possibility of building up a great seed corn center where local farmers will find both a supply of and a market for seed corn; 5th, The establishment of a high standard of quality for the auction sale and a determination to maintain or improve that standard; 6th, Over a half hundred farmers already signed up as competitors in next year's contest and consignors to next year's sale.

These are not all the results. For instance, there are a number of farmers who are making preparations to start corn breeding plots following the half ear to the row method with remnants saved so that the best may be planted the following season to produce foundation seed stock; then again, there is a new sense of the possibility of co-operation among farmers that is worthy of mention.

We began by stating that Saline County is tingling with enthusiasm. So it is. The atmosphere in the county-seat town of Marshall is charged with it. It is felt in every country side and the stock in trade of the Saline County Farm Bureau, the organization behind the event and responsible for it, has gone up something like 200 per cent, according to the general impression.

This is all due to the size and impressiveness of the corn show and auction sale and program of popular and educational lectures held in connection with it. Naturally, the county feels just now that something important has taken place. For this



The prime mover in the Saline Cou Corn Show, Paul V. Maris

reason, we hastened to enumerate the very outset some of the substa tial, worth-while results that w abide after enthusiasm wanes.

A Community Enterprise

It is important to keep well in foreground the thought that this is accurate account of a commun undertaking. It represented the w of one hundred and three farmers a farmers' sons who, before the first of June last spring, signed the lowing agreement:

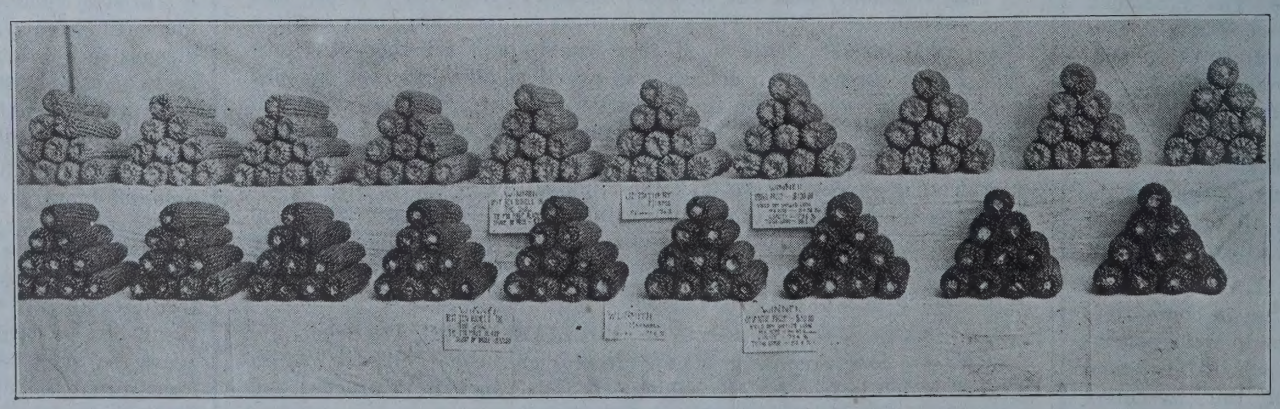
"I hereby make entry as a comp tor in Saline County's One Thous Dollar Corn Contest. I pledge my to comply with the rules govern the contest and to give and deliver the Saline County Farm Bureau bushels of pure, selected seed corn payment for the privilege of enter the contest. In the event of my f ure to grow corn that in the judgm of the committee in charge is p and suitable for sale for seed p poses, I then promise to pay to Saline County Farm Bureau $10 lieu of the ten bushels of corn, only on condition that my corn is such character that its sale would detrimental to the reputation of line County seed corn will I offer in substitute for corn.

Having entered the contest, I pr ise to pay my entrance pledge rega less of the yield or quantity or which I raise."

A County Agent Leads

It is not exactly correct to say the Saline County One Thousand lar Corn Contest and Auction were the work of 103 farmers. It really the work of the county ag Paul V. Maris. It was he who ceived the idea and then execute it with considreable energy and orga ing ability. He drafted the r made preliminary preparation by ting a thousand bushels of pure seed into the hands of prospective testants, did low-up work visiting the fields and der strating the per type of to select, a fa more than other respon for the exce quality and uniformity of corn in the and sale.

Mr. Maris officially ass by a comm



The two ten-bushel exhibits which tied for first place. The top lot is Boone County White from a field grown by J. E. Matheny, Marshall, yielding 94.5 bushels per acre. The bottom lot is Reid's Yellow Dent yielding 86.65 bushels per acre, raised by W. L. Smith, Napton. Watch Saline County in the future for good seed corn.

d the Farm Bureau made up of ominent farmers and cor n grow- of the county. J. M. Sphar, E. Matheny, M. W. Hall, Robert rr and Edw. Dankenbring consti- ed the committee. These men ced upon the rule book which was culated this significant statement: **ie Opportunity Awaits Some nty in the Corn Belt Region to ome Known as a Great Seed Corn ducing and Distributing Center."** s was and is the central idea und which the enterprise hinges.

However, it takes more than the re presentation of an idea, even ugh it be a good one, to get the lic, and especially the farming lic, to take hold of it. Therefore, idea was not merely tossed upon waters, so to speak, with an abid- faith that it would ultimately drift the proper harbor. It was made reat big part of the year's work of Saline County Farm Bureau and the effort seems justified. Such ements as, "The county agent has l for himself for ten years to come e does nothing else," may be heard the Farm Bureau believes that n improvement has been given an etus in a big way and that such lts could not have been gained by fetime of lecturing and writing.

The Plan

he general plan of the contest and tion is very simple. The two fea- s are combined and organized n a self-supporting basis. Each testant promises to give ten bush- of corn or ten dollars in lieu eof if his corn crop failed or if corn could not pass inspection. s pledge was necessary in order to rantee the prizes. It is note- thy that of the 103 contestants fifty e with their carefully selected l corn that passed the inspection mittee. It was an unfavorable son too for all low ground subject verflow and not well drained. Less n one week after the close of the e every contestant who did not g corn, with a dozen exceptions, paid his cash fee of ten dollars. refore, the gross receipts from the and contest approximate $2400. committee in charge expects that y pledge will be paid willingly. of this $2400 the committee has $1100 in cash prizes, purchased distributed 750 one-bushel corn es, paid advertising bills and met ental expenses and will have a nce of over $500 in the sinking . This will pay for some prelim- y advertising next year and serve sort of guarantee in case of bad her interfering with the success e sale.

ntestants were ranked according grade based 75% on the yield per and 25% on the quality of the bushels submitted as an entrance This ten bushels was selected the entire crop and not necessar- wholly or in part from the meas- acre. The idea was to bring the and purest corn on the place. e, interest in the contest and the that quality was a factor in de- ining awards were the incentives rd careful selection. The one sand dollars was divided into ten s ranging from $300 for first to $10 for tenth.

ch acre was measured by the measure, the corn was weighed, shelling per cent determined, the ture test made and yield com- l on the basis of dry, shelled corn cre.

e highest yielding acre was grown boy 17 years of age who obtained 103.8 bushels of dry shelled corn. His name was Charles Miller and his home is in the Fairville neighborhood of Saline county. A neighbor boy named Marion Miller, but not at all related, grew 102.5 bushels on his acre. Charles Miller won first in the contest and received prizes in all amounting to $335.

The Show

The 534 bushels of corn made an imposing exhibit. It surprised, pleased and even astonished both the home people and visitors. Prof. J. C. Hackelman, who acted as chairman of the committee of judges, expressed doubt if such a display of seed corn had ever before been made. It certainly was a greater showing than the corn department of state fair presents and, according to the writer's observations, there was more good corn and less poor corn than was to be seen at any one of the last three state corn shows at Columbia.

Large rows of ten-ear, pyramids extended across the commodious exhibit hall and in front of each one hundred were the ten crates containing the remainder of the ten bushels of corn. Prof. Hackelman was assisted by F. L. Duley and C. E. Carter in the work of judging. Every entry was conspicuously placarded with the judges' score and after the judges' work was completed, with the exhibitor's name so that the visitor could do what he cannot always do at a show or fair, namely: observe the exhibits understandingly.

The Sale

Fifteen hundred people, by count, mostly Saline county farmers, assembled at the auction ring. Cols. Jas. Sparks and C. J. Irvine officiated. Bids were received on one bushel with the privilege of taking the entire lot of ten bushels or any part of it. Every lot was sold on its merits. Mr. Maris announced the name of the grower, the score given by the judges, the source of the seed from which it was grown and the yield per acre obtained by the contestant. The buyers showed unusual discrimination in their bidding and paid prices harmonizing closely with the judges' score.

Two ten bushel lots tied for first place on score in the contest and they brought $138.50 and $120.00. Mr. J. E. Matheny's Boone County White yielding 94.5 bushels per acre brought the first named amount. The separate bushels went as follows: Rose & Buckner, 1 bu., $25; E. P. Dyer, 1 bu., $17; O. H. Madorie, 1 bu., $15; Azo Potter, 1 bu., $10; C. O. Walker, 1 bu., $10.50; F. M. McRoberts, 2 bu., $10 each; Houston Bros., 1 bu., $13, and C. J. Irvine, 1 bu., $14.

The entry tying Mr. Matheny's was Reid's Yellow Dent yielding 86.65 bushels and exhibited by W. L. Smith of Napton, Mo. The individual sales ranged between $10 and $15 per bushel.

Lots were sold to buyers in Indiana, Iowa, Kansas, Oklahoma and a few Missouri counties outside of Saline. However, the large part of the corn, and all the higher priced corn, went to those who expect to be heard from in next year's contest.

We repeat in closing that the greatest of all results of this unique co-operative enterprise fostered by the Farm Bureau organization of Saline County is that the farmers are behind it willing to dedicate their efforts toward building and maintaining a reputation for Saline County Seed Corn and toward making the Annual Sales of the future surpass the initial endeavor. Robert J. Howat.

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SUPERIORITY OF THE JERSEYS

The demand for milk cows and good prices at which they are selling at the present time is a feature of the live stock market. The increasing population and realization of the fact that milk and milk products are about the cheapest and most wholesome foods we can buy are stimulating that demand. Along with this also comes the demand from the consumer for a product of quality. Of course if milk became so very scarce he would buy skim milk if he could buy no better but as long as he is able to buy real milk with good cream on it, that will be his choice and he will be willing to pay for it. This is where the Jersey cow horns into the argument.

If you are buying real Jersey milk with rich cream on it and that fine color, can a Holstein man come along with even the lower price and make you change? Not often. But reversing the proposition. You are buying Holstein milk and have good reason to know of the quality sold by the other fellow. How about it then? From the writer's personal experience the change is usually made at once.

In short, what the public really wants is quality, price is an after consideration.

Scarcity of milk makes a temporary demad among the dairymen for the Holstein cow but when milk is plentiful it takes a salesman with the elastic, persuasive, argumentative qualifications of a lightning rod agent, to sell it in competition with Jersey milk.

The writer speaks from experience on both sides of the fence. He did not have the necessary qualifications in the sale of Holstein milk, but customers "beat a path to his door" for the Jersey product. So long as people drink milk, eat butter and ice cream, just that long will the Jersey products outsell the others.

These are of course only a few of the many reasons of superiority, but as a dealer they are reasons which appeal to me most forcibly.

D. V. Vandiver, Columbia, Mo.

Better join our Farmers' Market Club. See article on next page.

WHAT FERTILIZER SHALL I USE?

"How am I to find out what sort of fertilizers I need for my crops?" is a question very common now-a-days. Many think there is no way to find out except to have the soil analyzed or carry on a series of experiments. Since many farms have several soil types, as well as varying degrees of fertility to get at the answer by means of soil analyses would not seem feasible. Since it is expensive to make a chemical analysis, and also since local conditions would, of course, be unknown to the chemist, what he might find out might not just fit the case.

The farmer may be his own best judge by being familiar with only a few simple facts, which every one would do well to understand, and since these facts or principles are so simple, there should be no reason in the world why he may not understand them.

The answer to the question at the beginning of this article is always answered by the growing crops themselves, by the manner in which they "behave" through a series of seasons.

If one understands the following simple truths he should be able to readily read the story that the growing crops tell him.

There are three chief elements of fertility that concern us for the present, namely, nitrogen, phosphorus, and potassium. If we can arrive at what each one of these elements has to do in plant growth, and how each is indicated, it ought most certainly to put us on the "trail" of knowing what the soil may have in sufficient amounts. Also what ones it may lack.

A familiar example may make it clear. It is well known by every farmer that when he sows wheat or oats in an old feed lot he does not get as much grain in proportion to stalk or straw as he should get. He also notes that in the small grains growing in such soil that the grain does not only not fill well but lodges or "strawfalls" badly. There is most surely a cause for this condition. The cause is that the soil is "out of balance" as it were. Cake may be a "rich" food but it may not feed the body all over in the right proportions. This feed lot soil is the same.

For the present purpose let us say that nitrogen causes great growth of stalk or stem and gives to the foliage the dark green color we like so well to see. The feed lot then surely has the nitrogen. But phosphorus is chiefly concerned in filling the heads full of plump grains. This did not occur in the feed lot soil, hence it did not contain the right amount of phosphorus or the phosphorus was not available. It is potassium or potash that helps to give stiffness to the stem. We note the straws "fell" badly, hence the soil was likely to be short on potash.

Many times we note a soil produces potato "tops" splendidly, but no potatoes are produced. No, George, I do not think that is caused by planting in the wrong "sign of the moon," but is due usually to a lack of potash in the soil. Wood ashes will commonly correct this trouble. If the ashes cannot be cheaply secured buy muriate of potash on the market. The season, it should be remembered will have sometimes much to do in the case and one year's observations may not give trustworthy conclusions, but observations through four or five seasons or for one seasonable year should help one materially in learning his soil needs.

Many have feared to use commercial fertilizers believing that they "killed" the soil. The soil was not "dead" when it was first put to a crop, but constant cropping not only robbed the soil of its fertility but robbed it at the same time of humus or vegetable matter, and **no soil without humus or vegetable matter can be productive.** When we use commercial fertilizers we only return to the soil a part of what we took out by the crops. Commercial fertilizers do not presume to contain humus and unless we keep up the humus by manures or once in awhile feeding down crops or turn under green manure crops, the soil will lose its power to produce, no matter how fertile it may be. It is not commercial fertilizer that "kills" the soil but it is our neglect to keep up the supply of vegetable matter that renders the soil unproductive.

Some soils are also lacking in lime. Ground limestone applied from two to four tons per acre has often a gratifying effect, especially on root and tuber crops. Sam Jordan.

FARMERS MUST SOLVE THEIR OWN PROBLEMS

We are told that of the wealth produced in a given year, agriculture was to be credited for $9,000,000,000. Another feature of importance of this great occupation is that 36 per cent of the population is engaged in it or is supported by it. Despite this vast showing, agriculture taken as a whole in this country, has not prospered. It is agreed that there must be changes. These changes may be centered about three things: (1) better agriculture, (2) better markets, and (3) better financing. Better agriculture is fairly well taken care of through the work of the department of agriculture, in the activities of the many farming associations, by the training afforded in the schools and colleges. But, it has been clearly shown that better agriculture depends upon an adequate system of finance. The fact is that the markets and the financing of agriculture remain about as they have been for the past quarter of a century. Improvements, of course, have taken place in the quicker transportation of products and in prompter financial service. Yet these have not touched the real problem. The farmer is still compelled to rely upon the market machinery, with which he has had little or nothing to do in the matter of its organization, to take the product to the consumer. The problem of marketing, not only includes the proper standardizing of the product and the placing of it in satisfactory carriers and containers, but it has to do with the transportation, the display in cities, the sale of the product and the accounting for moneys received as well.

Between the farmer and the consumer there is a great commercial and financial gap. In the mercantile world this gap between the producer and the consumer is being bridged rapidly by the establishment of the necessary machinery of branches and agents. But, the farmer is playing the game alone and finds it increasingly difficult to protect himself against his own ignorance and his isolation in the commercial world.

The great industrial organizations have learned that co-operation between their different parts are absolutely necessary to their success. Thus, the producers of iron ore are organized for the transportation, melting, manufacture and sale of their product to the consumer. Many other industries have found it necessary to do the same thing. Necessarily, agriculture with its many individual producers, occupies a very different position, but the difference is not so great that the farmers cannot as a group profit by the lesson taught by the experience of these great industrial organizations. The farmer should come to a larger appreciation of the necessity of co-operation between the agricultural groups. It is not a question of socialism or individualism, or Democracy or Republicanism—it is a question of efficiency and social betterment.

Agricultural difficulties are so far reaching in their social effects that they must be worked at in a new light. It is time for a great agricultural society on a national basis to study and formulate the principles for the expansion of the nation's greatest business. How can individual farmers work with their neighbors? How can neighborhood groups work with other groups of a similar character? The confusion of the present cannot continue. This necessity of mutual understanding is not simply one confined alone to the agricultural group, but it has a far wider application, as shown in the experience of England and France in the present war. The organization of agricultural groups under co-operative systems would mean a more adequate and systematic supply of food products in times of distress. Such an organization, however, will have the good will of all so long as it deals in generalities about the existing situation. But so soon as it may agitate for changes in the economic methods of distribution it will have the hostility of some of the adherents of present methods. It, however, must be taken for granted that any change likely to modify situation will find obstacles in their path.

There is still a third element in this problem to be considered. 'Financing the farmer' has been discussed by everybody nearly everywhere. Many suggestions have been made as to methods, but only a few feeble steps have been taken. Without question, no great industry can progress unless it has an adequate system of finance. The commercial world long ago learned this and the farmer must come into a clearer appreciation of its meaning. As yet, no plan has been attempted and no details have been made clear. It is now time that both be done. It will therefore be seen that a great problem of vast extent and an enormous difficulty exists in the marketing and financing of agriculture.

In the final analysis, no one is going to solve the farmer's problem for him. He must do that for himself. Nor will he solve the great problems of marketing and farm credits by his clannish attitude of class spirit. The problems are fundamentally economic and must be based upon sound principles of business and finance. Hence co-operation becomes the key-note working, as it does, for results in the standardization of products and in the hopes for a syste mof finance that will do for farm business what the banks have done for commercial enterprises —Frank L. McVey, President National Conference on Marketing and Farm Credits.

Why not get busy right away and organize a farmers' club in your school district. There are three things you can discuss this winter that will help you keep the club moving: Better Farming, Better Marketing, Better Rural Credits. These are questions which mean much towards the success of all farmers and a study of them will help us arrive at the right conclusions.

BRINGING FARMERS TOGETHER

When you have surplus farm seeds, live stock, farm implements or any other farm necessity for sale—or when you want to buy any of these things—haven't you often wished for some agency which would bring you into immediate and direct touch with farmers who want to buy or sell them? Undoubtedly the demand for such an organization has long existed and The Missouri Farmer is now offering such a service to its thousands of readers through its newly established "Farmers' Market Club" of which we trust the majority of our subscribers will want to become members at once. On the first of each month a bulletin will be issued and mailed to all "Market Club" members and in these bulletins any member may list free of charge the things he has for sale or the things he wants to buy—and that it will soon become a great clearing house for all kinds of farm seeds, farm implements, live stock, etc., goes without saying. Likewise, if you want to sell or rent a farm or hire farm help it will be an invaluable medium—as well as for countless other things which some farmers have for sale and which others want to buy. Already the members of our "Farmers' Market Club" are listing a lot of fine seed corn, cowpea seed, Sudan grass, dairy cows and other similar things which they have for sale—while others are listing the things they want to buy. All members are required to give a bank reference so that other members can look up their standing before any money passes between them—for only farmers of integrity will be allowed to belong to this organization. Where members are in the market for hay, bran, ship-stuff, corn or oats, we are prepared to quote carload prices direct from the elevators, grain companies and from farmers who live in communities where a surplus has been produced—and in this way the "Market Club" will save hundreds of dollars for its members on feed. In short, by this new method, the buyer and seller of all kinds of farm necessities are brought into direct touch with each other through the bulletin which all "Market Club" members will receive on the first of each month.

For $1.50 we will mark up your subscription to The Missouri Farmer for two years and this will also entitle you to two years membership in the "Farmers' Market Club"—or at an extra cost of only 25c per year which is just intended to cover the cost of mailing the monthly bulletins. Already we have a nice bunch of members and the first bulletin is ready to be mailed. We have long felt that The Missouri Farmer owes this kind of a service to its readers for during the year we receive hundreds of letters from farmers who have things to sell and others who want to buy. Hence, when you send in your dollar to renew your subscription to the paper, be sure to add 50c extra for two years membership in the "Farmers' Market Club."

AUSTRALIAN PLAN OF RURAL CREDITS

Australian states and New Zealand countries which are leading the world in many humanitarian experiments, have the most highly organized and most successful rural credit system of any country. If the commission that went from America to study rural credit systems in Europe had visited Australia as well, there would have been no difference among them as to what should be done in the West. The British Columbian commission which visited both Europe and Australia has adopted the Australian system. It is an operation in the development of agriculture and the financing of farmers in German Poland and in the great territorial province of Germany in South Africa.

My belief in the Australian system is based on an acquaintance of eight years as a member of the commission that was entrusted with the management of state aid in irrigation settlement in Australian state of Victoria.

When I went to Australia conditions there were almost a direct counterpart of those now confronting irrigated agriculture in this country. Costly irrigation works had been built but the water was not being used. The number of farmers on irrigated areas was decreasing. Men who were without capital could not buy the land and those with capital did not care to. Irrigation works were unprofitable, because there were not people enough on the land to cultivate it as successful irrigation requires.

The government determined to change this, and it considered two plans. One was to further extend existing tenant farming which would not disturb the large estates. The other was to iaugurate through government purchases and subdivision of large farms a rural life where each man would own the house he lived in and the soil he tilled. The state began an investigation to find out how much money would be required to improve and equip that farm for intense culture. Then a study was made on the ground of the state land-purchase systems of New Zealand, Ireland, Denmark and Italy. A conference was had with officials of the German Empire in charge of state aided land settlements in German Poland and Southwest Africa. In all this study of what the state could safely and wisely attempt, land settlement was considered as a social and economic problem rather than, as in America, a means of making a profit out of land sales.

This preliminary study showed that the success of a settler largely depends on two things: First, obtaining a living income from his farm within a year; and second, getting the whole of his land into cultivation and production inside of two years. The state's plan of irrigation development included, therefore, building of houses for settlers, leveling and seeding a part of the farms, the placing of a practical farm instructor over every area of 20,000 acres or less and the lending of money to the settler to complete the development. In all this the state was amply protected. While the settler was only required to pay a deposit of 3 per cent on the land and was given 36½ years' time in which to complete payments, he paid a 40 per cent deposit of the cost of nearly all improvements and was only loaned up to 60 per cent of the value of permanent improvements made himself.

The state obtained money at 4 per cent and loaned it at 4½ per cent. The one-half per cent margin is intended to meet losses from bad debts and pay any expenses of management that may not be met by the increase in the price of subdivided land. The financial operations of the system have been satisfactory; the accumulated surplus due to the difference between the interest paid by the state and the interest paid by the settler amounted in the last report received to something over $500,000.

The adoption of this system by the state has not cost its taxpayers a cent. On the contrary, it has brought them a direct profit of a half million dollars. It has stopped the drift of the young men from the country and attracted to the land scores of young men from the cities. It has created opportunities for hundreds of poor men who without it would have never been landowners. Under its operations more than four thousand farmers, all starting with limited capital, now live in their own houses and are landed proprietors. It has given the people better houses at less cost, better live stock, better tools than they could have obtained without the financial aid and the expert knowledge and advice that went with the system.

There is an opposition in this country to state action of this character on the ground that the state is incompetent and that all this can be done by private enterprise. The conclusive answer to this is the success of state action in other countries with conditions like our own and the absence of a single successful system of either private or co-operative rural credit where the conditions are like those in the west, Germany, with that thoroughness and business sagacity so characteristic of the nation, did not attempt to extend the Landschaft or any other co-operative system in the development of Poland or Southwest Africa. Instead it adopted direct state action along the lines of the Australian states. The reason why the state can do this successfully and the reason why private or co-operative effort cannot is that the basis for this action is the general welfare and not profit. It is the creation of better conditions in rural life, the bringing into cultivation of unoccupied land, increase in production and taxes. All these things are gains to the public of which the state is the representative. They can not be shared in by any private undertaking.

In adopting this system we have abundant precedent to guide us. We do not have to break any new trails. It is entrusting the creation of new communities to the only authority which should exercise this power and the only one that has the resources, the continuity of existence and the disinterestedness needed to insure the results desired.—Dr. Elwood Mead, member California State Rural Credits Commission.

[One point of great importance brought out in the above address by Dr. Mead is that Australia working under a plan very much like the Missouri Land Bank and with the same margin of one-half of one per cent has piled up a net reserve of half a million dollars and the plan has not cost the state one cent. Furthermore, it has created opportunities for hundreds of poor men to become landowners.

We expect these things will be realized by the Gardner Land Bank Bill.]

Solution of the Trust Problem

The Missouri Farmer: You will find enclosed a check for one dollar to be placed to my credit on subscription to The Missouri Farmer. The Missouri Farmer is by far the best farm journal published so far as we farmers of Missouri are concerned. Keep it coming. I am very much interested in your articles on organization of farmers or farmers' clubs and have thought for several years that this was the only solution of the trust problem in regard to farm products.

I believe that an organization that is strong enough to enable us to sell direct to the consumer is the best plan to adopt.

We may organize a club in this vicinity after the holiday season is over.

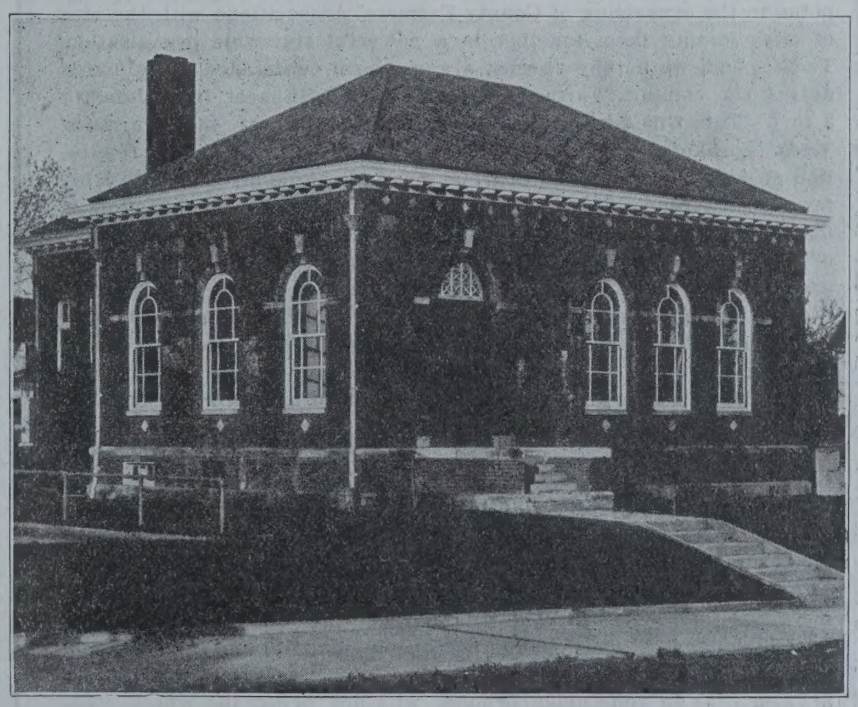
I also like the articles on the front page written by the Author of After-Thoughts.

I wish that every farmer in Missouri could be induced to subscribe for and read your paper. I'm sure it would mean "Better Farming", "Better Farm Homes" and "Better Citizenship" for our state. W. W. Daily,
Chariton County.

Favors the Land Bank Bill

Editor The Missouri Farmer: I have been reading your most excellent paper for several years and think it gets better all the time. Your articles on farmers' organization strike the right spot. If every farmer in Missouri could read these articles and would take heed in a few short months we would see a change we never saw before. I think the Gardner Land Bank Bill would be a grand thing for the majority of the people in the state and they should see to it that it carries. Your suggestions on a farmers' packing plant looks good to me, and I would suggest that you try to organize a plant of this kind and as for a starter you can put me down as one of the one hundred thousand. If there is a plan any better I am in for what will be the most benefit to the general public. John H. Warford,
Pattonsburg, Mo.

[Let every farmer get busy and show that he is ready to help himself as Mr. Warford suggests. Let us begin this co-operation by forming clubs and buying our fertilizer, feed and binding twin in car lots. Co-operative elevators will help us market our grain and after a while we will be ready for the co-operative packing plant.

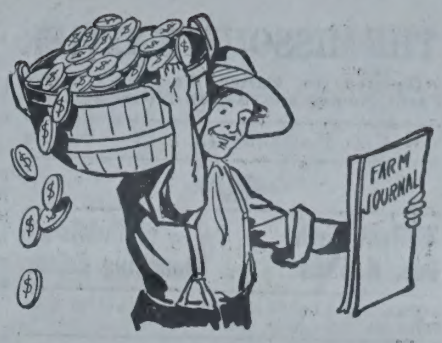


New Home for the Standard Poland China Record Association

The Standard Poland China Record Association will dedicate their splendid new office building at Maryville, Mo., January 5th, 1916, the date of the annual association meeting. The above is a good picture of the new building.

The building, which has just recently been completed, is a one-story structure of brick and stone, with a frontage of 46 feet and a depth of 56 feet. The construction throughout is as near fire-proof as possible. The building contains eight rooms which include a lobby, secretary's office, directors' room, general office, vault and cloak room. The floors are of oak and the other interior woodwork is done in a silver-gray finish. The building and fixtures represent an investment of $15,000.

So far as we know, with the exception of the American Jersey Cattle Club, the Standard is the only Record Association owning and occupying their own building. The affairs of the Standard are in a highly prosperous condition and the increased business the association is now handling made it necessary to provide larger and more satisfactory quarters. The Secretary, Ray Davis, who has been in direct charge of the building of the new office, extends a hearty invitation to all Poland China breeders to visit Maryville at the date of the annual meeting.



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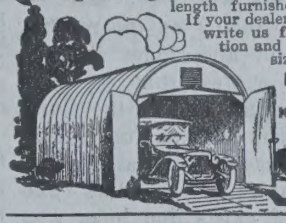
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Geo. B. Ellis - - Managing Editor

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DAIRYMEN SHOULD WAKE UP

For thirty years the greatest handicap to the deelopment of the dairy business in this country has been the powerful and dishonest methods of the oleomargarine interests. There may have been some honest manufacturers of oleomargarine who were satisfied to place their product on the market on its own merit and under its true name but we confess that we have never met up with them. Furthermore, the oleomargarine manufacturers have had the help, passive if not always active, of thousands of breeders and feeders of beef cattle and hogs who have been led to believe that an unrestricted sale of oleo products would enable packers to pay more for cattle and hogs. This fallacy has long since been refuted in the minds of men who have given the question any thought but had it not been what beef raiser is there who would want to profit by the fraudulent sale of his own product and at the expense of a brother farmer who was trying to make an honest living milking cows?

In the beginning of this fight there were some dairymen so extremely radical in their views that they would have prohibited by law the sale of oleomargarine altogether. But the saner view and the one held now by the organized dairy industry of the country is that oleomargarine should be permitted to be sold honestly for what it is but that every one who buys it must be protected from fraud. The present Federal law on the subject which places a regulation tax of ¼ of a cent a pound on uncolored oleomargarine and ten cents a pound on oleomargarine colored yellow in imitation of butter has gone a long ways toward stopping the unfair practice of selling the oleo product for butter.

The danger ahead we want to call attention to just now is that the packers will make a desperate effort during this session of Congress to repeal the 10-cent tax on colored oleomargarine. Every farmer should write his Congressman and Senator and protest against the repeal of this tax unless at the same time Congress amends the law so as to entirely prevent the coloring of oleomargarine in imitation of butter. Let both products sell on their own merits. That is all we ask.

In the interest of this fight against the packers we reproduce the following letter sent by the Secretary of the Missouri State Dairy Association, P. M. Brandt, to the members which should bring a thousand dairymen to the annual meeting of the association to be held in Columbia during Farmers' Week:

From recent developments it appears that during the Congress which has just convened another effort will be made by the manufacturers of oleomargarine to put through a law which will permit them to sell their product as butter.

It appears that the packing interests are purchasing the cotton seed oil and meal mills in the South. It looks as though before very long they will have complete control of this part of the cotton industry. This probably accounts for their unusual activity in conducting a publicity campaign in the South, in which an effort is being made to convince the people of the South that unless the packers are permitted to color oleomargarine in imitation of butter and use large quantities of cotton seed oil in its manufacture the cotton industr y is doomed. Packers are even carrying on a campaign in the northern sections of the country attempting to convince the consumer that dairy products are not wholesome and that they are unsafe to use, while oleomargarine, particularly colored oleomargarine, is exceedingly pure and wholesome. I merely mention these facts to show you what the dairy industry will probably have to face during this coming session of Congress.

The Missouri State Dairy Association will meet for its annual meeting at Columbia during Farmers' Week, January 3-7, 1916,. It is important that a large number of old members attend and that those who have not paid their membership dues do so at once. There are not sufficient funds in the treasury to carry on a campaign for the defense of the dairy industry that may be necessary.

This is but one phase of the great fight The Missouri Farmer has been making in the interest of its readers but it is a most important one. But the dairymen can not win the fight alone, it will take the combined effort of all the agricultural interests to win. Let every man resolve to do his part and do it now.

DO THE PACKERS CONTROL PRICES?

For a number of years live stock owners have been asking themselves the above question but recent developments seem to have convinced most meat producers that the packers absolutely control the price of live animals as well as the price of the dressed carcass. Feeders are just waking up to the fact that the packers have been piling up millions of dollars of profits while the growers and feeders of live stock have put up with barely a living. Recently the Cudahy Packing Company issued $2,000,000 new stock giving it free to the holders of $3,449,500 of common stock. This means that for every $100 of stock the owners will from now on draw dividends on $158. This shows why it is the packers have the money to control in addition to the meat business the fertilizer trade, hides, dairy products, oleomargarine, eggs and poultry, cold storage plants, cotton oil mills, millions of acres of land in South America and other things too numerous to mention. Only a few weeks ago one of the big packers was fined $5000 for a violation of the laws of Missouri but what good has it done? The thing to have done was to drive them out of the state. That is the way the Texas courts are handling them. According to press dispatches three Chicago packing companies, Swift & Co., Morris & Co. and Armour & Co., were fined $40,000 for infringement of the Texas Anti-Trust laws and the companies agreed to accept a perpetual judgment restraining them from owning cotton-oil mills and cotton gins in the state of Texas.

There is only one way so far as we can now see whereby farmers can get a fair market for their products. That method is co-operation in marketing. Co-operative marketing can be made effective with a strong organization behind it and in no other way.

Let the farmers of Missouri wake up to their danger and try to bring about the organization of every school district in the state.

WHO WILL PROFIT FROM BETTER RURAL CREDITS?

A subscriber writes to ask the above question and wants it answered through the paper. Well, the first man to be benefited by a good system of rural credits such as the Missouri Land Bank provides will be the man who is deeply in debt for his land. This plan will help the borrower because it will give him a lower rate of interest and because it will allow him to pay off his loan a little at a time. We consider the benefits to the borrower about as great on account of this small payment spread over a long period of years as it is on account of lowering the rate of interest.

Indirectly every farmer who owns his farm and operates it will be benefited by this law because of the increased prosperity of farmers as a class. There are men mean enough to want to make money off the poverty of others but I trust such men are not found among the readers of The Missouri Farmer. The man who occupies a farm expecting to make of it a life-time home will do more to improve it than the man who thinks he may possibly be "closed out" within five or ten years. There is a community value to every substantial improvement made on any farm. Every dollar spent on better barns, houses, fences, drainage, etc., helps the whole community and it is this larger benefit that is shared in by the man who owns a farm free from debt.

Briefly we would say every man in the state will be benefited by any system of farm finance that will encourage home ownership in place of tenantry and that will promote a better and more permanent system of farming.

A SUGGESTION TO OUR READERS

We believe the time is ripe to hold a great state meeting of farmers to consider the marketing of farm products and to lend an added impetus to the organizing of County Farmers' Associations with the idea of later joining them together in a powerful statewide organization. To this end, we hereby suggest a great farm conference in Columbia during the coming "Farmers' Week" which will meet from January 3 to 7. This will enable those in attendance to hear the "Farmers' Week" speakers—and many of them are men with a National reputation on farm subjects—and then one meeting can be given over to a big farmer conference which can take up the overshadowing question of marketing farm products and an address can be issued to the farmers of the state which is certain to prove a tremendous stimulus to the organizing of Farm Clubs.

Furthermore, we trust that farmers will act on this suggestion by communities. At a cost of $25 per day (on a three-day basis) a tourist sleeping car which will accommodate 28 persons—one to each berth—can be hired. If two persons occupy the same berth the car will accommodate twice the number. In this way there will be no changing of trains for the cars are switched straight through from one railroad to another and since the occupants can sleep in the car while they are in Columbia it does away with having to hunt for rooms or having to go to a hotel—and in the end it is cheaper and much more convenient. So why not make up a "carload" from your community? And why not bring the women folks along? What finer little outing could the farmers and their wives in your neighborhood have? Why not get busy at the telephone at once, make up a sleeping car full and then tell your railroad agent to get busy and have the car there on time? If there is a Farm Club in your neighborhood, why not bring the whole club? Why not have 5,000 farmers take part in a great farm conference at Columbia during "Farmers' Week?"

The women folks will have plenty to interest them because many of the lectures have to do with Domestic Science and other subjects which are of interest to farmers' wives. On the other hand, the men can listen to as many of the famous lecturers as they please and then participate in a great farmers' conference which can deal directly with those vital questions upon which depends the farm life of the future. Beyond the slightest question a ringing appeal issued to the farmers of the entire state from such a body of men would do much to arouse the farmers of Missouri as they must be aroused if they are to be rescued from conditions which are robbing farm life of its profit and pleasure. So get busy and make up a delegation from your neighborhood at once. There is no time to lose. If farmers will act on this suggestion promptly the side-tracks in Columbia should be full of sleeping cars.

THE MISSOURI FARMER, Columbia, Mo.

A VETERAN'S ENDORSEMENT

To The Missouri Farmer:

Enclosed find check to pay my subscription to The Missouri Farmer. You are getting out a most excellent paper and you deserve the thanks of every farmer in the state for the stand you have taken in their behalf.

I have just read your editorial in December 1 edition on "Is It a Hopeless Condition?" and it so aroused me that I thought I must write my approval of your stand. I was raised in Ralls County, Missouri, and educated at Westminster College and came to Saline County in 1857 where I now reside. Am now living on the farm I bought 55 years ago and if I were ten years younger (I am now 84) I would like to join you and organize a farmers' club to fight for farmers' rights. But the generation I have worked with in the Grange and other organizations has served its day and younger men must take up the work if it is to be done. But I would be glad to lend encouragement by my presence and counsel, for I believe with you that farmers are facing a crisis and should arouse themselves.

You have given the farmers sound advice and if they will act upon it rightly I believe we can free ourselves from those who would keep us in bondage.

Some of my neighbors have said they were ready to quit feeding stock for market. But what will we do with the fine crops of corn we have raised? Our land will lose its fertility if we quit the stock business. So, it is folly to talk about quitting.

Your editorial fits the situation exactly as I see it and I hope it will arouse the younger men to action.

J. C. Keithley, Saline Couty.

CORN SHOWS AND FARMERS' INSTITUTES

The corn show and farmers' institute at Platte City was well worth bragging about. This one held on November 29-30, as I understand, was their first effort. If they improve as fast as they do in some places in a year or two some big pasture or field will have to be the place for holding it in order to accommodate the crowd and the corn. Every lecture, they told me, was listened to by a crowded house. I was present on the 30th only. On that day there was more than a "crowded house," all standing room inside and a good deal outside was used as all entrances to the big circuit court room were filled with those desiring to hear. Maybe the reason they took the punishment I gave them for nearly two hours was because the crowd was so thick they could not get away. I have never seen more intense interest than was exhibited at Platte City.

The amount of corn on exhibition was fully as large as I have seen in the state, and the quality was also good. The weak point with those showing corn was in selection. There is a lot of good red blood about that place and it had surely been busy.

A gentleman from Whitesville where they have perhaps the greatest annual show in the state and open to the world, had some corn "not on exhibition" but just to advertise his seed, and the folks at Platte City caught the idea. They asked me to select 10 ears out of 110 ears in the show, and secured two most excellent samples, one of which could win in pretty warm competition.

When my "performance" was over they rushed me out of town fast as possible and headed me toward Kansas City. I did not tarry long in that town, but took train for Louisiana, where a corn, apple and poultry show is on at this writing. I have gone over a part of the corn and there are several samples very excellent. The finest sample, however, is one of Johnson County White from near Palmyra. The apple show is good but not up to several I have seen this season. The poultry show is also good, so far as I can tell.

My next stop is at Marshall, December 3 and Warrenton on the 4th. Then home for 22 hours and 10 minutes.

At Alton, in Oregon County, I saw a man whose life ought to put many of us who complain and whine to shame. His name is Henry B. King. Almost as soon as I reached town he hunted me up to make my further acquaintance. He said his son knew me and he had read a good deal that I had written and he wanted to meet me personally. I noted during my time there that he always seemed cheerful and when I saw him in my audience I could not refrain becoming sentimental. His misfortunes have been many, yet he is "on the job" every day doing his very best, and you may not wonder at my feelings running riot when I tell you that he has suffered two "burnouts, that were pretty bad, has had a leg broken a time or two, he cannot hear a sound and his 'good right arm' is gone."

What is your candid opinion of the greateness of that soul, now confined in that maimed and crippled body?

Marshall, Dec. 4.—Yes, Marshall and Saline County have done themselves proud. Don't let it take your mind away, but here is a corn exhibit I think equal to any three counties combined that I ever saw, and such corn! —all white or yellow; no scrub. The feature is a sale of the seed corn and all offered is in bushel crates.

Of course County Agent Maris did not do it by himself but he must be given credit for being the moving spirit, and the good to the county and its farmers by placing this high class seed in the hands of so many farmers of the county will more than compensate the county for all Mr. Maris would cost the county for the next ten years.

It might be argued that this could have been done without Mr. Maris, or any other county agent. That may be true but in Saline County it never was so done. In his work he has some as good helpers as can be found and many of them. Had the people not responded to his call, of course, nothing would have resulted. At least some "busy bodies" have been busy in Saline County. I know for the reason that I have been to Saline County several times in former years and I always hated to go. I could not get more than a dozen or two to attend and one occasion they took me around town to help "drum up" a crowd and maybe you think I do not hate a raw deal like that?

I knew something was wrong with me or with Saline County and I had made up my mind that Saline County was one of the "deadest" places on earth except the grave yard. But, oh, you Saline County! December 4th! I believe the biggest corn show ever "pulled off" in any county in Missouri and hundreds and hundreds of people to see it. And how glad they all seemed to be! Saline County, alive! Yes, sir, very much alive, indeed! and the big court room jammed full and standing around the walls to hear.

Another case of how much better a fellow or a county feels standing straight up in the first row of progress, doing for the common good, than to be lagging at the tail end ashamed of oneself and apologizing, with all sorts of excuses why you or your county or your town is never heard from.

Sam Jordan.

By Old Jim Riley

"This talk of them Europeans bein' "sore" at us because the Packers and others are makin' a lot of money by sellin' 'em pickled pig's feet and gunpowder is gittin' on my nerves. Just because the only fights we've had over here fur a long while have bin with hog cholery and the foot and mouth disease ain't sayin' that the American eagle has becum a turkey by a long shot.

BUCKSHOT BY THE PROFESSOR

Here's wishing the whole outfit of you a Merry Christmas.

Every time one of these old codgers who always swears that nobody is honest eats at my house I feel like counting the knves and forks after he gets away from the table.

Now here's a little quiet hunch old fellow. When you talk things over with Santa Claus, don't you forget "Mother." It doesn't have to be much —but just so she isn't forgotten.

Old Josh Simpson says the other fellows can eat turkey for Christmas if they want to—that so far as he's concerned he'll take " 'Possum, sweet pertaters and hoe cake for hisn."

Christmas week will be a mighty good time for you and your neighbors to get together and form a school district "Farm Club." Send in to this paper for a suitable Constitution and By-Laws. The time is here to get busy. Let's let the farmers of Missouri set the pace for the Nation.

The dry goods box whittlers and "long green squad" down at old "Hez" Brown's store are mightily "het up". One bunch headed by "Jep" Thompson are for a big Navy—but old "Chouce" Baker says, "It would just be wastin' money—cause I can take one of them submarine things and blow the stuffin' outen more battleships after supper than you can build in two years." The only thing "Jep" can say to refute this argument is, "Why you ain't got sense enuf to run a manure spreader —and if somebody told you there was a bottle of "pizen" floatin' around on the ocean somewhere, you'd go chasin' off after it and fergit all about the battleships." Then "Chouce" comes back and calls him a "liar."

Once more memory carries me back to when I was a boy on the farm at Christmas time. Once more I lay awake at night under the puffy old feather bed wondering what Santa Claus is going to bring me and speculating how his fleet-footed reindeer will manage to get around to all the little boys and girls that live in the World—and as I think back to those blessed old days I dare say there was more thankfulness in my heart for the little bag of candy and peanuts and possibly a french harp or jumping jack which I usually found in the old cotton sock than leaps up in the breasts of the pampered rich who have usually been indulged from cradlehood until there are few things new under the sun.

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The Plunderer

By ROY NORTON

Author of "The Garden of Fate"

(Continued from last issue)

Once, in the night, they were awakened by the sounds of the men returning, as they discussed their situation and interjected copious curses for the instruments of the tragedy. Once again, later, Dick was awakened by a series of blasts, and turned restlessly in his bed, struck a match, and looked at his watch, wondering if it had all been a dream, and the morning shots of the Rattler had aroused him. It was but three o'clock, and he returned to his troubled sleep thinking that he must have been mistaken. Barely half-awake, he heard Bill climb out of his bed and don his clothing, the whistle pulled by the new hand, and the clang of hammer on steel in the blacksmith's shop. Then with a start, he was aroused from the dreamless slumber of the utterly exhausted by a heavy hand laid on his shoulder and a heavy voice: "Wake up, Dick! Wake up, boy! They've got us."

He sat up, rubbing his eyes and fumbling with the cordings of his pajamas. Bill was sitting on the edge of his bed, scowling and angry.

"Got us? Got us?" Dick repeated vaguely.

"Yes. Dynamited the Peltons, and I'm afraid that ain't all. We'll have to go up the pipe line to find out."

Dick rolled out and jumped for his clothing. He did not take time to follow his partner's kindly suggestion that he had better go to the mess-house and get the "cokie" to give him a cup of hot coffee. He was too much upset by the disaster, and walked rapidly over the trail. Not a man was in sight around the works and as he passed the smith's door, he saw that Smuts, too, had gone, without taking time to don his cap or doff his apron. The whole force appeared to have collected around the power-house at the foot of the hill, which was around a bend and shut off from view of the Cross. A jagged rent, scattered stone and mortar, and a tangle of twisted steel told the story; but that was not the most alarming damage he had to fear, for the heavy steel pipe, where it entered the plant, was twisted loose, gaping and dry.

He scrambled up the hill, seizing the manzanita brush here and there to drag himself up faster, and gained the brow where the pipe made its last abrupt descent. Far ahead, and walking sturdily, he recognized the stalwart figure of his partner, and knew that Bill was suffering the same anxiety. He ran when the ascent was less steep, and shouted to the grizzled miner ahead, who turned and waited for him.

"I'm afraid of it," Bill called as he approached; and Dick, breathless, made no reply, but hurried ahead with him to the reservoir. In all the journey, which seemed unduly long and hot that morning, they said nothing. Once, as they passed the familiar scene of his tryst with Miss Presby, now ages past, Dick bit his lips, and suppressed a moan like that of a hurt animal. Bitterly he thought that now she was more unattainable, and his dreams more idle than ever they had been. And the first sight of the reservoir confirmed it.

To a large extent, the reservoir of the Cross was artificial. It had been constructed by throwing a deep stone and concrete dam across a narrow canon through which there percolated, in summer, a small stream. Its cubic capacity was such, however, that when this reservoir was filled by spring freshets it contained water enough to run the full season round if sparingly used; and it was on this alone that the mill depended for its power, and the mine for its lights and train service, from hoist to breakers.

Where had stood the dam, gray with age and moss-covered, holding in check its tiny lake, was now nothing but ruins. The shots had been placed in the lower point, which was fifty feet down and conical as it struck and rested on the mother rock. Whoever had placed the charges knew well the explosive directions of his powder, and his work had been disastrously effective.

The whole lower part of the dam was out, and through it, in the night, had rushed the deluge of water so vital to the Croix d'Or. Small trees that had grown up since the dam had been built were uprooted in the bed of the canon, and great bowlders pulled from their sockets and sent resistlessly downward. Where, the day before, had been grassy beds and heavy growths of ferns, was now but a naked bed, stripped to the rock, down which flowed a small stream oozing from what had been the reservoir.

The partners stood, as if paralyzed, on the edge of the gulch, and looked down. The catastrophe, coming on top of all that had gone before, was a death blow, stupefying, stupendous, and hopelessly irremediable.

"Well, you were right," Dick said despairingly. "They've got us at last!"

Bill nodded, without shifting his eyes from the ruin below. They stood for another minute before scrambling down the canon's steep side to inspect more closely the way the vandalism had been effected. Slipping down the muddy bank, heedless of their clothing or bruised hands, they clambered over the broken pieces of wall, and looked upward through the great hole and into the daylight beyond. The blow was too great to permit of mere anger. It was disaster supreme, and they could find no words in that time of despondency.

"I'll give a hundred dollars toward a reward for the man who did that," shouted a voice, hoarse with indignation, above them; and they looked up to see the smith on the bank, shaking his smudged and clenched fist in the air.

"And I'll take a hundred more," growled one of the drill runners in the augmenting group behind him.

And then, as if the blow had fallen equally on all, the men of the Cross stormed and raved, and clambered over the ruins and anathematized their unknown enemy; all but one known as Jack Rogers, the boss millman, who silently, as if his business had rendered him mute as well as deaf, stood looking up and down the gulch. While the others continued their inspection of the damage, he drifted farther and farther away, intent on the ground about him, and the edge of the stream. Suddenly he stooped over and picked up something water-stained and white. He came back toward them.

"Whoever did the one job," he said tersely, "did both. Probably one man. Set the fuses at the power-house, then came on here and set these. Then he must have got away by going to the eastward."

"For heaven's sake, how do you figure that out?" Dick asked eagerly, while the others gathered closer around, with grim, inquiring faces, and leaned corded necks forward to catch the millman's words.

"I found a piece of fuse down at the power plant," he said. "See, here it is. It's a good long one. The fellow that did the job knew just how long it would take him to walk here; and he knew fuse, and he knew dynamite. The proof that he did it that way is shown by this short piece of fuse I found down there at the edge of the wash. He cut the fuse short when he shot the dam. He wanted the whole thing, both places, to go up at once. Now it's plain as a Digger Indian's trail that he didn't intend to go back the way he came, so he must have gone eastward. And if he went that way, it shows he didn't intend to hit it back toward Goldpan, but to keep on goin' over the ridge cut-off till he hit the railroad."

Dick was astonished at the persistent reasoning of the man whom hitherto he had regarded as a singularly taciturn old worker, wise in milling and nothing more.

"Now, if there's any of you boys here that know trails," he said, "come along with me, and we'll section the hillside up there and pick it up. If you don't, stay here, because I can get it in time, and don't want no one tramplin' over the ground. I was—a scout for five years, and—well, I worked in the Geronimo raid."

Dick and Bill looked at him with a new admiration, marveling that the man had never before betrayed that much of his variegated and hard career.

"You're right! I believe you're right," the superintendent exclaimed. "I can help you. So can Dick. We've lived where it came in handy sometimes."

But two other men joined them, one a white-headed old miner called Chloride and the other a stoker named Sinclair who had been at the Cross for but a few weeks, and admitted that he had been a packer in Arizona.

Slowly the men formed into a long line, and began working toward one another, examining the ground in a belt twenty feet wide and covering the upper eastward edge of the canon. Each had his own method of trailing. The white-headed man stooped over and passed slowly from side to side. Bill walked with slow deliberation, stopping every three or four feet and scanning the ground around him with his brilliant, keen eyes. The stoker worked like a pointer dog, methodically, and examining each bush clump for broken twigs.

But it was Rogers the millman, whose method was more like Bill's, who gave the gathering call. On a patch of earth, close by the side of the rampart and where the moisture had percolated sufficiently to soften the ground, was the plain imprint of a man's foot, shod in miner's brogans, and half-soled. Nor was that all. The half-soling had evidently been home work, and the supply of pegs had been exhausted. In lieu of them, three square-headed hobnails had been driven into the center of the seam holding the patch of leather to the under part of the instep, or palm of the foot. They were off like a pack of bloodhounds, with the old millman in the lead.

Dick started to follow, and then paused. He saw that Bill was standing aside, as if hesitating what to do.

"Bill, old partner," he said wearily, "if anything can be found they can find it. I think you and I had better go back and try to think some way out of this—try to see some opening. It looks pretty black."

The big fellow took four or five of his long, swinging steps, and threw an arm over the younger man's shoulder.

"Boy," he said, "they're a-givin' us a right fast run for our money; but we ain't whipped yet—not by a long way! And if they do, well, it's a mighty big world, with mighty big mountains, and we'll strike it yet; but they haven't cleaned us out of the Cross, and can't as long as you and me are both kickin.' They've got poor old Bells. They've tried to hand us a strike. They've blown our reservoir so's we can't work the mill until another spring passes over; and yet we're still here, and the Croix d'Or is still there, off under the peak that's holdin' it down."

He waved his arm above in a broad gesture, and Dick took heart as they turned back toward the mine, calculating whether they could find a means of opening it underground to pay; whether they would need as many men as they had, and other troublesome details.

CHAPTER XIII

THE DYNAMITER

The men of the Croix d'Or slowly made their way upward toward the higher crest of the range, spread out in an impatient fan whose narrow point was made up of the three experienced men. At times the trail was almost lost in the carpet of pine needles and heavy growths of mountain grass, and again it would show plainly over long stretches where the earth was exposed. It dipped down over a crest and sought a hollow in which ran a mountain stream, spread out over a rocky bed and running swiftly. At its bank they paused. It was plain that their man had taken to the water to retard pursuit, if such came. The millman threw up his hand and called the others around him.

"Before we go any farther," he said, "Let's find out how many shooting irons are in this crowd. We may need 'em."

The men looked blankly at one another, expressing by their actions the fact that in all the party there was not one who possessed a weapon.

"Then it seems to me the best thing to do is for one man to go back to the mine and get some," said Rogers, assuming leadership. "Who ever goes will find my gun hanging up at the head of my bunk in a holster. Bring that and the belt. There's cartridges in it."

One after another told where a weapon might be found, and two men volunteered to return for them. It was agreed that the others were to keep on and that after leaving the stream

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men were to be posted at intervals to guide the messengers as they came up. Rogers proved something of a general in the disposition of his little army, and then, with Sinclair on one bank of the stream and Chloride on the other, he plunged into the water and began an up-stream course.

"It stands to reason," he argued "that our man didn't go down stream unless it was for a blind. He wouldn't double back because it would bring him out almost where he started. He will keep on up this way until she gets too small to travel in and then will hit off somewhere else. You other fellers keep behind."

They began a slow, painstaking course up the stream and began to fear they had been mistaken in their surmise, when Sinclair gave a shout. He had found the trail again, a telltale footprint with the patched sole. It broke upward on the other side of the canon, and now men were posted within shouting distance of one another and left behind to notify the two men bringing weapons which way to go. Across spots where the trail was difficult or entirely lost, and still higher until the timber line was passed and bare gray rocks were everywhere, the man-hunters made their way, and another watchman was left on the highest point. Down the other side and into the timber line again, directed only by a broken twig, a freshly turned bowlder, or now and then a faint suggestion of a footprint, they plunged as rapidly as they could and then through tangled brush until suddenly they picked up the footprints again, and now these indicated that the quarry had felt himself secure against pursuit and made no further attempt at concealment.

"He is heading out to the east, just as you said he would," the smith declared, as he sat down with the others to await the coming of the messengers. They were certain now that henceforth they would travel rapidly. They talked in low, angry voices among themselves, while Rogers, silent and grim, sat quietly on a bowlder and smoked. A shout from the hilltop attracted their attention and they looked up to see a group beginning to descend. The men with guns had returned and the outposts doubled back on themselves as they came, adding a man at intervals, until they joined those waiting for them. Without delay the men strung out in single file along the path, with the old millman in the lead. For the most part they went as quietly as would Indians on the war-path, loping along now and then down declivities, or panting upward when the trail climbed to higher altitudes. There was no doubt at all that the man who had dynamited the dam was certain of his having evaded all followers, and indeed he would have done so with men less trained and astute.

"Does any one know this country here?" demanded Rogers, suddenly halting his little band.

"I do," declared one of the drill runners. "I worked over here on this side one time about two years ago. Why?"

"Well, where does this trail go?"

"To an old logging camp, first, then from there there is a road leading over to Malapi."

Rogers lowered his hand from his ear and looked thoughtful for a moment.

"Many men at the camp?"

"No, I think it's been abandoned for two or three years," replied the drill runner. Rogers slapped his hand on his leg, and seemed confident again.

"Then that's where we'll find him. In that old, abandoned camp," he exclaimed. "It's a ten-to-one bet that he got some supplies up there some time within the last few days, when he made up his mind to do this job, and that he plans to lay quiet there until it is safe for him to get out of the country."

The others nodded their heads sagely.

"If you're sure of that," the drill runner said, "the best thing to do is for us to leave the trail over here a ways and come up to the old camp from behind it. He might be on the watch for this trail."

"Good again!" asserted the millman. "Here, you take the lead now and we'll follow."

For another hour they plugged along the trail with an increasing alertness, and wondering how soon the drill runner would turn off. At last he looked back and gestured to them. They understood. He slipped off the trail into the brush and began going slowly. Once he stopped to whisper to them to be cautious, inasmuch as within a few hundred yards they would reach their goal. Now they began to exercise the utmost caution of movement, spreading out according to individual judgment to avoid windfalls and thickets. Again the lead man stopped and signaled them. He beckoned with his arm, and they closed up and peered where he indicated.

Out in the center of a clearing stood a big rambling structure that had done service and been abandoned. A slow wisp of smoke, gray and thin, floated upward from the rough chimney, a part of whose top rocks had been dislodged by winter storms. They dropped to the ground and held a whispered consultation. They argued heatedly over the best course to pursue. The millman favored surrounding the cabin, and then permitting him with two others to advance bodly to the door and endeavor to capture their man.

The packer, Sinclair, suggested another course, which was nothing less valorous than a straight rush for the doors and windows; but Chloride fought that plan.

"It ain't that I'm afraid to take my chances," he declared; "but if we do that, some of us, with such a crowd, is sure to get shot. We don't want to lose no lives on a skunk of a dynamiter like this feller must be. I'm for surroundin' the house, then callin' him out. If he's an honest man, he'll come. If he ain't, he'll fight. Then we'll get him in the long run if we have to fire the cabin tonight."

"And maybe burn a couple of million dollars worth of timber with it at the same time," growled the drill runner. "That's a fine idea! I'm for Jack's plan. First, line out around the cabin, out of sight of course, then two men walk up and get him. I'm one of 'em."

"And I the other," declared Rogers. "Let's lose no time."

Silently, as before, the party spread out until it had completed the ring around the cabin and then, when all was in readiness, the millman and the runner, with pistols loosened, stepped out into the open and walked around to the door. There was a moment's tensity as they made that march, neither they nor the watchers knowing when a shot might sound and bring one of them to the ground. The runner rapped on the door, insistently. It creaked and gave back a sodden, hollow sound, but at first there was no response. He rapped again, and at the same time tried to open it; but it was barred. A voice from inside called, "Hello! What do you want out there?"

"Want to see you," the runner answered. "Open the door, can't you?"

There was an instant's hesitation and then again the voice, "Well, what do you want? Who are you?"

"Two men that ain't familiar with these parts," was the wary reply of the runner. "Want to talk it over with you."

There was the creaking of a bar, and the door was opened cautiously. One eye applied to a crack scanned the runner, who stood there alert. Rogers was out of sight Apparently the man in the cabin did not recognize the runner, for now he flung the door wide and stepped out. As he did so he saw the millman, whom he recognized, and swiftly pulled a gun and shot at him. Even as he did so the younger man leaped upon him, caught his wrist and wrenched the weapon from his hand. He did the unexpected thing. Instead of fighting, or attempting to regain the cabin, he deftly threw out a foot, tripped the runner against Rogers, leaped over both as they fell, and dashed headlong for the forest. Suddenly, as he gained the edge, several shots cracked viciously, but none of them seemed to have taken effect. He snarled loudly with excitement and plunged into the edge of the timber. Quite as quickly as he gained it a man arose straight in his path, leaped forward, caught him around the waist, and brought him to the ground. Men came rushing forward, almost falling over one another, but arrived too late to assist in the capture. Lying under and pinned to the earth by the huge blacksmith, struggling for release, and cursing between shut teeth, was the man who had been the watchman at the Croix d'Or when its new proprietor arrived, the man Wolff, whose past had been exposed by The Lily in the presence of some of those who were now his captors.

"Might have gussed it," growled the smith. "It's like him, anyhow."

Two others reached over and assisted him. They caught Wolff by his arms and lifted him to his feet, where they held him. Another man ran his hand over his clothes and took out a big hunting knife, sheathed. A further search revealed nothing save a small sum of money and a few dynamite caps. The prisoner attempted to brazen it out.

"What do you mean by this, anyhow?" he demanded. "Bein' held up am I?"

No one replied to him directly, but it was Rogers who said, "Lift his feet up there until we get a look at the shoes. Unceremoniously they hoisted him clear of the ground, although in a sudden panic he kicked and struggled. There was no doubt of it. The shoes were identical with those worn by the man who had dynamited the reservoir dam. The hobnails had betrayed him. For the first time he seemed to lose courage and whined a protest.

"Where were you last night?" demanded the smith, frowning in his face.

"Right here in this cabin. Been here two days now."

They walked him between them back to the door and Chloride and Sinclair went in. They inspected it closely. They dropped to their knees and examined the deposit of dust. They walked over to the fireplace and inspected the ash surrounding the little blaze, which had been started less than an hour before, as far as they could decide. Below was a heap of mouldy ash that had been beaten down by winter snows and summer rains falling through the broken chimney. The others watched the two inquisitors curiously through the open door.

"If he has been here two days he has moved around the room scarcely at all," Sinclair declared, "because the dust isn't disturbed by more than one or two trails. And, what's more, that fire is the first one that has been built here in many a long month, and it wasn't started very long ago. It's too thin. He just got here! He's the man!"

The prisoner was ringed round by accusing, scowling eyes. He shoved a dry tongue out and wet his lips as if the nervous strain were beginning to tell. He started to speak, but apparently decided to say nothing and stood looking at the ground.

"Well," demanded Rogers, "what have you to say for yourself?" You've plainly lied about being here in the cabin. What did you do that for?"

"I didn't say that I was in the cabin. I slept outside," Wolff growled.

"Then take us to the place where you camped," suggested one of the drill runners. A chorus of approving shouts seconded his request; but Wolff began to appear more confused than ever and did not answer. He took refuge in a fierce burst of anger.

"What do you fellows mean, anyhow?" he demanded. "I ain't done nothin.' What right have you to come up here and grab a man that way? Who are you lookin' for, anyhow?"

(Continued in next issue)

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Home Makers Conference

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THE TOUR OF A SMILE

My Papa smiled this morning when
He came downstairs, you see,
At Mamma; and when he smiled then
She turned and smiled at me;
And when she smiled at me I went
And smiled at Mary Ann
Out in the kitchen, and she lent
It to the hired man.

So then he smiled at some one who
He saw when going by
Who also smiled and ere he knew
Had twinkles in his eyes;
So he went to his office then
And smiled right at his clerk,
Who put some more ink on his pen
And smiled back from his work.

So when his clerk went home he smiled
Right at his wife, and she
Smiled over at their little child
As happy as could be;
And then their little child, she took
The smile to school, and when
She smiled at Teacher from her book
Teacher smiled back again.

And then the teacher passed one on
To little James McBride,
Who couldn't get his lessons done
No matter how he tried;
And Jamesy took it home and told
How Teacher smiled at him
When he was tired, and didn't scold,
But said: "Don't worry, Jim!"

And when I happened to be there
That very night to play
His mother had a smile to spare
Which came across my way;
And then I took it after awhile
Back home, and Mamma said:
"Here is that very selfsame smile
Come back with us to bed!"

—Woman's Home Companion.

CHRISTMAS GIVING

"Christmas that comes every day of the year" enthusiastically exclaimed one dear little house-mother, in her unbounded joy over her utilitarian tokens of the day from loving friends. Her gifts were to renew this pleasure every day in the year. They were to be such ready assistance in her daily domestic work and would help solve shorter and better methods with quicker results.

Gifts, like friendship, should stand for usefulness and goodwill, thus in selecting these joy reminders let them be of such a nature that its pleasure will outlive the passing hour.

If possible, let the article in its fitting qualities, suggest to the recipient the personal touch—in a gift that conveys their individual taste or habits—one that reaches the deepest expression of approval.

To a reader or a young person in whom we wish to cultivate the habit and pleasure of reading, a book would be uppermost in our minds as the one article to express our appreciation of their distinct personality.

However, try as we may there are many whose natures do not call out any special power of selection and yet we wish to cater to the general goodwill in some material form. We wander aimlessly through the shops and streets hoping for some suggestion, after a time select some token whole value is in its outward appearance, without any relation whatever to the individual's taste, thus we are often guilty of burdening our friends with gifts that to us suggest utter folly to purchase or produce, and yet it may be a conceit that will please the fancy for a short time.

We recall a minister who felt that a gift at this season should not be the necessary articles of daily life, but rather an indulgence in a thing of beauty and in consequence the daughter received one Christmas, when she had been making every effort to obtain a much needed winter coat, a pair of toilet bottles, beautiful in themselves but the lack of judgment and appreciation of things useful brought only regrets rather than the anticipated pleasure.

To those who can not always give either the useful or the beautiful, there does remain the joys that are ours to give when we will stop and think that—

"The thing that goes the farthest,
Toward making life worth while,
That costs the least and does the most
Is just a pleasant smile."

Friendship's Garden

Have you planted your flower garden? If not, it is high time that you get your seed in before the ground freezes; these sleeping seeds, buds and blossoms will patiently await the awaking of spring sunshine and be ready to start long before one can get the soil into proper condition for early sowing, besides many hardy flowers will thus give us blooms the first season, otherwise we must wait for the second summer to get them.

Larkspurs, verbenas, poppies, foxgloves and many other familiar old flowers that we love because around our childhood days there centers the memory of our mother as she tended and loved these same good friends.

How many of the field flowers that greet you on your rambles, do you know? It is with regret that we confess to very few that we can familiarlly call by name—but how fondly these few acquaitances are cherished.

This past summer it was our good fortune to find two new to us wayside flowers, one a beautiful blue that closely resembles the larkspur and bloomed from early summer 'till late fall. I have since learned that it is Venus Looking Glass. The other had beautiful golden bells, like a buttercup, it flowers in August but is most queenly in her golden glow. The seeds of these two have been carefully saved and sown in one corner of Friendship's Garden.

Perhaps we have not told you about this garden at Rivercene Farm, wherein are many bulbs, flowers, shrubs and trees, the gifts of dear friends—many of whom have passed to the other side. Each season as the flowers open their lovely blossoms we renew our friendship with the donor of that special plant.

Some are the same shrubs that our mother loved and we live again with her in the blessoms of "burning bush" of moses, lilacs, snowballs and all the early flowers.

In the middle of this garden grows a stately Ginkgo tree, which to us, seems a fitting memorial to a young brother who passed away in early manhood, for his hand had planted and trained this tree.

All of this may suggest sadness and living in the past, but in memory's garden sweetness and sadness intermingle so harmoniously that only the flower of love clings to our souls.

The border is always aglow with blossoms, the early jonquils and narcissus have hardly lost their freshness ere the glorious iris demands the way and for weeks keep all filled with admiration of their beauty, then all at once the way seems in a blaze of brilliancy as the poppies make their bows, a little later comes an acknowledged belle and the flox with her calm dignity holds the border for the rest of the summer, only here and there a holyhock dare assert its rights and followed by that frost daring cosmos.

How many of our little readers have a corner all their own in mother's garden, where they can plant and gather at their own sweet will? It would be a very bright Christmas if you would write to this department during the holidays telling how much you love flowers and perhaps my nameless wild flower is a friend of yours and you can tell me what to call her next summer when she comes again; if you have saved seeds we may be able to exchange some and then you would let me have a tiny little spot in your friendship's garden and you shall have one in return at Rivercene.

Just the Book for Christmas

Everybody's laughing at "Reuben: His Book," by Hon. Morton H. Pemberton, "Reuben" humorist of Chautauqua and Lyceum companies. A handsomely bound volume of 300 pages, containing Reuben's humorous lectures and all of Reuben's European travels.

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For sale only by the author. 3rd edition, 17,000. Price, $1 postpaid. Address, Morton H. Pemberton, Jr., Columbia, Mo.—Adv.

A Splendid Christmas Gift: The above picture represents a beautiful enlarged photograph, 13 by 17 inches in size which would ordinarily cost you three or four dollars if purchased through the usual channels. For the next ten days only we offer one of these splendid photographs to any reader who sends us a check or money order for $1.65, which will also renew your subscription for three years. You couldn't find a more suitable Christmas present to give to your loved ones than one of these beautiful enlarged pictures of some one who is dear to them. Wrap your photograph carefully and write your name and address on the back. You will be surprised at the beauty and elegance of this work. **The Missouri Farmer, Columbia, Mo.**

LYON'S PRACTICAL FARM PAPERS

The morning of November 27 was as fine as you ever saw in October, mercury at 60 degrees, clear and bright, and at 6 p. m. the thermometer said 36, with a hard snow storm. This morning, December 1, there is two inches of snow on the ground, mercury at 30 degrees, with promise of heavy snow before night.

We hauled two loads of hogs yesterday at $6.25 per cwt., on a city market of $6.85, and the boys said the shipper would get more than a carload at that price.

Corn is selling at 55 cents per bushel, or rather it is not selling, as farmers think it will be higher and are storing it. We may sell 500 bushels or so, but I have been reading all crop reports, especially those from Nebraska, Northern Kansas, Western Iowa, the Dakotas and Minnesota, and from what is said about the large percetnage of soft, unmerchantable corn in these states, I am inclined to look for higher corn prices before June.

The weather has been so fine and pastures so good that but little roughage has been fed, but still hay goes up in price, owing to the war, it is said.

Noting market changes, I see that both clover and timothy seed are down, near $1 per bushel lower than a month ago.

Several years' experience, tells me that early January is the best time to buy clover seed, as the price nearly always goes up a dollar to two dollars per bushel about February 1, when seeding begins.

December 4, 4 p. m. Our big snow did not come and we have had two beautiful days, which have been spent in getting in more corn and fodder.

The wood and coal were in several weeks ago, and three more days will see all the corn in the cribs, the best crop ever made on the farm.

Tobacco stripping is away behind and the warehouses will not have enough for a sale on the usual date of opening, December 7.

Personally, we are fairly well along having an early crop, and having gon to work on it as soon as possible.

Black leg has appeared among cattle some thirty miles east and is proving very fatal, but I hear that the outbreak is now under control.

C. D. Lyon.

NATIONAL EGG LAYING CONTEST AT MOUNTAIN GROVE

In order to succeed in breeding any animal, it is necessary for the breeder to have an ideal and his efforts must be for the production of that ideal.

Different breeders have different ideals. One man strives to produce the high scoring prize winning hen, paying little or no attention to egg production, while another tries to produce the high laying hen and ignores fancy or show qualities. All will agree, however, that the highest ideal is the hen which scores high, lays a great many eggs, and lives a long time.

Of the many lessons learned in the egg laying contests, one which stands out most prominently is that color has nothing to do with egg production and that high scoring birds are often high producers.

In order to get an idea of the standing in the show room of the exhibitors who have had high producing hens in the contest at Mountain Grove, a letter was sent to each contestant who has had hens in the contests which produced 200 eggs or over.

Sixty contestants were heard from, giving the prize winning records while their hens were making the high record at Mountain Grove. One thousand eight hundred twenty-three prizes were won by these contestants which were as follows: 653 firsts, 477 seconds, 243 thirds, 198 fourths, 92 fifths, 142 specials, 18 sweepstakes.

Eight contestants had not entered any shows, therefore had won no prizes.

Many of the hens which won in the egg laying contest won prizes before and after the contest. These prizes were won in San Francisco, New York and Chicago shows, ten State Shows, eighteen State Fairs, and many district, county and local poultry shows. This would indicate that many breeders are reaching the high ideal.

These records together with observations made during the contests indicate that color of bird, color of eye, kind of comb, etc., have nothing whatever to do with egg production, and that the fine show bird which scores high is just as sure to be a good egg producer as the low scoring bird, and as the bird which scores high usually carries herself like she thought "life is worth living. She has high vitality which indicates long life.

Summarizing the fancy and utility question, we find some contestants who win in egg production, but not in the show room.. Others win in the show room but not in egg production. While others win in both shows and egg production. This leads us to believe that it is possible to go to either extreme by breeding, or to combine the two.

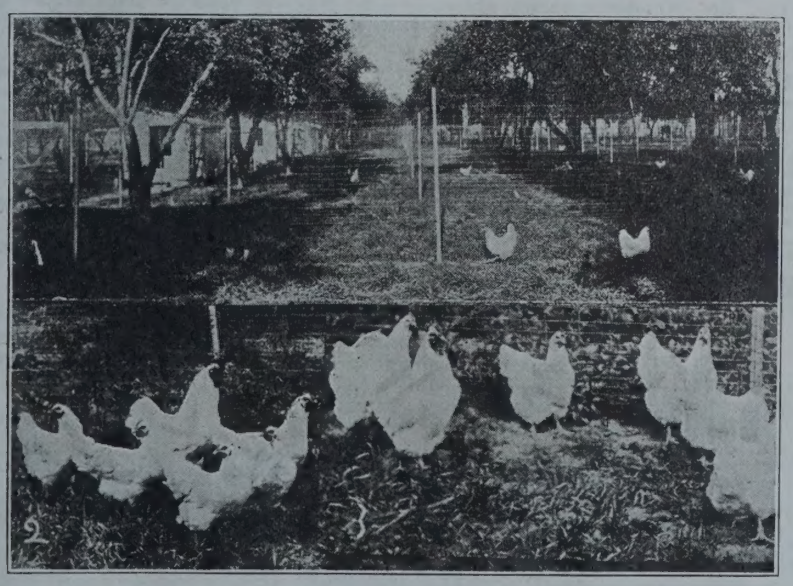
The man who has never had his birds in a show has no right to claim they are high scoring birds, and the man who has never tested his birds for egg production should not boast of high producers, but the man who can win in both deserves the highest honors.

C. T. Patterson,
Missouri State Poultry Experiment Station, Mountain Grove.

For Fattening Chickens

The following ration has been recommended by the poultry husbandman of the Nebraska College of Agriculture as being most economical for this state and giving satisfactory results in fattening chickens: 60 per cent corn meal, 40 per cent low grade flour, 20 per cent wheat middlings. Mix with skim milk to the consistency of a batter, and feed morning and night. Starve the birds 12 hours previous to their first feeding. This will sharpen their appetite. Fatten for two weeks in a small pen or crate until ready for killing. This will deprive the fowls of exercise, and the muscles will become soft. Fatty tissue will be taken on between muscle fibres, which will greatly aid in the cooking process.

Don't kill the bird when the crop is full. Starve for 24 hours and provide all the water they will drink. If the chicken is to be roasted, remove the crop either with the viscera or by making an incision next to the spinal column where it will not show when the bird is served. The cords or tendons of the thigh may be easily removed by partly severing the shank at the hock joint. Then, after locating the cords by making a lengthwise incision in the scaly portion of the leg, fasten the leg securely and pull steadily until the cords tear loose.



Some high scoring, high laying hens and the yards where they made the records at the Missouri State Poultry Experiment Station, Mountain Grove, Mo.
No. 1. Contest yards showing relation of sunshine, shade and green food.
No. 2. Highest laying pen of White Plymouth Rocks in the Fourth Contest.
No. 3. Highest laying pen of White Orpingtons in the Fourth Contest.

Alfalfa Troubles.

A season like this one has been is one of the worst on alfalfa. While it may not drown out on many occasions the wet weather is so favorable to the growth of foxtail and crab grass that these grasses crowd out the alfalfa. The first best treatment that I know of is as soon as a crop is cut give the field a thorough renovating, and the best tool that I know of for the purpose is a spring-tooth harrow with a special tooth made by The Bucher & Gibbs Plow Co., of Canton, Ohio. This harrow is good for so many other purposes also that it is a good tool to have on the farm.

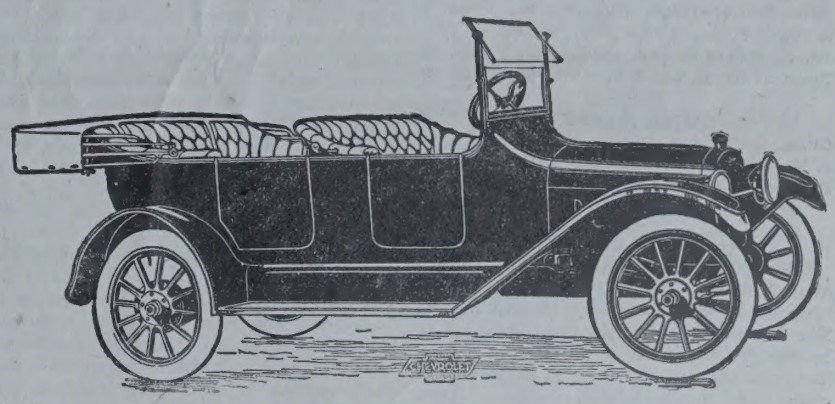
Renovating may be done after the hay is taken off after each cutting, but it is sometimes not best to use after a late fall cutting.

About eight Pettis County farmers have secured these harrows and all are loud in praise of the work they do.

No sharp-edged tool should be used in renovating alfalfa.

Sam Jordan.

Chevrolet



Say CHEV-RO-LAY

CONCEIVED by W. C. Durant, the man who developed five well-known cars and organized the General Motors Co., and A. B. C. Hardy, a pioneer builder.

POWERED by Arthur Mason, the originator of valve-in-head motors and the father of the new detachable head Chevrolet valve-in-head type---the last word in Power, Performance, Endurance and Economy.

PRODUCED by Russell E. Gardner and Sons, whose business principles are gauge and guarantee of efficiency and service.

DISTRIBUTED by the Chevrolet Motor Car Company of St. Louis, John Brodhead, Manager.

CAN CARS HAVE BETTER SPONSORS?
CAR OWNERS HAVE BETTER ASSURANCE?

Chevrolet "Four-Ninety"

"Looks Like Twice the Money, and Lives Up to Its Looks."

Chevrolet Corner 34th and Olive Streets
St. Louis, Mo.

SEED CORN

Johnson County White, the best I ever grew and all in crib by Nov. 1. Price low this year, $2.25 single bushel, $4 for two bushel bag shelled. Crated $3 a bushel, extra selected ears. Order early.

C. D. Lyon, R. 1 Georgetown, Ohio

MOLASSES Richest Feed Lowest Cost
St. Louis Molasses Co., Dept. MF., 400 S. Broadway, St. Louis

Classified Advertising

WANTED to hear from owner of good farm for sale. Send cash price and description. D. F. Bush, Minneapolis, Minn.

WANTED—Wish to hear at once from reliable single man capable of managing large ranch successfully. Mrs. Ward, Box 366, Valley, Nebraska.

FOR SALE—Eight Shetland Ponies, at extra low prices. Geo. Aid, Gallatin, Mo.

FOR SALE—Fifty Duroc Jersey Boars and Gilts with pedigree. Dams breeding from Missouri Agricultural College sire. Thornton's Strain. Sold at farmer's prices. A. J. Graff, Lithium, Mo.

Do you realize, dearer reader, that the fight The Missouri Farmer is making for a free market and a fair price for farm products can not be won by one man? United the farmers can win but single handed they must fail. There will be some too faint hearted to even help themselves but it remains for the rest of us to do the more.

Live Stock Notes

R. P. ROYCE, Fieldman

COMING SALES

POLAND CHINAS

W. Z. Baker, Rich Hill, Mo., February 1.
Will G. Lockridge, Fayette, Mo., Feb. 2.
Bridges Bros., Slater, Mo., February 11.
W. A. Baker & Son, Butler, Mo., Feb. 18.
Bennett Bros., Lee's Summit, Mo., Feb. 19.

DUROC JERSEYS

Chas. L. Taylor, Olean, Mo., January 21.
J. A. Porterfield, Jamesport, Mo., Feb. 8.
Dowden & Partridge, Maryville, Mo., February 11.

Brockman's Good Durocs

One of the very best herds of Durocs owned in Missouri will be found on the farm of A. C. Brockman, Centralia, Mo. Mr. Brockman, who has been engaged in breeding Durocs for a number of years, has constantly endeavored to combine extreme size, bone, and prolificacy with quality. That he has succeeded there can be slight question. as his winnings at the State Fair testify, and further, the satisfaction that he has rendered his many customers is additional proof.

Mr. Brockman has used a number of choice boars on his sows, which represent largely the blood of old B. & C's Col. one of the acknowledged great sires of the breed. Just now Mr. Brockman is using an Illustrator boar, also a son of Top Inventor, and a splendid son of select Col. II. He is therefore in a position to furnish our readers with a variety of breeding. Besides a number of desirable spring boars, this herd offers an unusually attractive lot of gilts bred to farrow early next spring. These gilts are easily the best Mr. Brockman has ever offered and they are priced in keeping with the quality offered. When writing in regard to any of this stock kindly mention this paper.

Cooke & Son's Holsteins

S. W. Cooke & Sons, Maysville, Mo., report that their herd of Holsteins is in fine shape and add that they have a number of choice bull calves for sale. These calves are sired by one of the best bred bulls owned in Missouri and a number of them are out of A. R. O. dams. Our readers will find Messrs. Cooke to be thoroughly reliable in every way.

Hill Offers Duroc Gilts

R. L. Hill, Columbia, Mo., is offering five gilts, bred to farrow early next spring. Four of the gilts were sired by Col. Wonder IV, 3rd prize boar at Missouri State Fair, 1913. The fifth gilt was sired by Tatarrax Again. They are all bred to Merry Chief, the boar that headed the first prize herd in the Missouri Duroc Futurity. Merry Chief is by Red Chief, a popular Iowa sire. Red Chief is by the great Cherry Chief. Here is a chance for Missouri breeders to get some new blood. The gilts are being priced worth the money. Mention this paper.

The Williams Dispersion Sale

The dispersion sale of Poland Chinas held by W. E. Williams of Silex, Mo., November 18th, resulted in a general average of $31.04 on 72 head. With the closing out of this herd the state as well as the breed lost one of the choicest collections of Poland China breeding animals ever owned in Missouri.

Several years ago Mr. Williams, who is a banker in Silex, felt the necessity of outdoor exercise and he decided to enter the ranks of the Poland China breeders. Gifted with high ability as a judge of live stock, and backed with sufficient means, his early purchases were of a character that put his herd to the front at once. The sow selections represented superior animals that were bred deep in the most fashionable and proven bloodlines. But perhaps the success of this herd was due, more than any other factor, to the influence of the boar, Longfellow Sampson. This boar was purchased as a pig and was developed by Mr. Williams into a boar that was conceded by all to be one of the top herd headers of the state. That Longfellow Sampson was a breeder of first water ability, was attested to by the great lot of spring gilts that were sold on the above date. It is doubtful if a better lot has passed through any sale ring this year. The top was $120. That price being paid by W. H. Rough of Riverside, California, for No. 9. Mr. Rough also secured several other choice numbers.

One of the rare bargains of the year was secured by J. F. Richards & Son, Bevier, Mo., when they paid $100 for Longfellow Sampson.

Both Messrs. Richards and Mr. Williams are to be congratulated upon this transfer. The buyers should consider themselves fortunate to secure such a satisfactory successor to their former herd boar, Pawnee Price, and Mr. Williams should feel particularly pleased that his favorite boar goes to such a high class herd.

Among the heaviest buyers were, E. E. Marlow & Sons, Wellsville, Mo., H. O. Linhardt, Lohman, Mo., H. C. Carroll, Clarksville, Mo., J. M. Besterfelt, Bonne Terre, Mo., Guy Fisher, Frankfort, Mo., Geo. Alberts, Corso, Mo., A. L. Burke, Sweetwater, Tenn., and L. J. Long, Peru, Ind.

Col. R. L. Harriman did the selling and handled the sale in his usual high class manner.

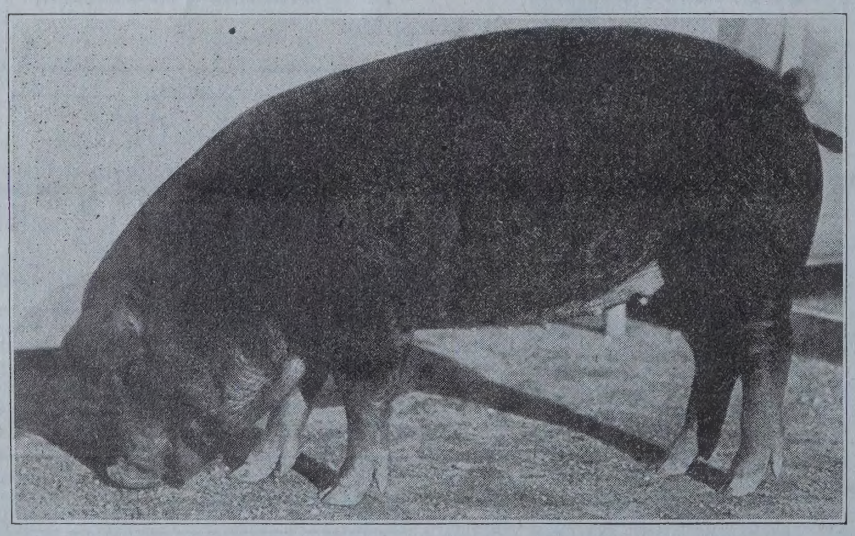
Bruns & Sons' Jerseys

Wm. H. Bruns & Sons, Concordia, Mo., offer splendid values in Jersey bulls and heifers. Messrs. Bruns have built up a high class herd of producing Jerseys and are in a position to offer our readers some real bargains.

Duroc Herd Boar for Sale

The Buckeye Stock Farm, Olean, Mo., desires to sell the herd boar King Chieftain 145717 for the reason that a number of gilts by him are being retained, and the boar can no longer be used to advantage.

King Chieftain was farrowed February 10, 1913, and is sired by Crimson Col. I Am, Junior Champion at the American Royal in 1912. His dam is the great producing sow Belle of Chiefs 325048, a prize winning sow at the State Fair and the Royal in 1911 and 1912. Here is a splendid opportunity to buy a useful herd boar, bred as well as any, at a price decidedly attractive. Write at once if you want a bargain. Mention this paper.



R. L. Hill's Junior Champion Duroc Gilt. The above gilt is a litter mate to the boar, Merry Chief, referred to above

Powell & Son's Duroc Jerseys

E. P. Powell & Son, Maryville, Mo., who advertise Durocs in this paper, can furnish excellent spring boars and gilts of choice breeding and individuality at prices that should prove attractive to our readers. Messrs Powell are high class breeders in every way and we are glad to recommend them to our readers. Besides the above stock, a number of desirable gilts and sows, bred to farrow early next spring are in offer.

Clydesdale Horses, Jacks and Jennets

Clydesdale Stallions, Mares and Colts, with quality and breeding, for sale at lowest prices. We also breed Jacks and Jennets and sell them as low as the lowest.

HIGHVIEW FARM F. L. CROSBY, Prop., Mexico, Mo.

POLAND CHINAS

Smooth Columbus
THE BOAR THAT PUT MISSOURI ON THE MAP. HEADS OUR HERD

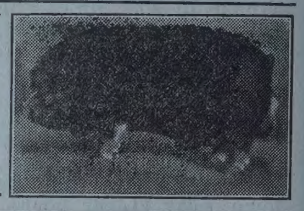
15 Extra Choice Spring Boars—Bargains! Sired by SMOOTH COLUMBUS, the record sire of the state, and others by BIG JOE. Head boar material here. Must be sold as we need the room. Get our prices. All immune. Satisfaction guaranteed.
BENNETT BROS. R. 5, LEE'S SUMMIT, MO.

Spring Boars by the Grand Champion

A desirable lot of early spring boars by The Giant, acknowledged to be one of the greatest young Poland China boars of the breed. Prices within reach of all.
WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

Poland Chinas & Shorthorns

Spring boars and gilts, pairs, trios or more. A few sows and gilts bred for fall farrow. Several choice young bulls and heifers. Satisfaction guaranteed.
H. S. Williamson, Route 6 Centralia, Mo.



POLAND CHINA BARGAINS

I have some good Big Type Poland China hogs; some tried sows, one aged boar, some spring gilts and spring boars. Registered stuff. Cholera immune. Come and see them or write me. LOU LE FEVRE, Collins, Mo.

BALDWIN HEIGHTS POLAND BOARS $25

Choice spring boars sired by King Jumbo by King of All, and out of sows bred in the purple. Your choice for $25. Satisfaction guaranteed.
R. F. BALDWIN, Rt 1, ROCHEPORT, MO.

MEGOWN'S SPOTTED POLANDS

No matured stock for sale but booking orders for pigs to be shipped later. Have length, bone, size and big spots. Sired by two of the biggest boars in the State for their age.
B. B. MEGOWN, - - - - - - NEW LONDON, MISSOURI

BAKER'S REAL BIG-TYPE POLANDS

We have a number of extra good spring boars sired by Big Look that we are offering worth the money. Need the room and must sell. Remember our February 18th sale.
W. A. BAKER & SONS, BUTLER, MO.

Bridges Bros. Poland Chinas

There is a Reason why we can please Missouri Farmer readers who are needing a strictly big type Poland China spring boar. We have about twenty extra good ones sired by BIG BOB WONDER, LONG JUMBO 2nd, LONGFELLOW SAMPSON, WONDER EX., etc., and out of our carefully selected sows. Our herd boar is
KING JOHN 72135
Long King's Equal's greatest son. Everything immune. Prices reasonable.
BRIDGES BROTHERS - - - - - - - - - SLATER, MISSOURI

Linhardt's Polands

Choice spring boars and gilts. Fall boars and gilts. All sired by Giant Mammoth, Governor Hadley and Mammoth Wonder. Satisfaction is guaranteed. Have shipped to 23 states.
H. O. LINHARDT, LOHMAN, MO.

Dooley's Spotted Polands

Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pair and trios no relation. Also registry furnished. Send check with first letter.
EDGAR DOOLEY, - Etterville, Mo

BIG TYPE BOARS FOR SALE

Hear we are with the good big type sping boars by SOOTH COLUMBUS and SPOTTED MONSTER out of WONDER and LEADER sows. Crated and on the car at Rocheport, for $25.
HALL & RAPP, ROCHEPORT, MO.

DUROC JERSEYS

Col. Wonder Duroc Boars $25

At recent Missouri State Fair my herd won 35 ribbons—3 championships, 15 firsts. Col. Wonder sires my champions—he will sire them for you. Choice bred gilts. Spring boars by Col. Wonder $25 each. Send check in first letter. Nothing but the best sent on mail orders.
CHAS. L. TAYLOR - - - - - - - Olean, Mo.

THOMSON'S PREMIUM DUROCS

State Fair and Futurity winners offered, also 3 great spring boars out of 800-lb. sow, and by grand champion sire, and sire of grand champions. Also have other good boars and gilts. Satisfaction guaranteed.
W. H. & GEO. E. THOMSON - - - - - - Columbia, Missouri

SELECT COL. II Heads White's Durocs

27--BIG DUROC BOARS--27

Weight 175 to 200 lbs. in breeding condition, March farrow. Big bone, stretchy wide backs, good colors, direct from prize winning sires and dams, choicely bred. Forty gilts of the same type. Guaranteed. Prices moderate.
A. WHITE JR., Box 422 Palmyra, Mo.

Durocs Bred Deep in the Blood of Champions

It costs no more to buy Durocs sired by proven champions. Spring boars and gilts sired by Col Wonder, Instructor, and other boars. Plenty of size and stretch. Pairs or more of unrelated stock. Price, $25.00 each.
ROCKWOOD FARM, IBERIA, MO.

SMITH'S DUROC BOARS

The good yearling BEAUTY'S MODEL AGAIN, an extra good breeder and a number of spring boars. Some fine gilts mated to PAL'S FANCY ADVANCER for spring farrow. W. O. & B. A. SMITH, Thompson, Mo.

HOLSTEIN CATTLE

Dutchland Sir Hengerveld Rag Apple 99771

A few choice bull calves out of heavy producing dams sired by the above famous bull for sale.

BLACK AND WHITE FARM
Baden Station, Mo.
Tel. Colfax 1812 R. R. 30

IN MISSOURI

Eight bulls, 2 to 8 months, $100 to $175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.

S. W. COOKE & SON, MAYSVILLE, MO.

HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndyke Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

M. E. Moore & Co., Cameron, Mo.

HIGH GRADE HOLSTEINS

I am offering a nice lot of well bred, high grade Holstein cows and heifers. Good strong individuals, nicely marked and priced reasonable.

E. L. ENSIGN - - Cameron, Mo.

JERSEY CATTLE

JERSEY CATTLE

Bulls ready for service. They are sired by the Owl's Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. R. Bruns & Son, Concordia, Mo.

Jersey Cows

I want to sell 20 head of registered cows and heifers that are either fresh or soon will be. Also four young bulls.

J. B. SMITH Platte City, Mo.

JERSEY HEIFERS FOR SALE

Ten Jersey Heifers, 14 to 18 months old, sired by Imm's Signal No. 110996, out of extra fine Jersey cows that for three generations have been sired by registered bulls, bred to Kinloch Grouville Lad 91520 (grandon of the famouss Golden Fern's Lad P-2160 H. C. These heifers are due to freshen in February and March and are priced to sell at once. Write me, or better, come and see. Also eight three-year-olds of about the same breeding due to freshen in January and February.

D. V. VANDIVER, COLUMBIA, MO.

SUNSET JERSEYS--TRIO

Two fancy heifers (both bred) and a fine bull, all of the famous Blue Belle—Golden Rosebay breeding. I will sell this trio for $250. This price cannot be equalled anywhere for such stock. Send for circular, description of herd, production etc.

The ENNIS STOCK AND DAIRY FARM,
Horine Station, Mo.
(Just south of St. Louis)

ANGUS CATTLE

ChoiceAberdeen-Angus

Established 30 years. 100 head in herd. We are offering good useful Bulls, and Heifers of excellent individual merit and breeding. Prices reasonable. Our customers make them popular.

D. L. Sutherland & Sons Windsor, Mo

Aberdeen-Angus

I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.

J. D. Blackwell Fayette, Mo.

ANGUS CATTLE

HERD FOUNDED 1904

Seven early calves—3 BULLS and 4 HEIFERS, sired by Dean's Eric 139686. Every one the right kind, and priced to sell.

V. E. LAWRENCE, SALISBURY, MO.

Angus Bargains

Registered bulls and heifers. The market topping kind. Leading families represented. Priced worth the money and satisfaction guaranteed.

Also Poland China Hogs

. M. JONES, R. F. D. 3, EVERTON, MO

Brown's Aberdeen Angus

Choice yearling bulls. Also a few heifers. Poland China boars and gilts. All Stock Registered

C. H. BROWN, - - BOLIVAR, MO.

Chester White Boars and Bred Gilts

H. Rauscher & Son, Kahoka, Mo., offer our readers exception values in Chester White breeding stock. For over 50 years the name of Rauscher has been linked with pure bred Chester White swine and today the name of Rauscher is a guarantee of quality and fair dealing. The young stuff now offered is bred along the best blood lines know to the breed, and it has been handled intelligently with a view to future usefulness in the hands of the buyer. We would suggest that any of our readers who are planning to purchase Chester White breeding stock get in communication with this firm. The prices are extremely reasonable.

Durocs With Unusual Size

J. E. McPherson, Columbia, Mo., is advertising a splendid lot of spring boars and gilts, the latter are offered either open or bred. The above stock is of early spring farrow and because of careful handling and feeding is presented to the buying public with a considerable more size than one usually finds. The blood lines offered are right in every way and the prices are extremely reasonable.

College of Agriculture Offers Livestock for Sale

A rare chance to secure pure bred livestock from the different herds maintained by the College of Agriculture is presented to our readers in the advertisement elsewhere in this paper.

Just now choice Poland China and Duroc boars and gilts, and Percheron mares are in offer. The prices on all this stock make them very attractive buys. Only a limited number are for sale and if you want livestock of proven merit, we would urge that you write at once. The pair of registered Percheron mares will make any one money. They are good individuals and are safe in foal to Honorable, one of the best Percheron stallions in Missouri.

Red Polled Cattle and Spotted Poland China Hogs

M. L. Snyder, Polo, Mo., is advertising a nice lot of young Red Polled bulls. Mr. Snyder has bred these cattle for years and he has at all times kept in mind the development of a useful type of cattle for the farmer. The milking qualities have been carefully developed as well as the fleshing qualities.

Spotted Poland China spring boars and gilts are also for sale at moderate prices.

Rockwood Farm Durocs

Rockwood Farm, Iberia, Mo., offers the readers of this paper some high class values in Duroc spring boars and gilts. The Rockwood herd was establishde by purchases from some of the leading herds in the country and the young stock now for sale carries an unusual amount of grand champion blood. The prices are very reasonable and satisfaction is guaranteed the purchaser.

Linhardt's Polands

One of the most attractive offers ever made our readers who are interested in Poland Chinas is made by H. O. Linhardt, Lohman, Mo. Mr. Linhardt has an exceptionally high class herd and he sells his stock at farmer's prices. The fact that breeding stock from this herd has been shipped to half the states in the Union should convince our readers that the Linhardt kind please.

Shropshire Ewes

C. W. Chandler, Kellerton, Iowa, is offering an attractive lot of Shropshire ewes bred to lamb in March and April, to the service of a son of Ludlow King (04699R) 234744, a sire of two state fair champions. Mr. Chandler also offers rams. Mention this paper when you write.

Milking Shorthorn Herd Bull

J. Al Slifer, Chilhowee, Mo., is advertising for sale the 5 year old Shorthorn bull, Clay Lord 343002. This bull was bred in New York state, and comes from a strain of Shorthorns long noted for their ability at the pail. If interested we would urge that you write at once.

Jersey Heifers for Sale

D. V. Vandiver, Columbia, Mo., is offering 10 Jersey heifers, 14 to 18 months old. The heifers are sired by Imm's Signal 110996, out of extra high grade Jersey cows. The above heifers are bred to Kinloch Granville Lad 91520, a grandson of Golden Fern's Lad. Eight three-year-old cows are also priced. This stock will be sold worth the money. Please mention this paper when you write.

DUROC JERSEYS

Durocs With Size and Bone

I am offering a choice lot of early spring pigs with unusual size, bone and quality. Bred right and priced right. Visitors welcome.

A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

Duroc Boars For Sale

Anything from a 50-lb. weanling to a 500-lb. herd and show boar. We offer some first-class herd header prospects. Good strong boned farmers stock boars. Also gilts. I also have one 16-months and one weanling Shorthorn bulls. Write me your wants. Will try to please you—the price will be right. Over forty old customers are buying here because both prices and stock have been right. Write today for that boar. I have got him. J. E. WELLER, FAUCETT, MO.

A. NO. 1 DUROC SPRING BOARS

I am offering a few extra choice spring boars sired by ILLUSTRATOR and out of TATTLETALE 39th, junior champion International 1912. A few by CRIMSON CHIEF AGAIN. Write or come.

W. C. WATSON. - - - - - - - NEW LONDON, MO.

Duroc Gilts---Bred

A few extra good gilts, some a year old, sired by prize-winning boars and bred to Merry Chief, a prize-winner at Sedalia. Bred to farrow early next spring. Prices right.

R. L. HILL - - Columbia, Mo.

Hazelwood Durocs

Seventy choice spring boars and gilts sired by HAZELWOOD CHIEF, by CRIMSON COL., and out of OHIO CHIEF bred sows. Get our prices.

E. P. POWELL & SON, Maryville, Mo.

150 Duroc Boars and Gilts

February, March and April boars and gilts sired by Golden Tat, Bob's Col Wonder, Col. Wonder and Professor's Col Stretch, size, bone and quality. Priced for quick sale. Write or come.

J. E. McPherson, Columbia, Mo.

RED POLLED

RED POLLED CATTLE

HERD ESTABLISHED 16 YEARS

Young stock for sale at all times. Young bulls sired by Logan 13500. The dual purpose kind. Also Spotted Poland China spring boars and gilts.

M. L. SNYDER, - POLO, MO.

SHORTHORN CATTLE

Milking Shorthorn Bull

The splendid 5-year-old bull
CLAY LORD 343002

Bred in New York state from milking strains. Good individual and splendid breeder. Priced to sell.

J. AL SLIFER, CHILHOWEE, MO.

SPLENDID SHORTHORN HERD BULL

LORD COLLYNIE 348445, a proven sire of merit and a splendid individual. Sired by Collynie and out of the great cow Emma Cowslip. Write for price.

J. F. Richards & Son, - Bevier, Mo.

The College of Agriculture

Offers Live Stock for Sale

A number of choice Poland China spring boars and gilts. Also some bred sows and gilts. Several desirable Duroc boars from spring pig to yearlings, also spring gilts and sows open or bred.

2 PERCHERON BROOD MARES a black and grey 4 and 7 years old. In foal to the stallion, Honorable. The above live stock is priced exceedingly reasonable for quick sale. Address

Departm't of Animal Husbandry,
Columbia, Mo.

BERKSHIRE HOGS

Big Type Berkshires

Choice Berkshire breeding stock sired by grand champion boars of Illinois and Missouri state fairs. Also S. C. Black Minorca chickens. Prices reasonable.

J. V. FISH, Route 7 BOLIVAR, MO.

HOLSTEIN BULL FOR SALE

For Sale a few Holstein bull calves out of Josephine cows and sired by a son of Pontiac Gerber De Kol. Price $25 f. o. b. Columbia. They are good ones.

D. D. Moss & Son - Columbia, Mo.

75 Duroc Spring Boars and Gilts

Seventy-five (75) good boars and gilts. Rich breeding, and plenty of size and bone. Pairs, trios or more. Priced to sell.

J. C. Garrard & Son, McBaine, Mo.

Duroc Hogs for Sale

THE BLOOD OF CHAMPIONS

Am offering my entire herd, 2 herd boars, 10 herd sows, young boars, bred gilts, a few yearling gilts, 50 fall pigs. Not related. Write me if you want the best.

BUCKEYE STOCK FARM, OLEAN, MO.

HEREFORD CATTLE

HEREFORD BULL

For sale, a registered Hereford bull, two years old. A good individual and priced right for a quick sale.

Hugh Whiteford - - Guilford, Mo.

CHESTER WHITES

RAUSCHER'S CHESTER WHITES!

Big, stretchy, heavy boned, March and April boars and gilts sired by Combination Giant, Misoouri First and others. Pairs, trios or more. Prices reasonable and pigs must satisfy.

H. Rauscher & Son, Kahoka, Mo.

O.I.C.'s or Chester Whites

Express prepaid on O. I. C. and Chester White spring boars. Write for prices.

W. P. DOOLITTLE
WOODLAND, MARION CO., MO.

O. I. C. Fall Pigs

Seventy (70) choice ones now ready to ship. Can furnish pairs, no kin. Guarantee accompanies each sale. They are from prize-winning stock on both sides. Order now while you can get the best at bargain prices.

S. D. & B. H. FROST,
Box 4 Kingston, Mo.

HAMPSHIRES

BROOKVIEW HAMPSHIRES

Herd headed by GEN. TIPTON and SIR BROOKVIEW, both grand champions. Spring boars and gilts of choice breeding and individuality. Prices reasonable.

ISOM J. MARTIN, R 5 Lancaster, Mo.

AUCTIONEERS

THOMAS E. DEEM

AUCTIONEER

Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased.

Dependable service at a reasonable charge. Address, Cameron, Mo.

Harry W. Graham

AUCTIONEER

PURE BRED LIVE STOCK

Seventeen years experience with America's best breeders.

Chillicothe, Missouri

W. D. ROSS, Auctioneer

Pure bred live stock. Sales made anywhere on reasonable terms. Write for dates.

Otterville Missouri

SHROPSHIRE SHEEP

Shropshires

Registered Ewes to lamb in March and April would make you money. We have them bred to a son of Ludlow King (04699 R) 234744, a sire of two state fair champions. Also Rams. Write for prices. C. W. CHANDLER, Kellerton, Iowa.

Eighty miles north of St. Joseph, Mo.

Pure Bred Business Attractive

The young man who is hesitating about taking up the pure-bred live stock business may get inspiration by reading the following by Dean J. H. Skinner of the Indiana Experiment Station, one of our best authorities on this subject:

As the country develops and time goes on, the demand for pure-bred animals in this country should undoubtedly increase. New conditions will require the elimination of animals of inferior breeding and quality and necessitate better feeding and management. Even though our live stock population may not be destined to increase rapidly in the near future, the demand for more efficient animals in all parts of the country, due to a better appreciation of good stock, is bound to create a strong demand for purebred animals, not only for the establishment of new herds and flocks of breeding stock but to supply pure-bred males of superior quality for use in herds and flocks maintained primarily for the production of animals for the market.

The farmers in a vast territory south of the Ohio and east of the Mississippi River, a country which has many advantages in the way of cheap land, excellent forage and pasture crops and favorable climatic conditions, in which but little attention has been given to live stock are just beginning to awaken to the importance and possibility of live stock. True it is that this territory has its handicaps in the lack of live stock instinct and knowledge on the part of its farmers, the scrub and the cattle tick, but these will all be overcome once the people are thoroughly aroused to the advantages of good stock in the maintenance of crop yields and diversified farming. In this sunny south land today many pure-bred herds of cattle and hogs are being started and with better appreciation and improved conditions this number is bound to multiply rapidly, thus creating a market for breeding stock such as has not been known in this country in recent years. That this fact is recognized by various breed associations is shown by their support of Southern Fairs, Stock Shows and Public Sales.

Bridges Brothers' Big Bob. This great young boar will be strongly represented in the sale

The effect of the war is likely to result in a demand upon the herds and flocks of America to supply the breeding stock of South America and other foreign countries. It has taken a long time to establish the fact that we can and do breed just as good horses, cattle, sheep and hogs as our foreign cousins. Nevertheless, there can no longer be any doubt in regard to it.

As a result of the war, we will learn that we can breed and develop just as good Belgian and Percheron horses in America as were ever brought over the water and if all reports are true, it will not be surprising to find our studs of these horses called upon to restock Belgium and France, in addition to supplying a rapidly growing home demand for pure-bred draft horses of the highest type and quality. To offset this some think the use of the tractor, which is bound to increase, may seriously interfere with the production of draft horses. On the other hand it seems to the writer that the introduction of the tractor on our Corn Belt farms will more than likely increase the demand for pure-bred mares as it will take much of the slavish work off of these patient animals and make their use on the American farm more common since the possibility of operating the farm and at the same time successfully producing colts of superior weight and quality will be greatly increased.

Holsteins and Guernseys

Look up the advertisement of the Edgewater Stock Farm in which grade Holstein and Guernsey cows are offered. This farm has 125 head of these high grade dairy cows. The advertisement also states that they offer a few very choice registered heifers and bulls of the two breeds. Grade calves are priced $18 each. In writing please mention this paper.

Adenhill Duroc Sale

In a resent letter from R. L. Hill, he reports the following sales from his Adenhill herd of Durocs: Five big yearling gilts to S. R. Greer, White Hall Ranch, Louisiana. These gilts were sired by Col. Wonder II and Col. Wonder IV and were bred to Rexall Col. for spring farrow.

Kampschmidt & Shepherd, Columbia, Mo., secured two choice bred yearlings. Dr. H. C. Tuck, deputy state veterinarian, bought one yearling gilt and one spring gilt, and a boar. Dr. Tuck is establishing a herd in Southwest Missouri.

Mr. Hill now offers 12 bred sows and gilts of choice blood lines and nice individuality for sale at reasonable prices.

Bridges Bros.' Poland Sale

In a recent letter from Bridges Bros., Slater, Mo., they state that they are sold out of spring boars. They are now bending every effort toward getting their sale offering ready. This firm will offer a very superior lot of strictly big type Poland Chinas in their sale February 11th, and as most of the offering will be bred to Bridges Col. Bob, the boar shown herewith, the sale is bound to prove attractive. The writer regards this young boar as one of the most promising herd boars he has seen this year.

Taylor's Great Duroc Sale

The attention of our readers is directed to the advertisement, on this page, announcing that on Friday, January 21, Chas. L. Taylor, will hold his second annual bred sow sale. This sale promises to be one of the most attractive offerings ever cataloged in Missouri. In the first place, the Taylor herd has come to be recognized as one of the best collection of Durocs of the breed. This recognition has been earned by the actual performance of the herd. Since 1912 the blood of Col. Wonder, the champion senior herd boar, has figured in the list of awards at the State Fair. In 1913 he was made grand champion at that show, in 1914, a daughter of Col. Wonder, Belle of Missouri 3rd, was grand champion sow at the above show, and in 1915 another daughter, Col. Wonder's Dream, was made grand champion. This record alone is sufficient to establish Col. Wonder as a great sire, but when one reads the entire list of winnings of his get, there is little room for argument left. Backed up by a long line of champions, a champion himself, and a sire of champions, our readers can appreciate the value of this blood.

In the approaching sale, Mr. Taylor has selected 50 head of sows and gilts, every one of which represents in some way the blood of Col. Wonder. The offering will include three mature sows, twelve spring gilts and the balance will be spring, summer and fall yearlings. Few sales will offer as many yearlings.

To give our readers an idea of the quality of the offering, it will be well to note that the entire herd of show sows with the exception of the grand champion sow, are listed. Many very special attractions will be found, for instance, Col. Wonder's Dream II, a litter mate to the 1915 champion sow, is cataloged. She is by Col. Wonder, and is out of Nona Princess, by Prince Albert, second dam, by Defender, and third dam was Mc's Dream, grand champion sow at the International for two successive years.

From a breeder's standpoint, one of the most attractive sows is Miss Crimson Wonder, litter mate to Col. Wonder. This sow was 2nd in class at Sedalia in 1912 and 1913, and was only defeated by the sow that was made grand champion each year. Miss Crimson Wonder sells bred to Show Me, the junior champion boar at Sedalia and St. Louis in 1915. There is also a full sister to Show Me in the offering.. This young sow is easily one of the fanciest in the sale. Space prevents further details at this time, but we will have more to say in subsequent issues. A point to bear in mind is this, at the sale last year we know of several men who bought bred gilts, that later proved to be litter mates to champions and other prizewinners and the prices paid made them look mighty cheap. The same opportunity will obtain in this sale. Breeders, farmers, and beginners should write at once for the catalog. Address, Chas. L. Taylor, Box 6, Olean, Mo. Kindly mention this paper.

Announcing a Great Event

TAYLOR'S 2nd DUROC SOW SALE

To Be Held at

Olean, Mo., Friday, Jan. 21.

50 HEAD of COL. WONDER DUROCS

The Taylor Kind. 1st Prize, aged herd, at Sadalia and St. Louis, 1915. Two grand champions and a junior champion, all by Col. Wonder

I have selected for this event 50 head of bred sows and gilts, every one representing the blood of Col. Wonder, grand champion Missouri State Fair, 1913, and sire of the grand champion sow at the same fair in 1914 and again in 1915. No better blood exists than Col. Wonder breeding. Included in the sale are daughters and grand daughters of Col. Wonder, and sows bred to him.

SPECIAL ATTRACTIONS

As special attractions I am putting in my entire show herd of sows except the grand champion. There is a litter mate to the champion sow, and also a litter mate to Col. Wonder cataloged.

Remember the date and watch this paper for further announcement.

SEND FOR CATALOG NOW

THE BEST ARE NONE TOO GOOD FOR MISSOURI FARMERS

C. L. TAYLOR Box 6 Olean, Mo.

AUCTIONEERS: RUSSELL AND HOLTSINGER

R. P. ROYCE will represent this paper.

HOLSTEINS & GUERNSEYS

We offer 125 head of first-class high grade cows and heifers and several very choice registered heifers and bulls. These are some of the best in Southern Wisconsin. Bred for Conformation and Production. Prices right. Don't forget our $18 calves.

Call at our farms or write for particulars

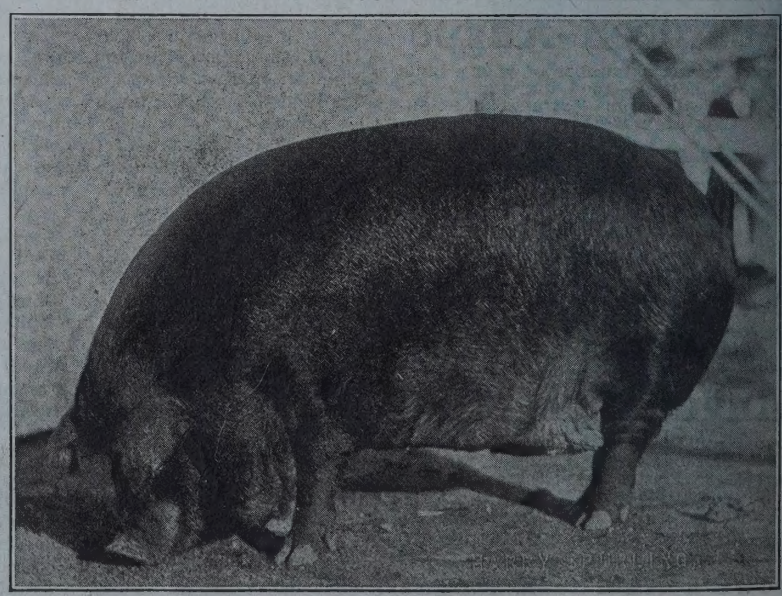
EDGEWATER STOCK FARM

FORT ATKINSON, WISCONSIN

Percheron Stallion For Sale

I offer for sale the registered 4-yr.-old Percheron stallion, Prince Imperial. Dark gray; will weigh 1800 pounds. Sound and gentle and broke to work. Cash or terms.

J. A. Eckenrod, Springfield, Mo.



Col. Wonder's Dream, grand champion sow at Sedalia and St. Louis in 1915

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE MISSOURI FARMER

COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE AND THE MISSOURI EXPERIMENTAL STATION

Getting Down to Business

That the great fight which The Missouri Farmer is making for a powerful state-wide organization of farmers is bearing fruit is evidenced by the hundreds of letters which are pouring into this office from every section of Missouri and we believe we are safe in saying that not less than a thousand school district Farm Clubs will have been formed and be in fighting trim before the end of January. Assuming that these clubs will have an average membership of twenty, it will mean that 20,000 determined Missouri farmers will have "shelled off their coats" in this great new movement which has for its object the compelling of a "square deal" for the farm from this time forward. But why should we be content with merely one thousand clubs? Why not make it 2500 and enlist not less than 50,000 farmers in this great crusade during the next 30 days? We are satisfied that there are this many districts in the state where all the movement lacks at this time is a little leadership on the part of two or three aggressive farmers—and here goes a personal appeal to every reader of this paper to get busy at once. Remember we will gladly supply you with a suitable Constitution and By-Laws and a complete program which will enable you and your neighbors to get down to business without waiting for outside assistance. We have already prepared a splendid discussion of the Land Bank Bill and a number of other great questions which we can supply and which will enable you to get to work without delay. The thing to do therefore is to call your neighbors together at the school house at once, perfect a Farm Club and name a good President and Secretary. Then get in touch with us immediately when we will gladly co-operate with you all along the line. As soon as a dozen or more Farm Clubs have been formed in your county, plans for a big county farmers mass meeting should be set in motion and at that time a County Farmers' Association should be formed and with this larger machinery the work should be pushed until the county has been organized from end to end.

This is the first time that a definite program for a powerful, state-wide farm organization has ever been submitted to the farmers of this state and it should therefore not be classed with the feeble and scattered efforts of this kind in the past. Unquestionably the hour for action has arrived—for present conditions are intolerable and if the Agriculture of the Nation is to be saved from the Packers' Combine, the gambling in grain futures and other deadening influences which, like some huge industrial Devil Fish are sucking out its very life blood at this time, farmers must shake off the indifference which has so long characterized them—and, standing shoulder to shoulder in every school district in the state, give battle to the industrial vampires who so gravely menace them at this time. Under this system, farm mortgages and land tenancy are increasing by leaps and bounds and the price of continued inactivity will be a condition little better than Agricultural bondage. The stakes we are playing for amount to untold millions of dollars. In this state alone farmers will have sacrificed not less than $15,000,000 on the price of cattle and hogs alone during the last year—and if we would escape from the payment of this tremendous tribute in the future, farmers must arise as one man and shake off the strangling monopolies which now grip at their throats. There is no other way out. At last we are face to face with a battle for the preservation of our farm homes—and upon the outcome of this issue depends the reward you will get for your future sweat and toil, whether you will be able to pay off your mortgage during your life-time, whether the children who come after you shall have a "square deal" as well as the future well-being of the millions who toil in shop and factory.

Truly, therefore, this is no time to hesitate. Let us show the World that the farmer has the brains and the manhood to take care of himself—once he is driven in a corner. Let's give the average farmer real cause to be proud of the great business of Agriculture—and I leave it to you whether this is true at the present time? The best of the winter lies ahead of us. So let's "shell off our coats" and get to work.

William Hirth, Publisher,
THE MISSOURI FARMER.

GEO. B. ELLIS
MANAGING EDITOR

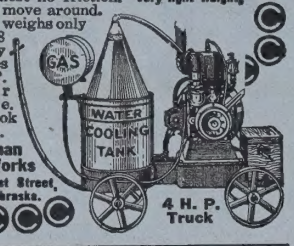
VOL. VIII JANUARY 1, 1916 NO. 1

WILLIAM HIRTH
PUBLISHER

Cushman Light Weight "Four" Farmers' Handy Truck

Cushman Light Weight Engines are the **most useful for farm work.** Built to run without trouble and to do things no other engines do. **Throttle Governed,** quiet and steady. Schebler Carburetor and Friction Clutch Pulley. **May be run at any speed** — speed changed while running. Perfectly balanced — almost no friction. **Very light weight,** and easy to move around. Four H. P. weighs only 190 lbs.; 8 H. P. only 320 lbs. Sizes 4 to 20 H. P. Ten-year Guarantee. Engine Book sent FREE.

Cushman Motor Works
827 North 21st Street, Lincoln, Nebraska.



4 H. P. Truck

12½¢ ECONOMY FENCE

Before you buy any more fence, write for facts about our **26-inch ECONOMY HOG FENCE** at 12½ c. per rod. Many other styles and prices.

Keystone Steel & Wire Co., 6878 Industrial St. PEORIA, ILL.

BOWSHER FEED MILLS

GROW HEALTHY STOCK

Crush ear corn (with or without shucks) and grind all kinds of small grain, cotton seed and **Head Kaffir.**

Handy to operate—**lightest running.** 10 sizes: 2 to 25 h. p., capacity 6 to 200 bushels. Conical shape Grinders. Different from all others. Also make Sweep Grinders.

Write for Catalog and folder about the value of different feeds and manures.

T. P. BOWSHER CO. South Bend, Ind.

Rid-of-Rats

The Only Non-Poisonous Exterminator of Rats and Mice

Perfectly harmless to man, bird or beast, but quickly and surely destroys the RAT and MOUSE pest.

Price per Box, 10c all over the U. S.
Per Doz. Boxes, $1.00 east of Mississippi
Per Doz. Boxes, $1.20 west of Mississippi
Satisfaction guaranteed or money back

Ask your dealer, or send us his name with price, and we will fill your order promptly.

Catalog of Berg Specialties free on request.

Berg & Beard Mfg. Co., Inc.
61 Fleet Pl., Brooklyn, N.Y.

KITSELMAN FENCE

HORSE-HIGH, BULL-STRONG, PIG-TIGHT

Made of Open Hearth wire, heavily galvanized—a strong, durable, long-lasting, rust-resisting fence. Sold direct to the Farmer at wire mill prices. Here's a few of our big values:

26-inch Hog Fence - 12 cts. a rod.
47-inch Farm Fence - 18 cts. a rod.
48-inch Poultry Fence - 24 cts. a rod.
Special Prices on Galv. Barbed Wire.

Our big Catalog of fence values shows 100 styles and heights of Farm, Poultry and Lawn Fence at money-saving prices. Write for it to-day. It's free.

KITSELMAN BROS. Box 48 **Muncie, Ind.**

Delicious Trees 10¢ Each

Large fruit, of a beautiful dark red, in quality unsurpassed, in flavor sweet, slightly touched with acid; in keeping quality ranking with the best —True Delicious makes an ideal apple for the orchard. We advise every farmer to plant it. Trees very hardy.

We retail good trees and seeds at wholesale prices---not new and untried novelties, but reliable well-established hardy **western grown stock that fits this climate.** 30 years in business. Tree and Seed Book free.

GERMAN NURSERIES AND SEED HOUSE
45 Court St., Beatrice, Nebr.

FRUIT TREES THAT GROW

FARM SEEDS WHOLESALE PRICES

We Make Lowest Wholesale Prices on "Hi-Quality" Pure Tested Seed Corn, Alfalfa, Clover and other field seeds; also Garden and Flower Seeds, Small Fruit, Shrubbery and Nursery Stock at very low prices. My **1916 Planting Guide and Pure Seed Book,** 116 pages, printed in four colors, hundreds illustrations, authority on field crops, gardener's encyclopedia, orchardist's and berry-grower's manual. Get it.

GALLOWAY BROS. & CO,
592 Galloway Sta. Waterloo, Iowa

BARGAINS IN SEEDS

Hundreds of special offers in seeds and plants at bargain prices. Don't buy until you have seen our beautiful new catalog and special liberal offer, mailed free if you mention this paper.

Iowa Seed Co., Dept. 103 Des Moines, Iowa

FAVORS A FARMERS' CO-OPERATIVE PACKING PLANT

To The Missouri Farmer:

In the December number of The Missouri Farmer you ask for expressions from your readers regarding your article, "What Can We Do?" Replying I wish to say I think we can do a great deal and I think you have hit the nail squarely on the head.

Let us farmers organize a $1,000,000 stock company and put up a packing plant. Let it be on the co-operative order, about as follows: Let one share be $10 and let 10 shares be a normal unit for full membership and let 100 shares be a normal limit for one member's holdings and let 1000 shares be the extreme limit of holdings.

Let no member draw a cash dividend on less than 10 shares but let dividends to members who hold less than 10 shares be cumulative and payable in stock until such members have 10 shares, after which they may draw cash dividends.

Let 100 shares be the limit of voting strength for any one member. If a member holds more than 100 shares let him draw dividends on his full amount of investment but let him not be empowered to vote the shares in excess of 100 and let 1000 shares be the limit of his holdings in any case; and let all shares in excess of 100 be subject to recall and reissue by the company.

Let the company organize with $500,000 paid up capital, that is to say when one half the shares are sold and the money paid in, let them organize and obtain charter with the membership holding one-half the shares and the company holding the other half blank to issue to new members as occasion may require and when these are exhausted and all excessive holdings of members about exhausted let some provision be made to increase the capital stock to perpetuate the scheme of increasing membership.

When a dividend is declared let the first payments be made to shareholders to the amount of 6% upon their investments. Then let the remaining portion of the dividend be appropriated about as follows: Say 90% be prorated to the patronage and 10% to the shareholders or some similar method which will recognize both patronage and capital stock on an equitable basis.

In apportioning dividends to patronage let outside patronage come in for a part equal to one-half as much as if said patrons were members of the company but let them not be paid in cash, let their dividend be cumulative and payable in stock. When their dividend amounts to $10 they will receive one share of stock and become members after which their dividend will be the same as other members but still cumulative and payable in stock until they have 10 shares which will give them full membership upon a normal unit of membership.

Let us provide for a maintenance fund against opposition in business as follows: Whenever a member sells anything to our company or to any other company that belongs in our line of business, let said member be assessed 1% of the proceeds of such sales for a maintenance fund. This will enable our company to advance the price a little to the membership to hold their trade, then if we fail in any case to get their patronage we will have their support any way and the competing firm that beats our prices will pay for the fiddling.

Let us be organized for wholesale and retail trade and have middlemen of our own to take the place of commission houses and retail and wholesale meat dealers.

I submit the above as my idea for the general feature of a packing company for farmers to organize. Of course you would not expect 100,000 farmers out of 277,000 to subscribe $10 each but you will find lots of them will subscribe $100 and may be a few that will subscribe $1000 or more, and I think in this way you will find it not a very difficult matter to raise the required amount.

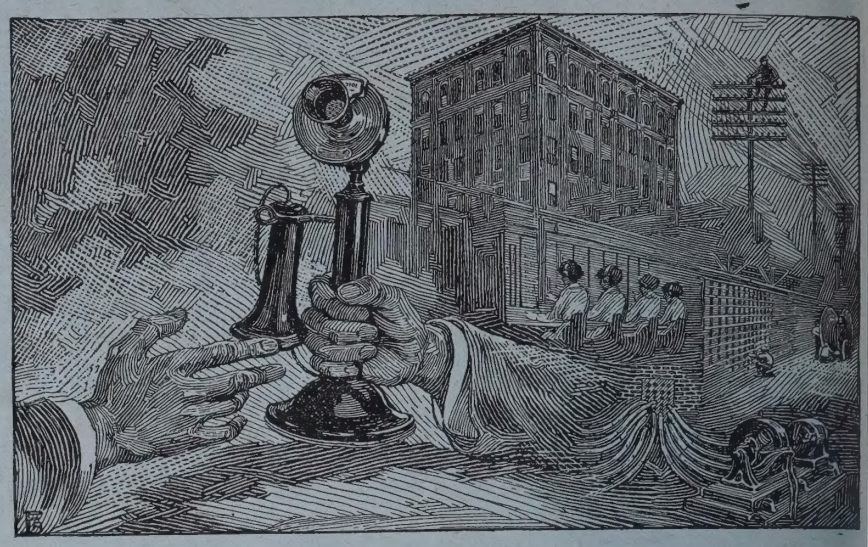
Now you say, "Some of the ablest and most careful students of this problem believe it wise to establish a number of small packing plants in different parts of the state rather than one large plant." Very well. Just cut out the last five words of the above sentence and I will agree with that also. The farmers ought to have lots of small plants, in size all the way from a 16-foot slaughter house up to any size and capacity they may find it expedient and wise to build. But why should one idea conflict with the other? Why not puth both ideas? If farmers own the big plant and farmers own the little plants they should co-operate and strengthen the whole cause. But let us begin with one plant. Let us have concentration of power and concerted action on one plant and make that one plant a hummer. Then when that one plant proves a success and is all paid for and humming with business it will without doubt become the daddy of similar plants in other parts of the state and perhaps in other states, at least by example if not by extension of business.

Now, Mr. Hirth, you may take this little paper for whatever you may think it is worth and do whatever you think proper with it. You will no doubt get many good points from wiser heads all over the state and I trust you will develop the proper solution of these problems. And when you start to organize the farmers' packing company count on me for a subscriber. I am a poor man but I think I will chance $100 in it anyway if I can raise the money without embarrassment and I know of at least one nearby neighbor who says he will take a $10 share and I believe he will take $100 stock quite readily.

W. T. Cary, Carroll County

If you are for the great fight which The Missouri Farmer is making for a statewide farmers' organization which will be strong enough to shake off the strangle hold of the Packers, send us a dollar to renew your subscription at once—and if this reaches us promptly we will date you three years ahead and cancel all back subscription. The same offer applies to the "Farmers' Market Club" except that in this case we will date you two years ahead.

Just after the holidays now is a splendid time to organize a farmers' club. You will find plenty of work to keep the club going this winter and be ready to join the state association.



Anticipating Telephone Needs

When a new subscriber is handed his telephone, there is given over to his use a share in the pole lines, underground conduits and cables, switchboards, exchange buildings, and in every other part of the complex mechanism of the telephone plant.

It is obvious that this equipment could not be installed for each new connection. It would mean constantly rebuilding the plant, with enormous expense and delay. Therefore, practically everything but the telephone instrument must be in place at the time service is demanded.

Consider what this involves. The telephone company must forecast the needs of the public. It must calculate increases in population in city and country. It must figure the growth of business districts. It must estimate the number of possible telephone users and their approximate location everywhere.

The plant must be so designed that it may be added to in order to meet the estimated requirements of five, ten and even twenty years. And these additions must be ready in advance of the demand for them — as far in advance as it is economical to make them.

Thus, by constantly planning for the future and making expenditures for far-ahead requirements when they can be most advantageously made, the Bell System conserves the economic interest of the whole country while furnishing a telephone service which in its perfection is the model for all the world.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy *One System* *Universal Service*

SKUNK

Get "More Money" for your Furs

Skunk, Muskrat, Raccoon, Opossum, Foxes and other Fur bearers collected in your section

SHIP YOUR FURS DIRECT to "SHUBERT" the largest house in the World dealing exclusively in NORTH AMERICAN RAW FURS a reliable—responsible—safe Fur House with an unblemished reputation existing for "more than a third of a century," a long successful record of sending Fur Shippers prompt, SATISFACTORY AND PROFITABLE returns. Write for "The Shubert Shipper," the only reliable, accurate market report and price list published.

Write for it—NOW—it's FREE

A. B. SHUBERT, Inc. 25-27 WEST AUSTIN AVE. Dept. 20 CHICAGO, U.S.A.

The Missouri Farmer

VOLUME VIII JANUARY 1, 1916 NUMBER 1

Courage---The Need of the Hour

By William Hirth, Publisher

Since The Missouri Farmer inaugu-rated its present campaign against the giant Packers' Combine—and it stands alone among the farm papers of the Corn Belt in this great fight at this time—three things stand out very dis-tinctly. In the first place, the fight has attracted the attention of a num-ber of men who, in years past, have had a close insight into the methods of the Packers and without exception these men are agreed not only that the time has come when something must be done but what is more im-portant still, all are agreed that something can be done if farmers will rouse themselves and organize. It goes without saying that these expres-sions have come, not from farmers but from business men who, in years gone by have had a close view of the great Packers' machine and who know from personal contact and experience how it works. When the real test of strength comes—when the big battle is once on—the advice and counsel of some of these men will be invaluable.

Secondly, we have received hundreds of letters from our subscribers who, without a discordant note, unite in saying that present conditions are in-tolerable—that the "hour for action has come"—that they are ready to pull off their coats and get into the fight" and in many instances these farmers have already succeeded in getting their neighbors to form a school district Farm Club or are en-deavoring to do so at this time.

The third and last feature of the fight which stands out plainly is the disposition on the part of many far-mers to say, "I don't believe farmers will ever hang together"—or words to that effect—and it is with this deaden-ing influence we wish to deal specific-ally in this article for, until farmers are aroused from the stupor which is responsible for this indifferent atti-tude we will not be able to get any-where in this great new movement to the success of which The Missouri Farmer is bending all its energies.

To recapitulate therefore some of the things we have said in recent is-sues, let us find out just where the average farmer stands at this time.

To begin with, statistics show that farm mortgages and farm tenants are constantly increasing. On the other hand, they also show that rural popu-lation is decreasing and that the al-ready overcrowded cities are levying a constantly growing toll on the youth of our farms—so that beyond question the majority of farmers are going backward rather than forward at this time and that this state of affairs will bring about a reduction in present land values is only a question of time. In many sections it has already done so and when this readjustment be-comes widespread there will be an end of the profit which thousands of farmers have made in recent years out of increased land values rather than out of their farming operations. That this condition of affairs has at last become acute—that we are at last face to face with a real crisis—that we are confronted by a situation which gravely menaces every farm home in the land—these things are surely ap-parent to every farmer who has the capacity to think clearly and they should challenge the manhood and self respect of every man who is anxious to clear his farm home of debt and guarantee to the children who are to come after him that freedom of oppor-tunity which was promised to all citi-zens by the Constitution of the Re-public when the fathers framed it years ago.

Packers Chiefly Responsible

The chief responsbility for this state of affairs centers, as we have said be-fore, around the great Packers' Com-bine and other interests closely allied with them. At a time when we are in the midst of the greatest foreign demand for American meats we have ever known, they are compelling the farmers of every Corn Belt state to lose millions of dollars on hogs and cattle. In the meantime, the millions of consumers in our great cities are equally helpless and at this moment are compelled to pay as high or a higher price over the butchers' coun-ter than they paid before the recent brutal assault of the Combine was in-augurated. Likewise, as we have stated before, the Packers constitute the most powerful factors in the "Wheat Pit." With untold millions of dollars of credit at their disposal and owning as they do the greatest line of elevators in the United States they ex-ercise more power in manipulating the price of American wheat than any other influence. So too, they are in control of the leather situation and in positon to levy their tribute upon the shoes of rich and poor alike—and from this source comes the marked advance in the price of footwear which the masses have felt so keenly during the last few years. Through the manu-facture of oleomargarine on the one hand and large centralized creameries on the other, they dictate the price of butter—while it has long been an open secret that their thousands of buyers of poultry products fix the price of every dozen eggs, chickens, turkeys, ducks and geese which the farmer's wife brings to market and that coun-try merchants and small independent buyers are powerless against them. Their dominance in the cottonseed situation by virtue of their ownership of scores of the big cottonseed mills of the south, we have also referred to previously. Likewise their power in the fertilizer market, their ownership of great soap and other by-product concerns, coal fields, salt mines, the grape juice industry and their great banks which hold mortgages on the cattle in half the feed lots of the Country—all these things are matters of common knowledge and this doesn't take into consideration the hundreds of millions of dollars they have in-vested in South America, Australia and other parts of the World where they are crushing all opposition out that stands in their way.

In Control of Nation's Food

In other words, this gang of con-spirators are in absolute control of the great essential food products of the Nation today and the farmers of the United States must choose and choose quickly between Agricultural bondage on the one hand—or upon the other, arising in their might and shak-ng off the strangle hold of this giant Devil fish which is sucking the very life blood out of the myriad farms of the Nation. These are the two courses of action which knock at every farmer's door at this hour. There is no middle ground—for there can be no honorable compromise with a gang of thieves. Again, deliverance must come from the farmer alone—for the consumer has no alternative but to pay the price asked. If he would live, he must eat—and hence he has no other choice but to pay the

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A PERSONAL APPEAL TO YOU

If The Missouri Farmer is to succeed in the great fight it has undertaken on behalf of the farmers of this state it must have the active support of every reader of the paper. There is no one else to whom we can look for help. To this end, I make this personal appeal to you, kind reader, to send us a check for a dollar or a dollar bill (at our risk) by return mail for three years renewal—and if this is done at once we will cancel your back subscription and date you three years ahead from this time. The occasional privilege granted to banks and commercial clubs a couple of years ago to send the paper to farmers complimentary has been definitely discontinued—and no more sub-scriptions will be sent out in this way, for the privilege was granted only for the purpose of introduction. If you want to take advantage of our great new "Farmers' Market Club," send us a check for $1.50 when you will also be dated ahead as indicated above. But only promptness will secure this "dating" privilege for you.

On the other hand, if you really want to "put your shoulder to the wheel," take advantage of our "Special Club Proposition" and get three of your neighbors to give you $1.50 each for the "Market Club Plan" and send us a check for $4.50—thus getting your own "Market Club" subscription free. The "Special Club" offer will apply to farmers who are getting the paper now as well as to new subscribers—and the old ones will be dated ahead from the present time. It isn't because we think you will care so much to get your own subscription free as that we need your kindly help in getting your good neighbors to perma-nently join our list of readers. If we are to succeed in our effort to perfect a great statewide organization of farmers, The Missouri Farmer must become a vital, living force in every good farm home in Missouri—and this we cannot do without the help of men like YOU. In fact, the great movement we have undertaken is entirely in your hands. If every reader of the paper will "shell off his coat and get into the fight" we will soon set the state on fire with militant Farm Clubs from end to end—and then results will come thick and fast. So won't you please help? Won't you at least send us your own renewal at once—or join our "Roll of Honor" by sending in a "Special Club?"

The Missouri Farmer has, from the beginning, stood for your best interests. Four years ago it led the fight against the Single Tax and for the last two years it has led the fight for the Land Bank Bill which certain other farm papers are at this moment trying to stab in the back—while in the great movement for a powerful Missouri Farmers' Asso-ciation it stands single handed and alone. It is trying to rescue the farm homes of this state from the interests which are bleeding them to death—which are trying to make it impossible for you to pay off your mortgage—which hang like a dark pall over the future of your children—and I repeat that whatever we shall be able to accomplish in the great struggle we have undertaken depends on the support we receive from the farmers of this state—FROM YOU! If every farmer who reads The Missouri Farmer would send us a dollar—or better still, a "Special Club"—it would so strengthen us financially that we could give you the finest farm paper you have ever seen.

William Hirth, Publisher,
THE MISSOURI FARMER.

tribute which the System demands. In the past we chafed at these conditions —but I repeat once more that at last we have reached a crisis which we must either meet bravely and master —or, failing in this, bend our servile necks to the yoke for all time and when we fall by the wayside it will be adjusted to the necks of our children.

I have thought over the conditions which confront us dispassionately and soberly. I am not an alarmist and the few opinions I have expressed in these columns during the last five or six years will, I think, bear out this statement—but I say to the readers of The Missouri Farmer that a condition of affairs which permits a few men to set an arbitrary price on what the American farmer produces upon the one hand and upon the other an equally arbitrary price on what the millions must eat to keep body and soul together—that this is an impossible situation—that it menaces most gravely the very economic life of the Nation and that the hour has come when farmers must arise as one man and throw off this industrial vampire which is converting a land of natural peace and plenty into a realm where farmers and the millions of toilers in shop and factory are compelled to struggle for a mere existence.

No Time for "Doubting Thomases"

And now, my friend, what are YOU individually going to do about it? Don't you want what you are entitled to have for your year's sweat and toil? If there is a mortgage on your farm, wouldn't you like to have a fair chance to pay it off—or even if you happen to be out of debt, don't you think you owe something to the children who are to come after you? As a man and citizen, don't these pitiful conditions challenge your manhood and your self respect? Are you going to "pull off your coat and get into the fight"—or will you stand around like a "Doubting Thomas" and whine "What's the use?"—and thus dampen the ardor of your neighbors? Two or three of this kind of farmers can stop or at least seriously cripple the organization of a Farm Club in any school district in the state. In fact, if I had to name the greatest danger next to the Packers at this time I would unhesitatingly say, the spineless, indifferent, sleeping farmer who thinks that "nothing can be done."

Who knows that "nothing can be done?" On what is such a statement based? I have been making some investigations on this score lately and on the contrary I can find no instance in which a concerted organization of farmers has not accomplished in a large measure the things it started out to do. Conspicuous is the recent fight of the Tobacco growers of Kentucky and Tennessee who, by united action, compelled the Tobacco Trust to increase the price of their product from $3.50 to $9.00 per hundred—and yet when this movement first started there were a lot of farmers who said "nothing can be done" and it was the indifferent attitude of these men which later led to the unfortunate and lawless exploits of the "Night Riders." But once standing shoulder to shoulder, results came fast—and hence the Tobacco raising industry of these states is once more on a profitable basis. Again, there is the Fruit Growers Association of California which has also been a distinct success from the beginning and which has rescued the growing of oranges and other fruits from a precarious adventure to a dependable and money-making enterprise. In Wisconsin and Minnesota the hundreds of co-operative creameries which have been owned and successfully conducted by thousands of farmers for years have developed into the chief industry in those states—and the Packers' Combine has been powerless against them. Even so, free rural mail delivery and the Parcels Post were, as Mr. Ellis pointed out recently, the direct achievements of the old Grange and Farmers' Alliance which demanded these facilities so persistently that Congress finally yielded to their enactment.

Organization—the Crying Need.

As we have said before, the farmers of the United States resemble a sleeping Hercules. They are powerless only because they are not acting together. The Packers and the grain speculators are organized and move and act through power concentrated in the hands of a few men—and until farmers adopt the same tactics they will continue to resemble a disorganized, leaderless aggregation—but once we employ the same methods as do our adversaries there is no power on Earth which can prevail against us.

Of one thing I am absolutely convinced and that is that the future freedom of American Agriculture and the well-being of the millions who dwell in our great cities demands that some powerful system be developed as speedily as possible which will enable the farmer to market his products direct to the consumer in order that the two may equitably divide between each other the tremendous tribute which is now being poured into the coffers of the Food Combine. For years the government has tried to regulate them without success. They care nothing for occasional fines which represent but a mere bagatelle of their annual ill-gotten tribute—and they simply charge them up to the year's "profit and loss" and again, as we have hereinbefore stated, there is no honorable compromise possible with a gang of thieves. As Judge Bedford well says in his splendid article which appears elsewhere in this issue, we are paying an annual tribute of millions under the present system—so instead of continuing to pay this money into the bulging vaults of the Packers, why not use it in equipping plants of our own? The farmers of Missouri market on an average 4,000,000 hogs per year—and at $2 per head this would mean $8,000,000. Assuming also that we are selling 750,000 head of cattle at $10 per head less than the normal law of supply and demand justifies, this would amount to an additional $7,500,000. Here we have then at a most conservative estimate a fund of $15,000,000 which the farmers of this state will contribute this year to the Meat Combine under present conditions—and such a sum would give us twice the money necessary to equip plants of our own and free ourselves for all time from these great parasites which control the food products of the Nation. Mind you, I am not advocating the raising of money for this specific purpose at this time. What I am pleading for above everything else at this juncture is a powerful, statewide organization of farmers reaching into as nearly as possible every school district in the state in order that we may be in position to take in hand this great question intelligently and to the end that we may provide the machinery through which we can attempt its solution. Once powerfully organized we can thresh out the best methods of procedure. Beyond question, we must go forward cautiously. Not a dollar must be wasted or an impractical idea adopted when once we are ready for action—and so the overwhelming need of the hour is the organization of school district Farm Clubs and County Farmers' Associations, later to be amalgamated into a great Missouri Farmers' Association.

The Overshadowing Issue

Only of one thing I am becoming more and more convinced as I study this great question—and that is that, once thoroughly organized, we must provide the permament machinery through which the products of the farm can be sold direct to the consumer for then the problem will be settled for all time to come and a new era of security and prosperity will have dawned for the farm homes of the Nation as well as for the toilers in the cities. This, in my humble judgment, is the overshadowing issue before the American people and upon its successful solution depends the future well-being of the Republic and the conditions which your children and mine will face in the years to come when we are no longer upon Earth to help them fight their battles.

In the meantime, while we are girding up our loins for this great final struggle, there are many things, as was pointed out in our recent article describing the Warren County Farmers' Association, which your school district Farm Clubs can do and which will save your members a lot of money through co-operative action—such as the buying of farm seeds, feed in carload shipments, fertilizers, coal, the crushing of limestone and other similar things which bear too great a tribute under existing conditions. We have prepared a complete program for Farm Clubs, a suitable Constitution and By-Laws and methods of procedure which will make it possible for the farmers of any school district to organize without outside help—and it is free for the asking.

In conclusion, let me once more appeal to YOU, my friend, to "pull off your coat and get into the fight" without delay. Quit saying that "nothing can be done"—and thus dampen the ardor of your more enthusiastic neighbors. Surely nothing can be accomplished unless we try—and when we have tried in the past success has almost invariably crowned our efforts. Remember that next to the industrial highwaymen whom we are opposing the greatest menace of the present hour is the indifference, and the "don't care" attitude of farmers themselves. This is no time for the throwing of cold water or for pessimism. We are

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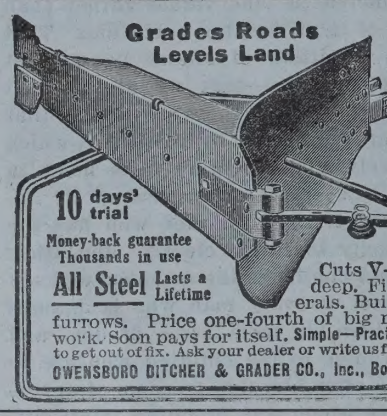

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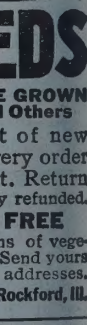

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engaged in a struggle in which is involved the future of our farm homes—and if you can't help, at least don't make the task more difficult for your more courageous neighbors. But just as certain as you are living the Band Wagon is coming and a little bit later on you will be glad to scramble on board—and then you will lustily join in the grand chorus and shout "We killed the bear" along with the best of them. Throughout the length and breadth of the land farmers are aroused as never before—but there is still time for Missouri to set the pace. So call up your neighbors, "light up the little school house" and be a leader rather than a "camp follower" after braver hearts have blazed the way—for "we are coming Father Abraham" and don't you forget it.

THE TOLL OF THE PACKERS

I am glad The Missouri Farmer is bringing out the importance of the Land Bank which is bound to be of incalculable benefit to farmers. But in my opinion the injury from high interest does not compare with the toll we pay the beef trust. I feel sure I speak the truth in saying that four out of ten feeders have lost money for three years and five more have barely missed loosing money. About six men constitute the beef trust; the same six men own the stock yards at most if not all the big centers. They furnish the moldy hay we are charged a dollar per 100 for. They furnish more cattle paper than is furnished from any other source and are thereby able to create a run and lower the price whenever they desire. They have crushed out nearly all opposition. There are many living today who remember when every big market had hundreds of small slaughterers bidding for stock but today six men fix the price at all the markets. It has been but a few years since the beef consumed in every small town was slaughtered there but these six men forced them to quit by underselling and then raising the price after they had been forced to quit. These same six men control the price for your hogs, your mutton, your poultry, your eggs. Today the bulk of cattle and hogs are 2 to 3 cents lower than three months ago and yet meat to the consumer is not lowered. I asked men while in Chicago recently who told me the price on no kind of meat had been lowered. These men have robbed the feeders out of enough money to own the stockyards, all of the big killing plants, much of the stock of railroads, many of the largest banks, the terminal companies, immense cattle ranches both in this country and South America, enabling them to flood the markets with their own cattle to depress prices They also own the largest elevators for holding grain in the United States, thereby controlling the price of bread.

Now, my fellow farmers, is there nothing we can do to stop these fellows? I believe there is enough brains among the farmers to formulate some plan if we would but meet and discuss such things. I know we could have choked the life out of them years ago when they were not so strong, and remember they are growing bolder and stronger every day. What we do must be done quickly. The thing we need is competition. Your heavy sows always bring one dollar or more less than lighter hogs, because eastern butchers compete with the packer for the lights and because they are more suitable for the fresh meat trade. And yet the packer charges the same for the lard from the old sow that he does from the young hog. His mess pork is all one price, his dry salt pork is all quoted at one price. As a sample of the immense profits made by the packers; by killing 30 hogs I have been able to sell enough meat and lard to clear 40 hams and enough lard and bacon to supply my family for a year.

What do you think of the plan suggetsed by The Missouri Farmer, to issue capital at $10 a share value and raise one or two million dollars? You are now contributing to the pockets of the packer at least $2 for every hog you sell and $10 for every steer. This means that if you sell ten hogs you give the packer $20 and if you sell 100 hogs you give him $200. A $2,000,000 plant located in St. Louis would save for the state many millions and make money for the stockholders.

If there was a condition of stagnation the present price of cattle and hogs would be excusable. This lowering of the price of the live carcass at a time when their exports are more than double what they were one year ago is absolutely inexcusable.

To substantiate what I have said about prices being too low this year as compared with last year, I give below the amount of exports of meat products for the first ten months of both years. The first or left hand column shows the amount and value of the various products for 1915 and the right hand column the corresponding amounts for the same ten months in 1914. In every single item there is a very large increase of exports for this year and certainly there has been an equally large home consumption of meat products. So if prices were based on supply and demand surely prices would be higher now than a year ago.

Exports of meat products for ten months, January to October:

	1915	1914
Canned beef, lbs.	63,937,461	16,668,970
Value	$ 9,976,630	$ 2,878,959
Fresh beef lbs.	218,168,774	12,494,769
Value	$ 28,073,197	$ 1,647,714
Pickled beef, lbs.	37,634,638	18,407,761
Value	$ 4,075,104	$ 1,815,626
Oleo oil, lbs.	87,183,468	74,349,059
Value	$ 10,358,393	$ 7,656,880
Bacon, lbs.	420,451,068	143,313,752

John S. Bedford,
Boone County.

IS WORTH ONE DOLLAR AN ACRE

Carthage, Mo., Dec 20, 1915.

My Dear Mr. Hirth: Your very kind favor of the 17th inst to hand. Don't worry on account of my offer of five subscriptions as prizes at our Jasper County Corn Show. When I subscribed some time ago for my tenant I wrote that I thought it the best investment I could make and it has turned out as I thought. The boys on my farm have studied every article on soil improvement, selection of seed corn, preparation of ground, time of planting, and manner of cultivation, and as a result two of them have unaided raised 3600 bushels of corn as fine and solid as ever went into the crib. The yield was 55 bushels per acre. One of them, W. R. Nichols, took first money for the best 10 ears of yellow corn and the sweepstakes prize for the best 10 ears of any color. My subscriptions to your excellent farm paper has brought me at least one dollar per acre increased rent on my land planted to corn. Don't you think you are entitled to at least a small per cent of this increased rental brought about by your paper?

Wishing you success in the coming year, a Merry Christmas and Happy New Year, I remain, Your friend,

A. L. Thomas.

Editor's Comment: We appreciate this very complimentary letter from so able an authority as Judge Thomas and we are just wondering if a lawyer who farms only for the money there is in it can get a return of one dollar an acre by having his tenants read The Missouri Farmer, what ought it be worth to the man who owns the land he tills? But Judge Thomas does not stop with subscribing for the paper or his tenants with just reading it—they study it—study the special articles that may suit their conditions from time to time and that is why they get so much profit out of it. Judge Thomas is near the four score mile post but he has time as the above letter shows to direct his farming so that it pays.

Have you any seed corn, cowpea seed, soybeans or other farm seeds for sale? Or do you want to sell some live stock, farm implements, rent, sell or buy a farm—or are you in the market for any of these things? If so, you should by all means belong to our "Farmers' Market Club." Then you will be entitled to list free of charge the things you want to sell or buy in our Monthly Bulletins which will be mailed free to all members. The time has come when farmers must deal more directly with each other and save marketing expenses.

Have a "warm-all-over" house

In cold weather do you hate to go upstairs or from one room to another? Do you huddle up in one or two rooms and often suffer from chill or drafts? If you are comfortable in only, say, 3 of the 8 rooms of your house, you are getting the use of only *three-eighths* of what your house costs—a poor investment! Make a warm, cheerful *home* out of your *whole house* by putting in an outfit of

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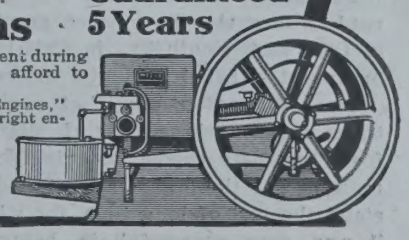


THE TRAIL OF THE INSTITUTE MAN

December 6 and 7 found me at Elsberry. I had never stopped off at that town before but just presumed it a typical river town with many huts and much rubbish and filth along the banks of the river, but not so do you find Elsberry.

The first thing that pleased me was to be met at the train by Mr. Crank who showed me to their fine hotel so well conducted by Bill Bailey. That town and Bill Bailey know the value of a good, comfortable, clean hotel to any town. A good hotel readily spreads its good name and all the grip luggers know where they are.

I was then taken to the show and lecture room where they had assembled a fine lot of corn, cakes, fancy work and folks—all of which reflects splendidly for Elsberry and surrounding country. Of course not all the folks there could be called really good looking, especially after my arrival, but anybody would surely be pleased with that bunch. The corn was good and lots of it on exhibit.

After supper I took a stroll up town and was again well pleased to see well stocked stores, neatly kept, and the daylight next day revealed the fact the town is kept nice and clean. "Rah" for Elsberry.

The next stop was in the good town of Carrollton to attend County Agent Cook's "Round Up," and it was sure some round up. The corn show was not large but most of the corn was very good. The displays in the courthouse were excellent and the poultry show was high class so far as I am able to tell anything about chickens. The lectures were well attended and the crowds at the roundup were simply so large and in so many places that it would be difficult to estimate them. The people are surely "talking" over there and "that feller Cook" can be blamed for a lot of it.

Next the Agricultural Congress at St. Joseph was to be "taken in." The corn and apple shows were strictly high class. So far as I could observe the greatest stress was placed on the lecture work. I did not get to hear many lectures except my own, which, of course, were good. You see I have to brag on myself some since nobody else will do it for me. The program and show were worthy of a great attendance, but this was to some extent interfered with by bad weather. Even though the attendance was not all that could be wished for it was good and enthusiasm is high for a repetition of the congress next year.

Sam Jordan.

THE KENTUCKY-OHIO TOBACCO ORGANIZATION

The editor has asked me to tell his readers how we, the tobacco growers of Ohio and Kentucky, in 1906-1910, organized in behalf of better prices.

You will pardon me if at various times during this article I digress from the main theme and give some reasons why the organization failed to stand the test of long time, for while it was very successful in bringing better prices for a few years, it is now inactive.

Throughout the White Burley tobacco district, comprising forty counties in Kentucky and four each in Ohio and Indiana, it costs about seven cents per pound, in actual labor at current rates, to produce and market a crop of tobacco, and in 1906 the price paid growers did not average more than 5½ cents per pound. The American Tobacco Company, or its predecessor, the Continental, manufactured 82 per cent of all the tobacco in the United States, so it may be seen that it was in a position to pay just what it chose for the raw leaf.

The growers of export tobacco, in what is known as the Black Patch of Kentucky, had made a pool of their crops in 1905, and had been successful in obtaining better prices, and so much better prices that we who operated a much larger district began the herculean task of organizing our forces.

It was done as Mr. Hirth suggests. "A light in every school house," and within three months' time we formed an organization which put millions of dollars into the pockets of our members. We first organized local unions at the school houses, then county unions at the county seats, and finally, a general organization was formed by sending representatives from the county unions. Our local membership fee was one dollar, and at the county meetings the expenses of the representatives to the general meeting were met by subscription.

As a factor in building the organization, the country press was invaluable, as with but few exceptions the publishers opened their columns freely to us, and some took the field to assist in the work.

Here let me emphasize one thing and that is the importance of regular meetings of all local clubs or unions and these regular meetings attended by every member who can possibly be there. When we allowed our local meetings to fail, from that time on our work began to lose its effect.

The plan finally decided upon was the renting of warehouses and the packing of all the tobacco of the members as a pool, each man's tobacco being graded by experts as it was weighed from the wagons, and a warehouse receipt being given him. It was supposed that the banks would advance at least 50 per cent on these certificates, but just as we were ready to work, bank officials discovered something in the banking laws to prevent it. The county mass meetings were held and in some countes as much as $50,000 was pledged as capital for a new bank, when the bankers "saw a new light" on banking laws and decided that they could advance the 50 per cent on the certificates.

It was eighteen months from the day we put our tobacco into the warehouses until a sale was made, but that sale brought more money into the farmer's hands than the sale of the two previous crops entire had done.

In the meantime a crop had been grown and packed under the same plan as the first, and in addition to this a cut out of the 1908 crop had been effected, but of this and other matters will have something to say in another article.

Georgetown, O. C. D. Lyon.

ABOUT SERUM AND VIRUS FOR CONTROL OF HOG CHOLERA

The state veterinarian of Indiana makes explanation of his position on the use of serum and virus for the control of hog cholera in the following letter addressed to The Missouri Farmer under date of December 17, 1915:

Dear Sir: I am writing you in regard to an article that appeared in your journal written by Dr. J. W. Connaway of the Agricultural Experiment Station of your state, as I believe that this article may appear misleading to the public as regarding my attitude on the serum simultaneous method.

In the issue of June the 1st of "The Swine World" appeared the article by me from which Dr. Connaway quotes. In this article I tried to make plain to the public the trouble that this department has experienced following light dosage and serum of low potency among healthy herds in this state. This referred to herds visited after vaccination by the simultaneous method by local veterinarians and also by farmers themselves. It was the careless methods and light dosage, as well as serum weak in potency, that made me make the statement that I regretted to see virus used in localities that were free from hog cholera.

In localities where hog cholera is prevalent we advise the simultaneous method, as after infection is in the herd results are never as favorable as in healthy herds. In sick herds we always advise the simultaneous treatment of all that are large enough to double treat that do not show clinical or physical symptoms and the treatment by serum alone of those that have high temperatures that are not showing physical symptoms; also serum alone on all small pigs weighing under fifty pounds.

I believe that if all persons that administer serum use caution, and the owner of the animals will observe all precautions that are necessary to prevent the spread of the disease to other swine by isolating those vaccinated for a period of thirty days so that they will not roam all over the premises, that the dangers of using the simultaneous method can be minimized. What I have been trying to do is to impress upon the farmer and breeder the necessity of observing all precautions to prevent the spread of hog cholera and not get careless about cleaning and disinfecting his premises after the disease is on his farm; also to use every precaution when other swine are brought on the premises by washing them, as well as the crate in which they are shipped, in a disinfectant, and isolating them for a period of at least two weeks. I believe that strict quarantine methods and disinfection of premises are always absolutely necessary, but I do not discard serum as a means of helping to save the hogs, as the two are inseparable. Much better work is now being done than has been in the past, as evidenced by our field reports.

The serum companies of this state are with only one exception complying with the Indiana law, and this one person, who served an apprenticeship in the West, seems to be imbued with the idea that he is not amenable to the Indiana law and that a cheap proposition will appeal to the farmer, regardless of whether the product is a tested and approved one or one made to sell regardless of sanitary surrounding or testing for potency.

As long as this continues, and some persons outside this state do not comply with the state law, there is bound to be either bad results or swine that are left without any permanent immunity, as some of these persons are treating hogs for less than it costs to produce the serum if the proper surrounding and tests were made to insure its potency and freedom from septic organisms. I might add for the information of the public also that the majority of the losses which I mentioned in the article from which Dr. Connaway quotes were from a serum and virus not made in the state, and used in violation of the Indiana law.

I am inclosing a copy of a form letter which was sent out to the different veterinarians within the State of Indiana:

Dear Doctor: Hog cholera is probably more prevalent at the present time than ever before within this state. Vaccination of healthy hogs has in many cases started new centers of infection and invariably we find on investigation that light dosage is responsible. Dr. Paul Fischer, Ex-State Veternarian of the state of Ohio, gave as his opinion in an article that appeared in the Swine World, "That twice the test dosage used in serum plants is necessary in the field due to lack of proper feeding and sanitary conditions, which can not equal those at serum plants where every precaution is used in care and also in feeding after vaccination."

Veterinarians employed by the United States Department of Agriculture do not give less than thirty-five cc's. of anti-hog-cholera serum to shoats weighing fifty pounds where the simultaneous method is used against one cc. of virus. They state that on account of treating only infected herds that any animal that has a normal temperature may get infection from exposure also, and that five cc's. more is given than would be given in healthy herds.

Many Western serum companies are labeling their product, recommending as low as twenty cc's. for a hog weighing one hundred pounds; also many recommend the simultaneous method for small pigs. Both of these propositions are causing trouble, as the small pigs will not hold their immunity, and those receiving the small dose of serum will, if the virus is active, develop hog cholera often about the fourth week.

Our recommendations are:

Never double treat animals weighing less than forty pounds, and if in non-infected localities less than fifty.

Never give less than thirty cc's. of serum to any pig when the simultaneous method is used.

Take the temperature of every animal and do not give virus to those whose temperatures are above 104° Fahrenheit.

See that animals are placed in clean pasture where there are no wallows, or in a building with cement floor that has been disinfected and bedded with clean straw.

Be sure that syringes are sterilized by boiling before using, and that the skin over the site of injection is cleaned with an antiseptic before injection is made. You should paint the surface with tincture of iodine after injection.

Never use less than one cc. of virus if you wish to produce immunity.

Advise owners to burn promptly all animals that die, and destroy all that are hopelessly sick, then to clean up premises and disinfect, using a three per cent (3%) solution of Liquor Creosolis Compound, U. S. P. Also have him kill all pigeons and prevent as far as possible carrying of disease to non-infected herds.

Never try to do a cheap job. Results are what the stockman wants, and you can easily demonstrate this

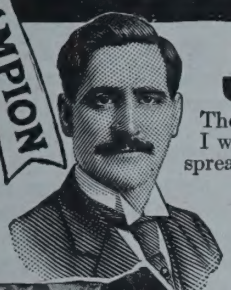
FRIENDSHIP THAT COUNTS

The other day we received two letters and two checks amounting to $7.50 from Mr Oscar Royse of Kewanee, Mo. First, Mr. Royse had written out a check for $1.50 to cover his own subscription and membership in the "Farmers' Market Club." Then there was a second check for $6.00 and a second letter in which he said: "After I wrote my check I got to thinking about the great fight The Missouri Farmer is making for us farmers and what a fine thing your new "Farmers' Market Club" is—so I concluded to call up some of my neighbors and tell them about it. The first four I called said, "Sure, count me in"—so I am sending their money and names and expect to get a lot of others for you soon." The reason we mention this incident is because Mr. Royse is the kind of friend The Missouri Farmer needs at this time and if we had one like him in every school district in the state we could soon set Missouri "on fire" with a great statewide farmers' organization and soon the movement would spread to Iowa, Kansas, Illinois and other states. There are two kinds of friends in the World. The first kind offer to come over and "sit up" when you or your family are sick. The other kind say they are "sorry to hear you've been sick"—after you are well or dead.

1916 STATE FAIR CHAMPION

I BUILD BREED CHAMPIONS

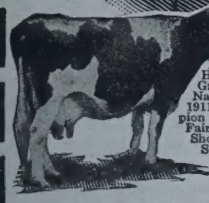
1916 SEPARATOR ENGINE SPREADER



D-27

JUST LOOK AT THESE WINNERS!

The illustrations in this ad represent winners! I believe in breeding winners, manufacturing winners and selling winners. I would not breed from a poor cow, nor would I manufacture a poor cream separator, gasoline engine or manure spreader.



Fay Jewel Beauty, Holstein cow, twice Grand Champion at National Dairy Show 1911-12; Grand Champion Minnesota State Fair, Waterloo Dairy Show, St. Louis Fair; Senior Champion Iowa State Fair, 1915.

GALLOWAY SANITARY BATH-IN-OIL CREAM SEPARATORS

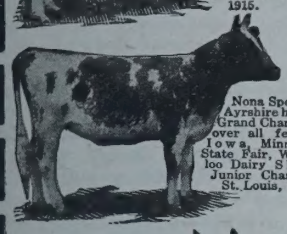
The best separator on the market today and I have seen them all. For beauty, simplicity of design, workmanship and mechanical perfection, and years of service built into it, positively it can not be equalled. If you knew all there is to know about building cream separators and built one for yourself, it would not be a better machine, would not run any easier, nor skim any closer, and could not be built of better material, nor have more long wear and satisfaction built into it, nor would it be more perfectly sanitary. If you built as good a machine you could not build it at a lower price than my new, low 1916 figures. Not built down to a price, but built up to a high standard and sold to you at one small factory profit based on tremendous quantity. My new catalog is free for the asking.

34.50

New 1916 Galloway Sanitary Bath-in-Oil Separator. A champion for simplicity, beauty, skimming efficiency. In every community one of them sells many more.

THE NEW 1916 MODEL GALLOWAY MASTERPIECE 6 H. P. ENGINE

is taking the gasoline engine field by storm. My other masterpiece models from 4 h. p. to 16 h. p. moguls are power kings of their kind. My 1¾ to 2¼ h. p. pumping and light work engines have never been equalled. When you buy an engine insist on heavy weight (because it costs more to build a big, heavy, long-life engine) insist on large bore, long stroke and low speed. These Galloway features mean lifetime service at hard, tough, power-eating jobs. **Do not get fooled.** One cylinder, high speed, light weight engines **won't** give you the satisfaction that heavy weight, long stroke and large bore engines will give you. My new 160-page four-color catalog will tell you in detail about every style and size Galloway engine from 1¾ h. p. up to these giants that tackle any and every job.



Nona Spencer, Ayrshire heifer, Grand Champion over all females Iowa, Minnesota State Fair, Waterloo Dairy Show; Junior Champion St. Louis, 1915.

NEW 1916 MODEL NO. 8 LOW DOWN MANURE SPREADER

When I started in the manufacturing business years ago I determined that I would manufacture the leading article of its kind. The thousands upon thousands of manure spreaders that I put out the first year or two built my reputation They were the best spreaders offered to the farmers of America. My new No. 8 Low Down is positively the best spreader I ever built and thousands of customers say it's the best in the world, and they ought to know. My spreader factory is running full blast, turning out my new 1916, No. 8 Low Down spreader with the cut under front wheels, steel beater and new V-shaped rake. Its equal has never been produced for light draft, ease of operation, simplicity and sound mechanical construction. Catalog describes it fully.

WILLIAM GALLOWAY COMPANY, 597 Galloway Station, Waterloo, Iowa

Auchenbrain Good Gift, Ayrshire bull, Grand Champion Iowa State Fair, Waterloo Dairy Show; St. Louis 1915.

King Segis Pontiac Ormsby my $10,000 Holstein bull 23 months old, winner of Grand Champion Ia. and St. Louis fairs. Junior Champion at Minn. fair and Waterloo Dairy Show 1915.

98.75

Galloway 6 h. p. Masterpiece engine, with 1916 improvements. A champion on every farm where used.

Galloway 16 h. p. portable. Handles biggest, toughest, hardest jobs anywhere. A champion of power, simplicity and design.

64.75 UP

Galloway No. 8 Low Down Spreader, the machine to make champion corn crops on every farm.

1916 PRICES LOWER 1916 QUALITY HIGHER

by careful work. When you have good results with a serum made by persons that are complying with the Indiana law, do not listen to propositions based on a cheaper cost.

Discourage the handling or shipping of diseased hogs, and impress upon every stockman the necessity of co-operation with yourself and the state and federal officials that are trying to assist in eradicating hog cholera.

A. F. Nelson,
Indiana State Veterinarian.

Editorial Comment: We are very glad to give space to Dr. Nelson's reply because we think it contains some excellent advice on the value of sanitation in the control of hog cholera. We do not think any of our readers have been misled very much since reading the above because the main facts set forth in the above reply are in entire harmony with the articles of Dr. Connaway which have appeared in The Missouri Farmer, and with the editorial position we have maintained on the practicability of using the simultaneous method for the control or possible eradication of hog cholera. We have maintained all the time (1) that hog cholera is causing much greater loss today than at any time before serum was discovered; (2) that granting that it is possible to finally eradicate cholera by the use of the simultaneous method its general or universal use would make the cost so high that the swine industry can not afford it. Now just for the sake of emphasis let us repeat what Dr. Nelson says above: "Hog cholera is probably more prevalent at the present time than ever before within this state. Vaccination of healthy hogs has in many cases started new centers of infection and invariably we find that light dosage is responsible." There is no disputing the fact that the losses from cholera are greater because statistics prove that the number of hogs condemned at the big packing plants have increased every year for the last five years. The U. S. Secretary of Agriculture in his report for 1914 estimates the loss from cholera throughout the whole country at approximately $60,000,000 and the 1915 report places the loss at $75,000,000. That is a pretty big increase for one year but if we go back only two years to Secretary Wilson's report we find that the estimated loss from hog cholera was placed at only $18,000,000. Now granting that the spread of the desease from new centers is all due to light dosage and we increase the dosage as Dr. Nelson advises we impose a tax upon swine raisers, if it is universally enforced, as it must be if we get cholera under control that will take the orpfits all out of the business. And then even Dr. Nelson makes no further claim than that it will minimize the danger.

Counting the cost of serum and virus, the cost of vaccination, the average losses from the use of virus, the loss of condition and weight of hogs while treating the hogs it will amount to a tax of $2 a head at the most conservative estimate and when this is applied to all the hogs of the country as it must be if we get rid of cholera, so far as Missouri is concerned we do not believe there is enough profit in raising hogs to pay the cost. And that is sufficient reason to be against it.

WINTER CARE OF SHEEP

Most all of our sheepmen are taking better care of their flocks during the winter time than was formerly the rule and of course it pays. Tightly enclosed shelters are neither necessary nor advisable. The sheds or barns need first of all to be kept dry underfoot and there should be sufficient room under shelter or in outside yards for exercise. During the fine days of winter it is a good plan to compel the ewes to walk a reasonable distance to a field or another yard for their hay. For shed room fifteen square feet to each sheep is generally allotted. The fleece keeps the body warm and the overhead protection needed is such as will keep off storms and prevent drafts. In quite cold weather if the nights are dry, sheep often prefer the open air to enclosed sheds. When the flock varies as to size and some are much more timid than others, better results are obtained from dividing them into uniform bunches. The rams must be kept separate, of course, and in no more than good condition. Alfalfa or pea hay and one-half pound of bran and oats daily for each ram is ordinarily sufficient while in the beet district they are allowed to graze on the lops and tops occasionally.—Denver Field and Farm.

Four years ago The Missouri Farmer led the fight against the Single Tax just as during the last two years it has led the fight for the Land Bank Bill—the greatest measure ever passed in the interest of farmers in the history of this state—and the question is, brother, don't you think that this kind of a farm paper is entitled to your support?

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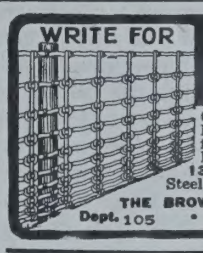

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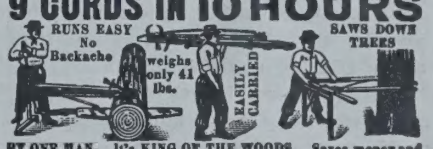

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ACTION OF PLANT FOODS

In considering the part played by the plant foods, nitrogen, phosphoric acid and potash in the growth of the plant it must be kept in mind that the effect of any element is largely dependent on the other elements necessary to plant growth being present in normal amounts, that all the elements working together are essential to maximum crop production and that even when these are present the results obtained by their use are often very materially affected by cultural and climatic conditions.

Considered from a broad standpoint it is generally conceded that:

Nitrogen exerts its greatest influence on the amount of foliage, the flowering process, maturing, color, growth, quality and disease resisting power of the plant.

If insufficient available nitrogen is present there will be a lack of foliage, stalks or stems will be short, leaves or blades small, color yellowish, weight of foliage, straw and grain or fruit less than when required amount of nitrogen is available.

If excessive amounts of nitrogen are used the growth of foliage will be out of proportion to the grain or fruit, the growth, development, and maturity of the crop retarded, a tendency to softness of the tissues and apparently less power to resist attacks of fungous diseases.

Potash is apparently essential to the formation and transference of starch and other carbohydrates, has an important part in the development of leaves and woody parts of stems, stiffens the stem, stalk and straw, assists in the development of the fleshy parts of fruits and makes the plants more resistant to the attacks of fungous diseases.

Lack of potash results in weak plants while excessive amounts delay the maturing of the crop.

Phosphoric acid in available form favors rapid development of the young plant, hastens maturity, increases the proportion of grain to straw, assists in developing the grain and is necessary to the development of protoplasm without which there could be no plant growth.— Indiana Experiment Station.

What difference does it make whether you originally subscribed for The Missouri Farmer or whether some bank or commercial club sent it to you? Should that keep you from becoming a subscriber in your own right? The question is whether you believe in the fight we are making to compel a "square deal" for farmers and whether you are willing to contribute your mite to its success. We don't want to force the paper onto anybody—but we are fighting **your** battles and believe we are entitled to **your** support.

THE MISSOURI FARMER

Devoted to Better Farming, Better Farm Homes and Better Citizenship.

Vol. VIII January 1, 1916 No. 1

William Hirth - - - Publisher
Geo. B. Ellis - - Managing Editor

Published twice a month, on the 1st and 15th, at Columbia, Mo.

Subscription Price 50 Cents a Year In Advance

The date on the address label gives month and year to which subscription is paid.

Agents Wanted. We want some one to represent us in every community and make up clubs for which we will pay liberal commissions. Write us for terms and sample copies.

We solicit communications from farmers and members of the family on timely and practical subjects. Photographs illustrating farm life or plans for buildings, live stock, etc., are appreciated.

To render service is our aim and we will endeavor to answer all pertinent questions or have them answered by competent authority. When answer is desired direct, always inclose stamp.

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IS THERE ANY DOUBT ABOUT IT?

With all the facts and arguments we have given in The Missouri Farmer for the past few weeks to show that the packers fix prices of fat cattle, hogs, sheep and other food products if there is any doubt about it in the minds of our readers we have still further evidence to convict them of the charge. At a conference held a few weeks since in Chicago, held on the call of the United States Department of Agriculture, a large body of delegates assembled to consider what could be done to improve the present methods of marketing live stock and distributing live stock products. The conference was managed by the chief of the division of markets, Mr. Brand. Delegates represented most all industries interested, farmers, ranchmen, U. S. officials, colleges of agriculture, railroads, packers, shippers and commission men. Perhaps the strongest and most positive evidence against the packers was made in a paper read by A. E. De Ricqles of Colorado, who has had large experiences as a Western live stock shipper. From official and undisputed sources, Mr. De Ricqles showed that during the first ten months of 1915 the receipts of both cattle and hogs at the big markets including Chicago, Kansas City, Omaha, St. Louis, St. Joseph and Sioux City, were very much less than for any year except one during the last five. Here are the figures showing the receipts of these six markets for the last five years:

Year	Cattle	Hogs
1911	7,071,000	15,496,000
1912	6,365,000	15,751,000
1913	6,366,000	15,175,000
1914	5,614,000	13,258,000
1915	5,844,000	14,690,000

Now what about prices the packers paid to live stock producers? The average Chicago price paid for native beef steers during the first ten months of 1914 was $8.79 per cwt., as compared with only $8.12 paid in 1915. The average price for fat cows and heifers was $6.63 in 1914 and only $6.12 in 1915. For fat hogs the 1914 price was $8.49 and only $7.19 for 1915. Now as to the demand for meats we know that there were more people at work in 1915 than in 1914 and consequently a better home demand for meats and exports were larger by hundreds of millions of pounds. "During the nine months ending September 30, 1915, there was exported from the United States, 266,551,702 pounds more beef than during the same period for 1914. This enormous amount is equivalent to about 533,000 head of cattle. So you see this would absorb the increase of 230,000 head shown above and leave an actual decreae of 303,000 cattle as compared with 1914. In addition to this exportation of beef and its products, the exportation of pork products, etc., during the same period as compared with last year, increased 400,804,000 pounds." Estimating the weight of hogs at 200 pounds the increase of exports represent more than 2,000,000 hogs, whereas there were only 432,000 more hogs received.

Here are the itemized figures of exports of beef and pork for the same nine months, January to September, for 1914 and 1915:

Beef	1915	1914
Canned	61,016,625	7,707,834
Fresh	207,255,532	11,707,893
Pickled	35,032,726	17,337,454
Total	303,304,883	36,753,181
Increase	266,551,702	

Pork	1915	1914
Bacon	368,308,000	129,727,000
Hams and Shoulders	207,808,000	110,720,000
Lard	344,263,000	308,804,000
Pickle Pork	48,261,000	30,256,000
Lard comp'ds	49,797,000	38,126,000
Total	1,018,437,000	617,633,000
Increase	400,804,000	

The packers not only control the facilities for marketing meat animals but they control almost absolutely the retail butcher trade and that is why the consumer gets no benefit of the lower prices paid the farmers. As an actual fact we have only to go into any local butcher shop to find out that retail prices of meats are no lower than a year ago and in some instances we have found them to be actually higher.

But what are we farmers going to do about it as we have so often asked in the columns of The Missouri Farmer?

FARM CLUBS FORMING EVERYWHERE

Every mail brings letters to The Missouri Farmer telling about Farm Clubs which have been formed or which are in the process of formation and we believe we are safe in saying that not less than one thousand such organizations will be perfected in different parts of the state before the end of January. In the meantime, more than a dozen big county farmers' mass meetings have been planned in as many different counties for the purpose of organizing a County Farmers' Association. Perhaps Warren County has more Farm Clubs at this time than any other county in the state—but the interest is very keen in Livingston, Macon, Lafayette, Bates, Audrain, Henry, Sullivan, Atchison and a number of others. This is also true of Boone in which perhaps a dozen clubs have been formed within the last two weeks—the latest one being in the Wade district which starts in with 25 members. Thus this great new movement is thoroughly launched and before long Missouri should be "on fire" from end to end.

MONEY FOR FARM LOANS

In the discussion of the Missouri Land Bank provision for which was made by the last Legislature of the state the question is frequently asked "Where will the money come from to make the loans?" Some seem to think that it will be difficult to find buyers for the bonds which are to draw only 4 3-10 per cent interest. As an example of what may be done with the sale of bonds of the State of Missouri we have the recent state capitol bonds which found ready sale to capitalists at approximately 4 per cent. The bonds were drawn at 3½ per cent but a commission was paid for their placement which made them net the purchasers about 4 per cent. The capitol bonds are exempt from taxation which makes them a desirable investment at that rate. In like manner the bonds of the Land Bank will be free from taxes of any kind and drawing 4 3-10 per cent ought to find ready sale in large amounts.

But we have a class of investors within our own state who ought to take a large share of these bonds just as soon as they are made acquainted with the safety, desirability, and negotiability which they will possess. In most every school district in the state a few farmers may be found who have a few hundred or thousands of dollars to loan. Considerable of this money is invested in farm mortgages through loan agencies but recent disclosures of the frauds practiced by these agents as were made known during the last few months in St. Louis, Kansas City and Chillicothe show how unsafe it is for the ordinary man or woman to buy such securities. As soon as the bonds of the Missouri Land Bank are placed on the market backed up as they will be first, by first liens on farm lands double the face value of the bonds; second, by the capital of the bank of $1,000,000; third, by the accumulated reserve saved from the one-half of one per cent annually paid on all loans; and fourth, by the fact that the bonds are issued by a board of the highest officers of the state: these are good and sufficient reasons for believing that farmers, school teachers, laborers, old people and all others who have money to loan or who now have it hid away for safe keeping will be quick to buy these Land Bank bonds.

To show that others take somewhat the same view we reproduce herewith an editorial in a recent number of The Rural New-Yorker, one of the old established papers in this country:

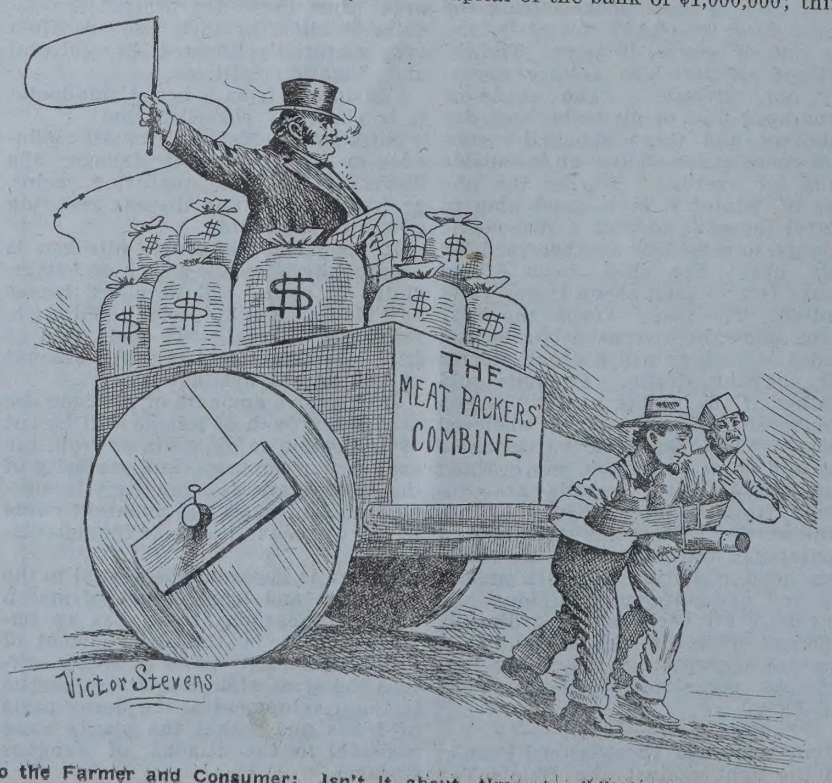
"The French people have raised more than $4,000,000,000 and loaned it to their government. This did not come from bankers and rich men entirely, or even largely. It was raised by people of the thrifty middle class out of comparatively small savings. These Frenchmen have such confidence in their own country that they put up their money and willingly accept government paper in return. At the end of the war with Germany, 35 years ago, the latter country demanded of France a sum of money which seemed far beyond the power of the government to raise. Without question the thrifty Frenchmen of the middle class went to their hiding places and produced the needed money, cheerfully accepting their government's promise to pay. Now they come forward once more with a much larger sum. The people of this country have a great lesson to learn from this. While this nation is still comparatively new, we are already face to face with great needs of capital on the part of farmers. Rural credits are greatly needed in order that deserving men may obtain possession of land and fair equipment. In practically every community, large and small, there is sufficient combined cash and credit to finance the deserving farmers and put them on their feet without going outside to banks and money-lenders. Every year some $300,000,000 is wasted in this country on foolish and wildcat investments. If this money with the millions more tucked away in stockings and clocks and other hiding places could be invested in a liberal and safe system of rural credits the benefit to farmers and to the nation would be beyond calculation. We need more of the thrift and patriotism of the French people. We must learn to combine our capital and credit as farmers, and make it available for other farmers, instead of waiting for the government to do it for us."

A YEAR'S MEAT SUPPLY

If the reader has not already looked over the article on page 5, "The Toll of the Packers" by Judge J. S. Bedford of Boone County, we suggest that he do so right now. Judge Bedford has had many years experience as a feeder and shipper of hogs and cattle and when he tells you the packers are taking a toll of $2 on every hog they buy and $10 on every teer it is about time the farmers should sit up and take notice. One way farmers can save a part of this toll is to follow Judge Bedford's advice and kill more of their hogs on the farm and try to find a market in the nearby towns. A year's meat supply for a whole family and 40 hams to sell for extra profit which Judge Bedford tells you he made by killing 30 hogs, would mean a snug little sum for the state if every farmer would follow this plan. While we are waiting for the organization of packing plants let us begin with these smaller savings right at home.

If organization is a good thing for politicians and packers why not try it out for farmers? There has never been a better time than right now to begin.

Let us begin the New Year right by organizing a farmers' club in every school district in the state.



To the Farmer and Consumer; Isn't it about time you "ditched" your driver?

MISSOURI'S FARM MORTGAGE ACT

There are seven states which have passed comprehensive laws relating to the improvement of farm-mortgage credit. These states are Massachusetts, Missouri, Montana, New York, Oklahoma, Utah and Wisconsin. The laws, however, are of two distinct types. Those of Massachusettes, Utah and Wisconsin seek to reduce the waste in their land-credit systems by improving the methods of making loans and by giving greater mobility to funds seeking safe investment. The laws of Missouri, Montana, New York and Oklahoma, in addition to the above-mentioned aims, seek to make a material reduction in the farmer's rate of interest on mortgage loans. The method proposed for bringing this about is either through the organization of a central land bank or by means of definite state aid.

If the laws of the four last-mentioned states succeed in accomplishing their objects, the farmer's rate of interest on long-time mortgage loans will be about 6 per cent in Montana and Oklahoma, and 5 per cent or a little less in Missouri and New York. Since these interest rates are one or two per cent lower than current mortgage rates in the respective states, it can readily be seen it means something to farmers to have these laws in operation. The question is: What are Missouri's farmers going to do about it?

The Act of Missouri can not under any circumstances become effective until December 1, 1916. In the meantime the Act itself is being carefully scrutinized for any possible defects. Should these appear in the course of time, the constitutional amendment which the people of Missouri are to pass upon next fall provides for their correction. The amendment, if adopted, authorizes the creation of the Missouri State Land Bank, a state loan of one million dollars to the bank, and the exemption from "state, county and municipal taxes the assets of said Missouri State Land Bank and all debenture bonds issued by it." For the improvement of the Act, in case this may be necessary in the future, the amendment also provides that the Missouri Legislature may at any time enact a law or laws "to amend and improve the said act, or to supply omissions or correct errors or defects therein."

Evidently, then, with these wise provisions for the future of farm-mortgage legislation in Missouri, the first thing to be done is to bend every effort to pass the constitutional amendment. Should this amedment be voted down, the possibility of enacting a law to improve farm lands and encourage agriculture in Missouri will not be very encouraging for a long time to come. If there is need to improve farm-mortgage credit conditions—and this need is now quite generally recognized—the Gardner Land Bank offers to farmers the first practical opportunity of a lifetime to bring this about.

Through this bank loans are to be made to farmers at 4 3-10 per cent interest. To this must be added a charge of ½ of 1 per cent for the reserve fund. This latter charge may, at the option of the bank, be refunded to the borrower on the full payment of his debt. Loans are to be made on the amortization plan—that is, the farmer who borrows selects how long a time his loan shall run and he pays in to the bank on his debt a certain sum every year as interest and part of the principal. When the time has been accomplished the debt is removed without the farmer hardly realizing it. The fear of foreclosure is practically removed; the charge on the first farm loans will not be more than 4 4-5 per cent; and the payments are not burdensome. These are the great advantages to the farmers of Missouri if this Act should become operative. It is my conviction no greater good can come to the State of Missouri as a whole than would come by passing this amendment.—James B. Morman, Author of "The Principles of Rural Credits."

Editor's Comment: The above statement comes from a recognized authority on rural credits and we commend what Mr. Morman has to say to our readers. We have probably covered the same ground a number of times within the several months we have been discussing this subject but when such authorities as Mr. Morman and Mr. Mead, whose article appeared in our last issue, substantiate our position we are assured that the fight The Missouri Farmer has made for the Gardner Land Bank Bill is along sound and conservative lines. Farmers had better wake up and help put into operation a real farmers' measure or we may wake up to the fact some day that Congress or the Legislature has put into effect some Act more in the interest of the lender than of the borrower.

BUCKSHOT BY THE PROFESSOR

Here goes a Happy New Year to the whole bunuch of you. May the good Lord bless you and yours with good health and a few little chunks of prosperity is the ardent wish of the "fool professer feller."

My wife has asked me to get a divorce from my old cob pipe and I suppose I'll have to do it. You never can tell where or when these womans suffrage symptoms are going to break out.

The trouble with a lot of people in this World is that they are just trying to "get by." That's why we have so many shiftless farmers, so many poor rural schools, so many "bum" doctors and lawyers, so many out of date merchants—and it's because there are so many "bum" preachers that our "rural churches are decayin" and no longer a power in the community.

Did you notice how that fellow, "Old Jim Riley" busted into this paper in the last issue? And what made me still more sore is that he was perched right on top of my stuff. I didn't think the editor would let him do it. He's been jealous of my writing for the paper for a long while and I knew he'd try to break in sooner or later. He belongs in the "long green squad" down at old "Hez" Brown's store—not in a respectable farm paper like this. There are a lot of things I know about him and if he ever gets on top of my stuff again, I'll speak right out in meetin'. There are some things I wont stand for—so let him watch out.

Here's hoping, brother, that you will remember the main thing in that little "Christmas Prayer" which appeared on the front page of the last issue—and that is to "be a little more thoughtful of the health and welfare of your wife and to speak more gently and kindly to her in the year to come." "Getting right down to brass tacks, it is your duty and mine to make the lot of the woman who is fighting life's battles with us hand in hand just as happy as possible. Now don't you think so? I would rather be any kind of a coward in the World than a coward who is unkind to his wife—for of all the measly, underhanded cowards on Earth such a man is the worst.

Why not start the new year by organizing a Farm Club in your school district? Why not "light up the little school house" and you and your neighbors contribute your share in the great fight to lick the Packers and a lot of other horsethieves who are robbing the farmer? I believe in doing something—even if I can't do better than to jump straight up and down.

There are a pile of farmers who are "not dead but only sleeping." They are the kind who don't believe "farmers will ever stick together"—and they get their "hunch" from the fact that they have hardly got energy enough to stick together themselves. If the good Lord hadn't joined them together in the first place they would put in three-fourths of the time hunting for their legs and hands.

Here's hoping you will sort of square things up with your conscience by sending this paper a dollar to renew your subscription and thus contribute your share toward the great fight it is making in the interest of the farmers of this state. Don't say "I never subscribed for the paper in the first place," etc. What difference does that make? While other farm papers are trying to knife the Land Bank Bill which will give the farmers of this state cheaper and longer time money than they have ever had before, this paper is working "teeth and toe nail" to carry the necessary amendment at the coming election—but it must have money to live and when it offers you three whole years subscription—and also to wipe out all the past due subscription—for the small sum of one dollar, don't you think all of us ought to "chalk up" and show that we are willing to stand by our real friends? I don't want to make you "sore" and yet I mean every word I say. Too many of us are thoughtless. We don't stick by the men who offer to help us—and then we wonder why it is so hard to pay off the mortgage. As a rule, men of ability—men who know how to fight—are on the other side because the other side is willing to pay them and doesn't make them starve to death. This is the big reason why so few men are fighting the battles of the farmer.

The "long green squad" and the "dry goods box brigade" down at "Hez" Brown's store switched from the Navy over to the Mexican situation the other day because "Jep" Thompson allowed that "we kin take that up again along in March or April and then beat Congress in gettin at the propper solvin' of the problem." At this stage of the game old "Chouce" Baker broke in with, "Congruss nuthin. Congruss don't solve nuthin. What them senators and congrussmen will do is to find out first what 'Possum Holler and Coon Gulch think about it. If 'Possum Holler and Coon Gulch want a lot o' dreadnaughts, why that's what we'll git. If they want a lot of skiffs and canoes and bows and arrows, why that's what we'll git. Congruss nuthin. Why if I wanted to start out to hunt genyewine opinions and backbones I'd dig up a lot of fishin' worms. I wouldn't expect to find either one in a congrussman." Well, anyhow," said "Jep," tired like, "what's that got to do with this Mexican business? You remind me of an old coon dog I've got that always goes away pell mell after a rabbit just about the time I tree a coon. Now I am for this feller Carranzy because he looks to me like a feller that's got a lot of statesmanship to him." "You mean a lot of whiskers" broke in "Chouce" disgustedly. "If that old greaser was to ever go an' git a hair cut an' a shave there wouldn't be as much of him left as a good sized medder lark. Who ever heard of a fellow with that kind of a crop of Alfalfy growin' out of his face bein' a statesman?"—and at this old "Hump" Jones, who has a long billy goat beard of his own, got so excited he almost swallowed his long green and shouted. "Now if your aimin' that whisker stuff at me I'll mop up the middle of the street with you,'" when old "Hez" interfered and said, "Now be cam genlmen, be cam."

By Old Jim Riley

Well, Woodrow has been off on his honeymoon, the congressmen have been home repairin' their fences, the Potomac is froze up, old Carranza is quietly writin' about Constitutional guvment, the boys have been havin' Crismus trees in the trenches and if it hadn't a bin for that fight among the delegates on Henry Ford's "Peace Ship" there wouldn't have bin anything much stirrin' durin' the holidays. Talkin' about automobiles, I see where another one of them concerns has declared a dividend of 100 per cent—and the more I think of it the better I like my old gray mule.

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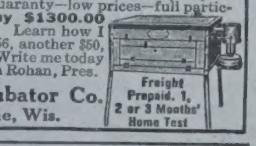

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The Plunderer

By ROY NORTON

Author of "The Garden of Fate"

(Continued from last issue)

"Wolff," said the old millman, steadily, "we are looking for the man that blew up the Croix d'Or powerhouse and dam last night. And what's more, we think we've got him. You're the man, all right!"

His attempts to pretend ignorance and innocence were pitiful. This impromptu court was trying him there in the open beside the cabin, and he knew that its verdict would be a speedy one. He started to run the gamut of appeal, denial, and anger; but his hearers were inflexible. They silenced him at last.

"We need just one thing more, boys," said Rogers, "and that is to be sure that these are the same boots that made the tracks there by the dam. All we have to do to prove that is to take this fellow back with us. The tracks will still be there. If they are the same we can be sure."

"That's right," added the blacksmith. "That'd be proof enough. Let's move out."

They knotted their huge handkerchiefs and bound his arms at the elbows and then his hands at the wrists, and started him forward. He fought at first, but on being prodded sharply with the muzzle of a gun moved sullenly in their midst along the trail he had so lately come over. They trudged in a harsh silence, save now and then when he tried to persuade them of his innocence, only to convince them further that he lied. Their return was made much faster than their coming, for now they had no need to seek a trail, nor to walk in a mountain stream. They forged ahead rapidly under the direction of the runner who had been in that part of the mountains before, and yet it was almost dusk when they came down the hill above the great wreck. They led him to the big heap of broken masonry and then ordered him to sit down. He had to be thrown from his feet, after which they removed his shoes, and while two of them stood guard over him the others descended to the edge of the wall and found the clear-cut prints which had been first noted that morning and which, trailed, had led to his capture. They struck matches to be certain that there was no mistake and bent over while Rogers carefully pressed one of the shoes into the mud beside that first imprint. They were undoubtedly the same. He then fitted the shoe into that track, and all further proof was unnecessary. Grimly they passed back to where Wolff was being guarded.

"Well, boys," said Rogers, gravely. "this is the man! There isn't a doubt of it. Now you all know who he is, what his past has been, what he has done here, and I want to get your ideas what should be done with him."

The smith stepped forward and took off his hat. It was as if he knew that he were the one to impose a death sentence.

"There ain't but one thing for the likes of him. That's hangin'," he declared, steadily. "I vote to hang him. Here and now, across the end of the dam he shot out."

He stepped back into the closely drawn circle. Rogers faced man after man, calling the name of each. There was no dissenting voice. The verdict was unanimous. So certain had been the outcome that one of their number had started along the pipe line to the wreck of the powerhouse for a rope before ever they compared the imprints of the tell tale shoes, and now, almost by the time they had cast their ballot, this man returned.

"Wolff, you've heard," said the old millman, with solemnity. "If you've got any messages you want sent, we'll send them. If you want time to pray, this is your chance. There's nothing you can say is going to change it. You are as good as dead. Boys, some of you get one of those beams that's tore loose there at the side, fasten the rope around the end, and shove it over the edge of the wall above the cannon there for a few feet. He shall hang above the dam he dynamited."

Wolff knew that they were in earnest. There was something more inexorable in their actions than in a court of law. At the last he showed some courage of a brute kind, reviling them all, sputtering forth his hatred, and interlarding it with a confession and threats of what he wanted to do. They silenced him by leading him to the wall and adjusting the noose. Once more Rogers besought him to pray and then, when he again burst into oaths, they thrust him off. The fall was as effective as ever hangman devised.

"In the morning, boys," said the smith, "a half-dozen of us must be up early and come back here. The hound is at least entitled to a half-way descent burial. I'll call some of you to come with me."

That was their sole comment. They had neither regrets, compunctions, nor rancor. They had finished their task according to their own ideas of justice, without hesitation.

At the Croix d'Or the partners, worried over their problems, and somewhat astonished at the non-appearance of the force, sat on the bench by the mess-house, smoking and silent.

In soft cadence they heard, as from the opposite side of the gulch, the tramping of feet. Swinging along in the dusk the men came, shadowy, unhalting, and homeward bound, like so many tired hounds returning after the day's hunt. Their march led them past the bench; but they did not look up. There was an unusual gravity in their silence, a pronounced earnestness in their attitude.

"Well," called Dick, "what did you learn?"

It was the smith who answered, but the others never halted, continuing that slow march to the bunk-house.

"We got him."

"Where is he, then?"

"Hanging to a beam across the dam he blew up," was the remorseless response.

He started as if to proceed after the others, then paused long enough to add: "It was that feller that used to be watchman here; the feller that tried to shoot Bill that night. Found him in that old, deserted cabin near the Potlach. Had the shoe on him, and at last said he did it, and was sorry for just one thing, that he didn't get all of us. Said he'd 'a' blown the bunkhouse and the office up in a week more, and that he'd tried to get you two with a bowlder and had killed your burros—well, when we swung him off, he was still cursing every one and everything connected with the Croix d'Or."

He paused for an instant, then came closer, and lowered his voice.

"And that ain't all. He said just before he went off—just like this—mind you: 'I'd 'a' got Bully Presby, too, because he didn't treat me fair, after me doin' my best and a-keepin' my mouth shut about what I know of the big lead.' Now, what in hell do you suppose he meant by that?"

CHAPTER XIV

"THOUGH LOVE SAY NAY"

"Of one thing I am sure," said Dick on the following day, when they began to readjust themselves for a decision, "and that is that if we can find work for them, there isn't a man on the works that I don't want to keep. They are too true and loyal to lose."

"We could drive into the blacksmith's tunnel," Bill said; "and I've an idea we might strike something when we pass under that hard cone just above—well, just about under where Bells is. I saw it yesterday when we were up there for the first time. That would give the millman and his gang something to do. Some of 'em can take out the rest of the green lead, and after that drift see if it comes in again. And the others that can't do anything underground, can turn to and build up the dam, with a few masons to help, and, when a new wheel comes, the millman will know how to set that all right again. So, you see, we don't have to lose any of them that has stood by us, so long as Sloan is ready to take his gamble and the hundred thousand lasts. Before that's gone, we'll just have to make good. And somehow I feel we will."

As if to add to the mental trials of the half-owner of the Croix d'Or, but another day elapsed after this decision and adjustment before he received a letter from a Seattle broker offering him a price for his interest in the mine. Thus wrote the agent:

"My client has the timber and water rights of your property in view more than anything underground, which, on the advice of experts who have visited the property in previous years, he seems to regard as worthless. He informs me that you are, to all intents, representing not only your own interest, but that of the other partner, who places implicit confidence in you. I presume that you will therefore be amenable to doing all you can to save from the wreckage of the dead property all that is possible in behalf of that partner as well as yourself, and I am authorized to make you the extremely liberal offer of sixty thousand dollars for the full title to the property."

The price was ridiculously low, and Dick knew it; yet if the mine produced nothing more, and was, as the experts were supposed to have reported, worthless, the amount was extremely liberal. But for Bill he would have hesitated to decline such an offer. That worthy, however, threw his head back and roared derisively.

"Sixty thousand? Sixty thousand? What does that idiot think men who have dropped a quarter of a million in a property would quit for? Does he think that sixty thousand is any saving from the wreck that this has been? Tell him to chase himself—that the tail goes with the hide, and you'll quit clean whipped, or not at all."

But Dick was loath to refuse any offer without consulting his superior in New York, and accordingly wandered off into the hills to think. It was late in the afternoon, and he mechanically tramped over the trail to the pipe line, where, when hope ran higher, he had dared to dream.

The whole situation had become a nerve-racking tragedy of mind and action. His desperate desire for success after his self-acknowledment that he loved Miss Presby, and then the blows that had been rained on him and the mine, the failure of the green lead to hold out when it had at least promised and justified operation—all cumulated into a disheartening climax which was testing his fortitude as it had never been tried before. He was not of those who lack either persistence, determination, or moral bravery; and it was this last characteristic, coupled with a certain maturing caution, which made him question the honesty of proceeding to lay out, perhaps, the entire hundred thousand volunteered by Sloan, with such little certainty of returns. Had the money been his own, he would have taken the chances uncomplainingly; but his judgment told him that, had he been sent to the Croix d'Or as an expert to pass an opinion on the justification of putting a hundred thousand into the ground, under present conditions, he would have advised agaist it.

He went as far as the reservoir. Its wreckage seemed to mock his efforts. To rebuild it alone meant big expense in a country where every barrel of cement had to be brought in on the backs of pack mules, and where stone masons received unduly high wages The repairs to the plant would not prove so heavy; but after that? None knew better than he the trials of expensive prospecting underground, the long drives to end in nothing, the drifts that tapped no ore, the ledges that promised to come in strongly, and led the worker on with hope deferred until his purse was exhausted. The cruelty of nature itself flaunting the golden will-o'-the-wisp in the blackness of the earth.

He stood on a timber thrown carelessly on the brink of the gorge, and suddenly thought how it happened to be there, and for what tragic purpose it had served—a gallows. He shuddered, thinking of the mentally distorted wretch who had died at its end, cursing as the men of the Cross pushed him over to gasp and wrench his life away fifty feet above the ruin he had wrought. He wondered where the man had been buried, and hurried back along the pipe line to try and forget that episode.

A little flutter of white from a clump of brush attracted his eyes, and he extracted from the brambles a dainty handkerchief still fragrant with the personality of the girl he loved. He lifted it to his lips tightly, and, with a heart that was almost in pain, dropped to the line, and sat on the pipe, bent, and utterly dejected. He sat there for some minutes, and then a sound caused him to straighten himself with a jerk. The black horse was thundering down the hill as he had seen it on those other mornings when, looking backward, the "world was young."

"I saw you, Mr. Townsend," Miss Presby said as he assisted her to alight; and her voice was sympathetic and grave. "You are unhappy. I don't blame you. I have heard all about it, and—well, I have had to fight an hourly impulse to come to you ever since I heard the news. Oh, my friend, believe me, I am so sorry! So sorry!"

He could not reply, lest his voice betray the emotions aroused by her kindly sympathy. All his yearnings were fanned to flame by the cadence of her voice and the softness of her eyes. Mechanically he resumed his place on the pipe, and she seated herself by his side, half-facing him. Her slender foot, booted, braced against the ground, and almost touching his heavy miner's boot, tapped its toe on the sward as if she were impatient to find words.

"It has been a little tough," he said; "but it seems less hard to me now that I know you care."

He had blundered in his first words to the beginning of dangerous heights, and his pulses gave a wild throb when he glanced up at her and saw a light in her face, in her eyes, in her whole attitude, that he had never surprised there before. Words, unuttered, leaped hotly from his heart; a mad desire to tell of his love, of the visions he had seen in the air, on the blue of the peaks, in the cool shadows of the forests, in the black depths hundreds of feet under the ground. Of how the Croix d'Or had come to represent, not financial success, but a battle for her, and her love.

His face went white, and he bit his dry, twisted lips, and clenched his hands until they hurt.

"Not now!" he savagely commanded himself. "Not now!"

She appeared to be thinking of something she had to say, and her first words rendered him thankful that he had held his tongue, otherwise he might never have known the depths o the girl seated there by his side.

"I don't want you to think me forward," she said quietly; "but I have wanted for the last two days to ask you something. It makes it easier now that I know you know, that—that I care for it. What are your—your—how are your finances?"

She had stammered it out at last, and, now that the conversation had been led in that direction he could speak. He sat there quietly, as if by a comrade, and told her all. Told her of his boyhood, his father's death, and that he, in his own rigt, had nothing in the world but youth and a half-ownership in the Croix d'Or, which threatened to prove worthless. He voiced that dread of wasting his backer's money when he had none of his own to put with it, meeting dollar for dollar as it was thrown into the crucibles of fate. He stopped at last, a little ashamed of having so completely unbosomed himself, for he was by habit and nature reticent.

"You have made it a great deal easier for me," she said, with an assumption of gayety. "I can say what I've been thinking of for two days without spludging all over my words."

She laughed as if in recollection of her previous embarrassment, and again became seriously grave, and went on:

"They say my father is a hard man. At times I have been led to believe it; but he has been a good father to me, and I appreciate it and his worries more, after a four years' absence in an Eastern school, and—well, perhaps because I am so much older now, and better able to judge leniently. I have never known much of his business from his lips. It is one subject on which he is not exactly loquacious, as probably you know."

Again she laughed a little, grim

laugh. Dick had opened his lips to say that he had never met her father, when she continued:

"On the day I met you first, up here by your pipe line, the day you almost ended my bright young career by starting a half-ton bowlder down the hill—don't interrupt with repeated apologies, please—I had my birth anniversary. I was twenty-one, and—my own boss."

"Congratulations, belated, but fervent."

"Thank you; but you again interrupt. On that day when I went home, my father, in his customary gruff way, turned back just as he was going to the office where he lives at least eighteen hours out of every twenty-four, and threw in my lap a bank-book. 'Joan,' he said, "you're of age now. That's for you. It's all yours, to do just what you dam' please with. I have nothing to do with it. If you make a fool use of it, it'll be your fault, not mine. I'm giving it to you so that if anything happened to me, or the Rattler, you'd not be helplessly busted.'"

He jumped to his feet with an exclamation.

"The Rattler! The Rattler! And—and your name is Joan and not Dorothy, and you are Bully Presby's daughter?"

He was bewildered by surprise.

"Why, yes. Certainly! Didn't you know that—all this time?"

"No!" he blurted. "There is a Dorothy Presby, and a——"

"Dorothy Presby!" She doubled over in a gust of mirth. "The daughter of the lumberman over on the other side. Oh, this is too good to keep! I must tell her the next time I see her. After all these months, you still thought——"

Again her laughter overwhelmed her; but it was not shared by Dick, who stood above her on the slope, frowning in perplexity, thinking of the strange blunder into which he had been led by the words of poor old Bells, his acceptance of her identity, his ignorance that Bully Presby had kith or kin, and of the mine owner's sarcastic references and veiled antagonism throughout all those troubled months preceding.

If she were Bully Presby's daughter, he might never gain her father's consent, though the Croix d'Or were in the list of producers. He thought of that harsh encounter on the trail, and his assertion that he was capable of attending to his own business and asked neither friendship nor favor from any man under the skies; of Bully Presby's gruff reply, and of their passing each other a second time in the streets of Goldpan, without recognition. The girl in front of him, so unlike her father save for the firm chin and capable brow, did not appear to sense his perturbation.

"Well," she said, "it doesn't matter. I am not jeal—— I'm not any different—just the same. Come back here and sit down, please, while I go ahead with what I wish to say."

The interlude appeared to have rendered her more self-possessed.

"So, on that day I met you, I became quite rich. That money has rested in a bank, doing neither me nor any one else any benefit. I think I have drawn one check, for twenty-five dollars, just to convince myself that it was all reality. And I am, in some ways, the daughter of my father. I want my money to work. I'm quite a greedy young person, you see. I want to lend you as much of that money as you need."

"Impossible!"

"Not at all. I have as much faith in you, perhaps more, than this Mister Sloan, of whom I'm a trifle jealous. I want to have a share in your success. I want to make you feel that, even if I'm not the daughter of a lumberman, I am, and shall have a right to be, interested in—in—the Croix d'Or."

"Impossible!"

"It isn't any such thing. I mean it!"

"Then it's because I haven't made it plain to you—haven't made you understand that even now I am thinking, to preserve my honor, of telling Mr. Sloan that it is too much of a venture. If I should decline to venture his money, why should I——?"

"Refuse mine? That's just it. His money you could decline. He isn't on the ground. He doesn't know mines, mining, or miners. I know them all. I am here. I know the history of the Cross from the day it made its first mill run. I went five hundred feet under ground in a California mine when I was a month old. I've run from the lowest level to the top of the hoist, and from the grillies to the tables, for at least ten years of my life. I've absorbed it. I've lived in it. Had I the strength, there isn't a place in this, or any mine, that I could fill. I'm backing my judgment. The Croix d'Or will prove good with depth. It may never pay until you get it. The blowing of your dam, the loss of your green lead, and all of those troubles, don't amount to that."

She snapped a thumb and forefinger derisively, and went on before he could interject a word, so intent was she on assisting him and encouraging him, and proving to him that her judgment, through knowledge, was better than his.

The name came so easily to her lips! It was the first time he had ever heard her utter it. It swept away his flying restraint even as the flame of powder snaps through a fuse to explosion; and he made a sudden, swinging step toward her, and caught her in his arms savagely, greedily, tenderly fierce. All his love was bursting, molten, to speech; but she lifted both hands and thrust herself away from him.

"Oh, not that!" she said. "Not that! I wish you had not. It robs me of my wish. I wanted you to take my money as a comrade, not as my—— Oh, Dick! Dick! Don't say anything to me now, or do anything now! Please let me have my way. You will win. I know it! The Cross must pay. It shall pay! And when it does, then—then——"

She stood, trembling, and abashed by her own words, before him. Slowly the delicacy of her mind, the romanticism of her dreams, the great, unselfish love within her, fluttering yet valiant, overwhelmed him with a sense of infinite unworthiness and weakness. He took his hat from his head, leaned over, and caught one of the palpitant hands in both his own, and raised it reverently to his lips. It was as if he were paying homage to heaven devoutly.

"I understand," he said softly, still clinging to the fingers, every throb of which struck appealingly on his heartstrings. "Forgive me, and—yet—don't. Joan, little Joan, I can't take your money. It would make me a weakling. But I can make the Cross win. If it never had a chance before, it will have now. It must! God would not let it be otherwise!"

Help me to my horse," she said faintly. "We mustn't talk any more. Let us keep our hopes as they are."

He lifted her lightly to the saddle and the big black, with comprehending eyes, seemed to stand as a statue after she was in her seat. The purple shadows of the mountain twilight were, with a soft and tender haze, tinting the splendid peak above them. Everything was still and hushed, as if attuned to their parting. She leaned low over her saddle to where, as before something sacred, he stood with parted lips, and upturned face, bareheaded, in adoration. Quite slowly she bent down and kissed him full on the lips, and whispered: "God bless you, dear, and keep you—for me!"

The abrupt crashing of a horse's hoofs awoke the echoes and the world again. She was gone; and, for a full minute after the gray old rocks and the shadows had encompassed her, there stood in the purple twilight a man too overcome with happiness to move, to think, to comprehend, to breathe!

Continued in next issue)

After the first of the year we expect to mail out a letter to all delinquent subscribers asking them to kindly renew their subscriptions—and we hope you will renew yours at once so we can save the postage. It takes thousands of dollars every year to run a publication like The Missouri Farmer—and we must either get it from our subscribers or go in debt. Here's hoping, my friend, that you will be willing to "put your shoulder to the wheel" and help out your mite.

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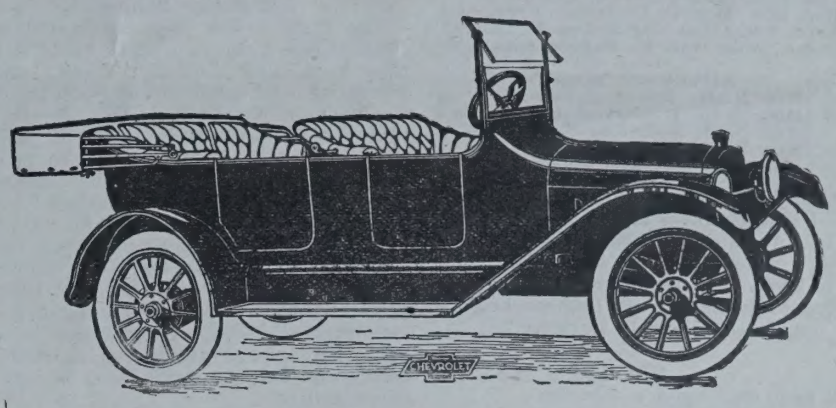

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Home Makers Conference

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"She walks—the lady of my delight—
A shepherdess of sheep.
Her flocks are thoughts. She keeps them white;
She guards them from the steep.
She feeds them on the fragrant height,
And folds them in for sleep."

HOME

A man may build a mansion
And furnish it throughout;
A man can build a palace,
With lofty walls and stout,
A man can build a temple,
With high and spacious dome,
But no man in the world can build
That precious thing called home.

It is the happy faculty
Of woman, far and wide,
To turn a cot or palace
Into something else beside—
Where brothers, sons and husbands, tired,
With willing footsteps come—
A place of rest, where love abounds,
A perfect kingdom—Home.

The Neighborhood Progressive Club

It is with great pride that we publish the following report of our first affiliated club:

"We organized April 16th with fourteen active members and eleven honorary members. One of our active members later moved into another neighborhood and joined their club.

We hold our sessions the first and third Wednesdays of each month. Our program committee provides us with various topics, some are literary, some are humorous while several have been taken from the programs as outlined in bulletin "Homemaking in Missouri."

In May we had the pleasure of havig Miss May McDonald with us. She spoke on the ready help that the University of Missouri is offering to rural clubs.

It was our good fortune also to have Miss Addie Root, who told us of the great effort that is being made in behalf of the girls of our state.

During June we gave a social entertainment, inviting our friends to a lawn party. The men seemed to enjoy our social gathering very much and are interested in the club and what we are doing. We are hoping that they will organize in the near future.

Miss Carrie Pancoast came to us in October and gave the club such interesting and instructive demonstrations of the work done in the movable schools of Home Economics, which was highly enjoyed by visitors and members, one and all join hoping that Miss Pancoast will soon come our w again. Our visitors were so deeply impressed with our work that they have organized a club in their neighborhood.

The Hallowe'en supper was our opportunity to combine pleasure and business, we served oyster stew, pickles, pumpkin pies, doughnuts and coffee. While the public was invited we charged twenty-five cents for each person and cleared $20.70; this, with our regular dues of five cents per month of active members gives us $22 in our treasury.

We are planning to buy some books and start a library. We have subscribed for a good magazine and The Missouri Farmer comes regularly and is greatly enjoyed. Suggestions for our library would be highly appreciated.

Mr. A. J. Meyer, of the Agricultural Extension Service, gave us a most interesting talk on the Community Club and its advantages. At this meeting which was in the nature of a social, we entertained the husbands and sons of our club members.

We have no one in the contest for the "Hall Prize."

We are very, very glad that we affiliated with the Home-Makers' Conference and we would like to hear of many other clubs doing the same.

We call ourselves the Neighborhood Progressive Club" and marvel how we ever existed without it.

Mrs. G. L. Denham, Pres.
Miss Nadine Brooks, Sec'y.

For Better Babies

The Baby Week idea originated in Chicago not quite two years ago. Then New York had a Baby Week, and Pittsburg, and other cities. Such practical benefit has in each case resulted that the General Federation of Women's Clubs has undertaken to promote this nation-wide observance. State health officials and national organizations interested in public health and child welfare have taken up the plan and in various ways are giving it not only their sanction but their active co-operation. The extension divisions of the state universities have promised special assistance in interesting and helping Baby Week in rural communities.

The Federal Children's Bureau believes that Baby Week will give more parents a chance to learn the accepted principles of infant care, and will awaken every American to his responsibility for the deaths of the three hundred thousand babies who, according to the Census estimates, die every year before they are twelve months old. Therefore the Children's Bureau has prepared a special bulletin of practical suggestions for Baby Week campaigns, adapted to the varying needs of communities of different types. Copies of this bulletin may be had free of charge from the Children's Bureau at Washington.

Rural Children—Three-Fifths of All

"Three-fifths of the 30,000,000 children in the United States are rural children. What are the facts as to rural child welfare? They are not known. But it is noteworthy that the percentage of illiteracy in rural communities, according to the 1910 census, is double that in cities. Where the rural child labor is great, the percentage of child illiteracy is high. The juvenile delinquency laws on the statute books of most of our states are ineffective over the greater part of those states because rural probation officers are lacking; and the figures of correctional institutions show that the country is largely represented.

"Time and money are required to secure the facts about the physical, social, and economic conditions surrounding rural children, but these conditions must be understood if we are to be sure that we are making progress in securing a fair chance for every child."

"As a general rule compulsory school attendance ceases at the age of 14, the crucial point of maturing life, which educator and physiologist well know to be the most critical period of growth. Yesterday great authorities were experimenting on the best methods of training their minds, of developing their bodily powers. Today the same children are beyond the reach of all this costly solicitude—they have gone to work."

After quoting the opinion of various scientists, the report of the United States Children's Bureau contiues: "Full and intelligent protection of the physique and mental powers of the youthful workers of this country requires costly and laborious studies in laboratory and in workshop. The Children's Bureau desires to submit the reasonableness of spending mone to make them so that we may secure just standards for the use of labor, as new standards for material are being developed."

GREEN FEED FOR POULTRY

Green feeds for poultry contain only a small percentage of actual food nutrients, but are important because of their succulence and bulk, which lighten the grain rations and assist in keeping the birds in good condition. The poultryman should secure a sufficient supply of such feeds to last through the winter months in sections where growing green feeds can not be obtained. When chickens are fattened without the use of milk, green feed helps to keep them in good condition.

Cabbages, mangel wurzels, clover, alfalfa, and sprouted oats are the green feeds commonly used during the winter. Cabbages do not keep as well in ordinary cellars as mangel wurzels, so where both of these feeds are available the cabbages are fed first. They are often suspended, while the mangel wurzels are split and stuck on a nail on the wall of the pen. Clover and alfalfa may be fed as hay, cut into one-half to 1 inch lengths, or may be bought in the form of meal. Alfalfa meal has a feeding analysis equal to bran, but is not as digestible on account of its larger percentage of fiber. Clover and alfalfa should be cut while slightly immature, if they are to be cured and fed to poultry. The leaves and chaff from such hay are especially adapted for poultry feeding.

Sprouted oats make a very good green feed and are used quite extensively in this country. The oats can be soaked for 12 hours in warm water and then spread out in a layer of from one-half to one and one-half inches deep on a floor, or in a tray or tier of flats, which have openings or holes or a three-sixteenths (3-16) inch mesh wire bottom, so that the water drains freely. They may be stirred daily and sprinkled, or allowed to sprout without stirring, until ready for feeding. They are usually fed when the sprouts are from 1 to 1½ inches long, although some poultrymen prefer to allow the sprouts to grow to 2 or 3 inches long. Oats need a moist and warm atmosphere in which to sprout quickly, so that it is necessary to furnish heat or to keep them in a warm room during the winter, while they may be sprouted out of doors during the rest of the year. It takes from 6 to 10 days to sprout oats, depending on the temperature of the room. Oats frequently become moldy while sprouting. To prevent this, they may be treated with formalin, using 1 pint of formalin to 30 gallons of water, which is sprinkled over and thoroughly mixed with 30 bushels of oats. Cover the oats with a blanket for 24 hours; then stir until they are dry. Keep them in a sack which has also been soaked in formalin. Oats thus treated and dried may be held for a long time for sprouting.

Where the double-yard system of confining poultry is used, one of the yards is kept in green feed, into which the hens are turned when the crop attains a height of 4 or 5 inches. This method of alternately yarding poultry furnishes green feed for the birds and at the same time freshens the yard. Rape, wheat, rye, oats, and barley are usually sown for this purpose. Rye is good for late fall and early spring feeding, as it will live through the winter in most sections. Oats, wheat and barley are used throughout the spring, summer, and early fall. Several of these grains may be sown together to secure a greater variety of green feed, and any quick-growing grains may be used for this purpose. —U. S. Department of Agriculture.

EXAMINE EGGS TWICE IN HATCHING PERIOD

All eggs that are incubating should be examined twice during the hatching period. The poultry husbandman of Clemson College suggests using for this purpose an egg tester that can be made from an ordinary mailing tube in the manner he describes. H prepares a double thickness of heavy brown paper 4 inches square, puts one end of the mailing tube at the center of the square of paper, and doubles the edges of the paper over it, so as to form a paper cap. He fastens the cap with three wrappings of cord and, finally, cuts a hole one inch in diameter in the top of the cap.

The free end of this tube is placed at the eye and the egg to be examined is pressed lengthwise against the hole in the cap. Point the tester toward the sun or a bright light and you will be able to see the contents of the egg plainly. The cap acts as a cushion between the egg and the end of the mailing tube and prevents light from entering the interior of the tube around the sides of the egg.

The first test is made at the end of the first week of incubation. A fertile egg with a live germ in it has a dark spot (the embryo or young chick) in the upper part of the egg, with veins radiating from it. Gently twirl the egg and you will see the germ move. Such an egg is to be returned to the incubator or hen. Clear eggs (infertile), eggs with rings of blood (embryos that grew for a few hours and died), eggs with dark spots, but no veins (dead embryos), and clouded eggs are to be removed and destroyed. As an exception, the clear, infertile eggs may be kept and boiled hard for chick feed.

The second test is made at the end of the second week. At this stage, a live embryo darkens the entire egg, except the air cell in the larger end. Eggs appearing otherwise are rejected.

One of the chief objects in testing eggs during incubation is to remove the dead and decaying eggs from under two hens and place all the good eggs under one, resetting the other.

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LYON'S PRACTICAL FARM PAPERS

Real winter came on us December 9 and lasted a week, then came two days hard rain and another freeze up. While few of The Missouri Farmer readers are tobacco growers, many will be interested to know some things about the crop, and I may say, that at this season those who grow the weed are busy stripping it out. This work is done in "stripping rooms," our own being 12 x 22 feet in the northeast corner of a barn, all cracks in the outside being battened closely and the entire wall surface lined with blue plaster board. There is about 60 square feet of glass at the north side, and in one corner a stove, so that we can work comfortably even in zero weather.

Tobacco is asserted into three primary classes, 'trash," "lugs" and "leaf," and each of these into three to five grades, according to length, color and texture. Here we seldom get a crop without some green, bruised, worm eaten, sun-burned or house-burned leaf in it, and each of these should be kept separate. The most valuable part of the crop is known to the trade as cigarette filler and wrapper, these two classes being worth almost double the price of other kinds. Some cigarette wrapper has been sold on the market this year at 40 cents per pound, and as we think we have at least 500 pounds of this class in our crop of some 7,000 to 7,500 pounds, we are using special care to see that we do a good job handling. A little carelessness could allow most of this high-priced leaf to be scattered through the other grades, and in the end only bring us 10 to 15 cents per pound, and lose us fully $100.

Tobacco grading is a trade of its own, and my two sons are as good graders as I used to be before my eyes began to fail me, but still I am able to do a good lot of work at the stripping bench.

Our tobacco is either sold to speculators at a stated price "all 'round," or through the "Loose Leaf Markets," immense auction warehouse, located in almost every town. While the fact is denied, these "Loose Leaf" houses are practically managed by the tobacco trust, and prices are arbitrarily set, despite quality, supply, demand or anything else, most local speculators being such in name only, simply the agents for the grand masters of finance, who could pay double present prices and then make 100 per cent.

Twenty years and more ago, farmers did not deliver their tobacco until from May to July, keeping it in large bulks, until it had sweated naturally. Now delivery is over by April 1, the tobacco is redried under heat nearly strong enough to scorch it, and beyond doubt much of it is manufactured and in consumers' hands by March 1.

Old chewers notice the fact that they no longer get tobacco with any flavor to it, something that is due to the tobacco never having been through the sweat, which is one of nature's processes, and without which no fine tobacco flavor is developed.

The average prices at loose leaf markets so far this year are below 10 cents per pound, but little really good tobacco has been offered yet—the few good crops on the market selling up to 16 cents and the worst crops bringing 7 cents per pound.

The crop is a very short one, and were it not for the trust, it would average its producers at least 15 cents per pound. C. D. Lyon.

THE FARMERS' MARKET CLUB

No finer service has ever been proposed for the farmers of Missouri than is now offered them through our new "Farmers' Market Club" which those of our readers who have had time to study hail as the supplying of a long felt want. By belonging to this new "Market Club" each member has the right to list free of charge anything he wants to sell or buy in the Monthly Bulletin which is mailed to every member once per month. Thus, if you have some good seed corn, cowpea seed, soybeans, clover, timothy, oats or other farm seeds for sale, here is a good chance to sell them—or if you want to buy them you are certain to find a lot of them listed in the Monthly Bulletin and the names and addresses of the farmers who have them for sale. Likewise, if you want to sell some live stock, farm implements, or rent, sell or buy a farm or hire a farm hand—here is a big "farmers' clearing house" where you will be brought into direct touch with farmers who want to both buy and sell a lot of these things—a big "market place" where all kinds of farm seeds, feed, horses, mules, dairy cows, hogs, bulls, male hogs, stallions, harrows, plows, farm wagons, disc harrows, self-binders, farms and a hundred other things will pass from the man who has a surplus to the man who is in the market for them. Can you imagine a greater convenience? Haven't you long felt the need of just this kind of an organization?

Where as many as a dozen farmers belong to the "Market Club" in the same neighborhood we can supply the names of firms which will ship carload lots of oats, bran, hay, ship-stuff, coal and other similar commodities at wholesale prices and thus save the members a lot of money. If 50,000 farmers in Missouri will join the "Market Club" it is our intention to place a capable man in charge of a "Market Bureau" who will help our members find the best possible sale for their surplus apples, potatoes and other farm products which, under the present system, are often sacrificed for half their value.

For $1.50 we will mark up your subscription to The Missouri Farmer for two years and also give you two years membership in the "Farmers' Market Club"—and for those of our readers who act promptly on this suggestion we will also cancel all past due subscription. Look up the "Personal Appeal" on page 3 and see how you can get your own "Market Club" subscription free. As a clearing house for farm seeds alone, the few cents which membership in this Club will cost you for the next two years will repay itself many times over.

Ozark Farm Wanted

I want to buy a good 160 acre farm in the Ozarks. Must be close to a good school, church and near a good county seat town where there is a good market for produce. J. C. McAdoo, Bertrand, Mo.

Are there any co-operative enterprises in action in your community? If there is a creamery, elevator, fruit shipping or any other business that has been of benefit to your neighborhood it would help the movement along if you would write us to let others know how you manage it.

If every reader of The Missouri Farmer would send us a dollar on subscription it would enable us to pay our debts and give you the greatest farm paper you have ever seen. And think! At this rate the paper will only cost you 33⅓ cents a year. Isn't the fight we are making for the farmers of this state worth that much?

Classified Advertising

FOR SALE—S. C. White Orpington cockerels; large size; heavy boned; $2 each, 3 for $5. Hubert Iffrig, St. Peters, Missouri. 1-115

FOR SALE—Pure bred Duroc pigs, $5 each. Good stock. Stark Farm, Arcadia, Missouri. 1-1

SEED CORN

Johnson County White, the best I ever grew and all in crib by Nov. 1. Price low this year, $2.25 single bushel, $4 for two bushel bag shelled. Crated $3 a bushel, extra selected ears. Order early.

C. D. Lyon, R. 1 Georgetown, Ohio

ENDORSES CO-OPERATIVE GRAIN SELLING

Your timely article on organization renews my ambition on that subject. I have often in my public talks made this pointed and I believe correct remark: "That the agricultural schools are instructing us how to produce more grain with less labor, etc., but what we need is co-operative marketing, or some system that will bring producer and consumer nearer together, cutting out much waste profit to middle men, etc."

In regard to your article on co-operative marketing, I want to say I was helping in that fight and knew Tom Worrell and he has told it as it is. I helped organize the Farmers' Grain Company in Custer County, Nebraska, with C. Vincent of Omaha, manager and we did save to the farmers from $25 to $80 and more to each car shipped out, clear of all shipping expense, such as warehouse, transportation, commission and other expenses. That is to say, that much more than could have been received from the local elevator companies. There is no mistake but organization is the proper and only way to get relief. But it is necessary to have the proper "sticking" plaster to hold them together and I think you will get it. I would like very much if it is possible that you would come down within two or three days and take dinner with us and let us reason together. I know you can give me some good advice and pointers and I can tell you of some of of my experience with co-operative movements which is quite limited and yet is much greater than most of the people, especially those who have not taken active part in such organizations. Thos. J. Newbury, Hartsburg, Mo.

WE CAN IF WE WILL

The Missouri Farmer: Have just read your article "What Can We Do?" in your issue of December 1, and am very much interested in this farmers' organization movement, and long for the day when it may be established.

I can't see why we farmers and the consumers of the farmers' products shouldn't share the vast profits now enjoyed only by the packers and middle men.

Some will say "the farmers can't, and will not stick together" but when you hear that you can bet your bottom dollar he is the fellow that is not willing to line up to this proposition.

I for one am ready to join a school district farm club and do what I can in this fight. I am not in a position to undertake it as a leader but am willing to wade in with the remainder of the district and follow a leader.

I work in all kinds of weather. It hardly gets too bad for me to work, so my money comes hard, but the prospect is good for it to come harder if we farmers do not organize and protect ourselves. And I will be one of the 100,000 farmers to give $20 which will make a two million dollar fund to equip packing plants and storage houses for farmers' products, and will give more if they will line up and push this thing to a success.

We have just as much brains and ability among farmers as any business corporation has and I am sure we can do this one thing if we will only try.

Urging you to continue this fight I beg to remain, Robert L. Brown, Callaway County.

Have You a Farm Club?

If there are any Farm Clubs or farm organizations in your neighborhood, please send us the name of the President and Secretary at once so we can get in touch with them. We have prepared a splendid program of Farm Club Discussions which every farm organization in the state should take up. Please do this for The Missouri Farmer.

Get three of your neighbors to come in with you on the "Farmers' Market Club" and send us a check for $4.50—, and get your own "Market Club" subscription free. This is our "Special Club" proposition and every man who helps us out will have a place on our "Roll of Honor." Won't you be one of them?

Porterfield's Annual

Duroc Sale

To Be Held At

Jamesport, Mo., Tuesday, Feb. 8

50 Bred Sows and Gilts

My offering this year will consist of a very superior lot of useful Durocs, Selected from my Top Inventor herd because of size, bone and quality. *I breed the kind it pays to raise.*

10 TRIED SOWS AND YEARLINGS

Among the above are daughters of King of Cols. II, Beauty's Model Top, Top Inventor, and other well known boars.

40 SPRING GILTS

A very attractive lot of gilts sired by Top Inventor, Graceful Lad, Auctioneer II, etc. See the 5 gilts by Top Inventor out of a Col, Gano dam.

The offering sells bred to two of the best boars in Missouri,

TOP INVENTOR and IOWA CHERRY COL.

Top Inventor is easily one of the largest boars of the breed. Iowa Cherry Col. is the son of the noted Cherry Col,

CATALOG MAILED ON REQUEST

J. A. Porterfield, Jamesport, Mo.

AUCTIONEERS: T. E. DEEM and CHAS. NELSON

R. P. Royce will represent this paper

Live Stock Notes

R. P. ROYCE, Fieldman

COMING SALES

POLAND CHINAS

W. Z. Baker, Rich Hill, Mo., February 1.
Will G. Lockridge, Fayette, Mo., Feb. 2.
H. L. Faulkner, Jamesport, Mo., Feb. 9.
Bridges Bros., Slater, Mo., February 11.
W. A. Baker & Son, Butler, Mo., Feb. 18.
Bennett Bros., Lee's Summit, Mo., Feb. 19.

DUROC JERSEYS

Dr. J. B. Unsell, Louisiana, Mo., Jan. 19.
Chas. L. Taylor, Olean, Mo., January 21.
J. A. Porterfield, Jamesport, Mo., Feb. 8.
Dowden & Partridge, Maryville, Mo., February 11.

Holstein Bulls for Sale

D. D. Moss & Son, Columbia, Mo., are advertising several high grade Holstein bull calves for sale. These calves are sired by a so nof Pontiac Gerber De Kol, and are out of high producing dams that carry the blood of the noted cow Missouri Chief Josephine. Messrs. Moss are pricing these calves at $25 each F. O. B. Columbia.

Rockwood Farm Durocs

Rockwood Farm, Iberia, Mo., is advertising some excellent bargains in Duroc spring boars and gilts. Only a few boars are left, but they are good ones and are priced extremely reasonable. This farm also offers a number of gilts bred for early spring farrow. No better blood exists than the blood represented in this stock, and individually it is right. Get their prices before buying elsewhere.

Baker & Son's Poland China Sow Sale

W. A. Baker & Son, Butler, Mo., write that their sale offering consisting of around 50 head of sows and gilts, is coming along in great shape and that they will be able to offer readers of this paper an extra good lot. Messrs. Baker have one of the pioner herds of big-type Polands in Missouri and for a number of years the herd has been a strong winner in the leading shows of the Corn Belt.

Official Bulletin No. 1

General Headquarters

"PREPAREDNESS CAMPAIGN"

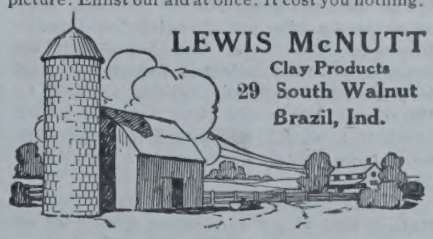
Every American Farmer Should Enlist at Once

PAUL REVERE, over a century ago, dashed along the highway between Lexington and Boston, arousing the countryside with his warning of **"Prepare"** for the invaders are coming.

Within the last few months this very same cry, **"Prepare,"** has again re-echoed from one end of our own United States to the other, awakening we Americans as never before to our careless neglect in not preparing for our country's future welfare.

Right Now, we cry the same warning to the American Farmer, **"Prepare."** Purchase a silo now. Protect your live stock. **"Prepare"** for mid summers droughts and mid winters barrenness. The Everlasting Silo is the "Army" and "Navy" for farm protection. It has the strength of a dreadnaught and represents the same all-around efficiency as do "Uncle Sam's" soldiers.

We shall be glad to send full particulars including a handsomely illustrated booklet, telling of the many features of the Everlasting Silo by word and picture. Enlist our aid at once. It cost you nothing.



LEWIS McNUTT
Clay Products
29 South Walnut
Brazil, Ind.

Just now a few extra good spring boars are being priced very low in order to move them before the sale.

Porterfield's Annual Duroc Sow Sale—February 8

On February 8, J. A. Porterfield will hold his annual sale of Duroc sows and gilts at Jamesport, Mo. For several years past Mr. Porterfield has been holding these February sale and a great many of our readers have found it to be to their advantage to attend. The Porterfield herd ranks as one of the very best collections of Durocs in Northwest Missouri. The herd has always been maintained on a practical plan—the idea being to dispose of only the tops for breeding purposes and the balance are fed out for market. It will be recalled by many that the herd is headed by the great boar, Top Inventor. Top Inventor is admitted to be one of the largest Duroc boars of the breed. He was shown at the Missouri State Fair in 1914 and won third in one of the strong classes of the show. He has been given ample opportunity to demontrate his ability as a sire and he has come up to Mr. Porterfield's expectations.

Another boar that rendered valuable valuable service in the herd was Auctioneer II by Auctioneer, a son of Queen's Wonder Again. The third boar represented in the offering is a good son of the grand champion, Beauty's Model Top.

The offering this year will consist of about 40 head of early spring gilts, and ten head of tried sows and yearlings. Most of the spring gilts are by Top Inventor, though several litters are by Auctioneer II and Graceful Lad. These gilts are bred, for the most part, to the good young boar, Iowa Cherry Col. This boar was just added to the herd this year and is a son of the great boar Cherry Col. This Cherry Col—Top Inventor cross should get what the buyers are after and we predict that this cross will develop unusual size and bone. Among the spring gilts are several extremely toppy ones by Top Inventor and out of a Col. Gano dam. These gilts should prove very attractive. Among the tried sows is a 2-year-old daughter by King of Cols II a litter mate to King of Cols. This sow has proven a splendid producer and will be sold bred to Top Inventor.

Our representative saw the offering last week and is glad to recommend the sale to our readers.

Watch this paper for further details regarding this offering. Send for the catalog now and kindly mention this paper.

Smith Bros. Durocs

In a recent letter from Smith Bros., Thompson, Mo., they have the following to say: We are herewith sending change of copy for our ad. We are now offering the public the best lot of young sows we have ever raised. Several of these sows are by Col. Bob and Beauty's Model and are bred to Pal's Fancy Advancer. We have two young sows by S. & C's Valley Chief, grand champion boar at the 1915 State Fair. The dam of these sows is a daughter of the champion Beauty's Model Top. We are also offering two daughters of the champion Instructor and bred to Pal's Fancy Advancer. These sows and gilts are the real big type and not one of them has a mean "out" of any sort. They are bred to what we have reason to believe is the biggest yearling Duroc boar in the state. At 17 months this boar, Pal's Fancy Advancer, weighed 600 pounds, stood on a 9½-inch bone, measured 63 inches in heart, 64 inches in flank, and from tip of nose to tip of tail measured 8 feet."

Messrs. Smith are progressive breeders and are thoroughly reliable in every way. Our readers will like the kind of Durocs this firm sends out and will also like the prices.

First Call for Faulkner's Spotted Poland China Sale

Beginning with this issue H. L. Faulkner, the well-known breeder of Spotted Poland China hogs, calls attention to his annual bred sow sale to be held at Jamesport, Mo., February 9th. Mr. Faulkner is almost too well known to our readers to require any introduction at our hands. For years he has handled more spotted Polands than any other man. There are few, if any, herds in the entire Corn Belt but what contain more or less Faulkner breeding. Some of the greatest boars of the breed have been developed in this herd.

The approaching sale will consist of 50 bred sows and gilts—everyone of genuine old-fashion spotted breeding. A number of choice tried sows are cataloged, but the major portion of the offering is made up of yearling gilts, and spring gilts.

The offering as a whole is up to the usual Faulkner standard and we urge our readers who will be in the market this spring to keep this sale in mind. Send your name in now so that you will be sure to get a catalog. Kindly mention this paper when you write.

The Kind of Sows That Have Made the Faulkner Sales Popular

Angus Bulls and Heifers

D. L. Sutherland & Sons, Windsor, Mo., offer the readers of this paper some good values in young Angus bulls of serviceable age, and heifers either bred or open.

Messrs. Sutherland maintain a rather large herd and can therefore furnish most anything in breeding stock that one wants. This firm is thoroughly reliable and we take pleasure in recommending them to our readers.

Ennis Farm Jerseys and Spotted Polands

The Ennis Farm, Horine Station, Mo., advertises a nice lot of registered Jerseys for sale. This herd has been built up from a carefully selected foundation and is a working herd that yields a profit to the owner. When one buys dairy breeding stock it is worth while to know that the herd from which he buys is a profitable herd.

This farm also breeds spotted Poland Chinas and at present offers a nice lot of sows and gilts bred for early spring farrow. If interested in any of this stock you will be serving your own interest to get Mr. Ennis' prices before buying elsewhere.

Holsteins for Sale

M. E. Moore & Co., Cameron, Mo., write that they now have for sale a number of extra good Holstein bull calves for sale. These calves are from 3 to 10 months old and are out of some of the best producing cows in the herd. For over thirty years this herd has been considered one of the choicest collections of the breed. The prices are reasonable for the quality of stock offered. Mention this aaper.

McPherson's Duroc Bargains

Last week the writer spent a very pleasant day with J. E. McPherson, who advertises Durocs in this paper. Mr. McPherson informed us that he was completely sold out of boars and that for some time he had been compelled to turn down orders. However, he has a very attractive lot of bred gilts that are ready to ship and he is in a position to quote very reasonable prices. Everyone who has seen this herd have remarked on the exceptional size and bone shown. Mr. McPherson, is a stickler for these two

POLAND CHINAS

Smooth Columbus
THE BOAR THAT PUT MISSOURI ON THE MAP. HEADS OUR HERD

15 Extra Choice Spring Boars—Bargains! Sired by SMOOTH COLUMBUS, the record sire of the state, and others by BIG JOE. Head boar material here. Must be sold as we need the room. Get our prices. All immune. Satisfaction guaranteed.
BENNETT BROS. R. 5, LEE'S SUMMIT, MO.

Spring Boars by the Grand Champion
A desirable lot of early spring boars by The Giant, acknowledged to be one of the greatest young Poland China boars of the breed. Prices within reach of all.
WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

Poland Chinas & Shorthorns
Spring boars and gilts, pairs, trios or more. A few sows and gilts bred for fall farrow. Several choice young bulls and heifers. Satisfaction guaranteed.
H. S. Williamson, Route 6 Centralia, Mo.

POLAND CHINA BARGAINS
I have some good Big Type Poland China hogs; some tried sows, one aged boar, some spring gilts and spring boars. Registered stuff. Cholera immune. Come and see them or write me. LOU LE FEVRE, Collins, Mo.

BALDWIN HEIGHTS POLAND BOARS $25
Choice spring boars sired by King Jumbo by King of All, and out of sows bred in the purple. Your choice for $25. Satisfaction guaranteed.
R. F. BALDWIN, Rt 1, ROCHEPORT, MO.

MEGOWN'S SPOTTED POLANDS
No matured stock for sale but booking orders for pigs to be shipped later. Have length, bone, size and big spots. Sired by two of the biggest boars in the State for their age.
B. B. MEGOWN, - - - - - - NEW LONDON, MISSOURI

BAKER'S REAL BIG-TYPE POLANDS
We have a number of extra good spring boars sired by Big Look that we are offering worth the money. Need the room and must sell. Remember our February 18th sale.
W. A. BAKER & SONS, BUTLER, MO.

Linhardt's Polands
Choice spring boars and gilts. Fall boars and gilts. All sired by Giant Mammoth, Governor Hadley and Mammoth Wonder. Satisfaction is guaranteed. Have shipped to 23 states.
H. O. LINHARDT, LOHMAN, MO.

DOOLEY'S SPOTTED POLANDS
Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pair and trios no relation. Also registry furnished. Send check with first letter.
EDGAR DOOLEY, - Etterville, Mo

BIG TYPE BOARS FOR SALE
Hear we are with the good big type sping boars by SOOTH COLUMBUS and SPOTTED MONSTER out of WONDER and LEADER sows. Crated and on the car at Rocheport, for $25.
HALL & RAPP, ROCHEPORT, MO.

DUROC JERSEYS

Col. Wonder Duroc Boars $25
At recent Missouri State Fair my herd won 35 ribbons—3 championships, 15 firsts. Col. Wonder sires my champions—he will sire them for you. Choice bred gilts. Spring boars by Col. Wonder $25 each. Send check in first letter. Nothing but the best sent on mail orders.
CHAS. L. TAYLOR - - - - - - Olean, Mo

THOMSON'S PREMIUM DUROCS
State Fair and Futurity winners offered, also 3 great spring boars out of 800-lb. sow, and by grand champion sire, and sire of grand champions. Also have other good boars and gilts. Satisfaction guaranteed.
W. H. & GEO. E. THOMSON - - - - - - Columbia, Missouri

Durocs With Size and Bone
I am offering a choice lot of early spring pigs with unusual size, bone and quality. Bred right and priced right. Visitors welcome.
A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

Duroc Boars For Sale
Anything from a 50-lb. weanling to a 500-lb. herd and show boar. We offer some first-class herd header prospects. Good strong boned farmers stock boars. Also gilts. I also have one 16-months and one weanling Shorthorn bulls. Write me your wants. Will try to please you—the price will be right. Over forty old customers are buying here because both prices and stock have been right. Write today for that boar. I have got him. J. E. WELLER, FAUCETT, MO.

A. NO. 1 DUROC SPRING BOARS
I am offering a few extra choice spring boars sired by ILLUSTRATOR and out of TATTLETALE 39th, junior champion International 1913. A few by CRIMSON CHIEF AGAIN. Write or come.
W. C. WATSON. - - - - - - - NEW LONDON, MO.

SELECT COL. II Heads White's Durocs

27--BIG DUROC BOARS--27
Weight 175 to 200 lbs. in breeding condition, March farrow. Big bone, stretchy wide backs, good colors, direct from prize winning sires and dams, choicely bred. Forty gilts of the same type. Guaranteed. Prices moderate.
A. WHITE JR., . Box 422 Palmyra, Mo.

Durocs Bred Deep in the Blood of Champions
It costs no more to buy Durocs sired by proven champions. Spring boars and gilts sired by Col Wonder, Instructor, and other boars. Plenty of size and stretch. Pairs or more of unrelated stock. Price, $25.00 each.
ROCKWOOD FARM, IBERIA, MO.

SMITH BROTHERS DUROC BRED SOWS
Sows and gilts by Col. Bob., Beauty's Model, S. & C's Valley Chief and Instructor, out of equally well bred sows, and bred to Pal's Fancy Advancer, the largest yearling in the state.
W. O. & B. A. SMITH, - - - - - THOMPSON, MISSOURI

FAULKNER'S FAMOUS SPOTTED POLANDS

Are the Original, Big-Boned, Spotted Kind

WE are not the originator, but the preserver of the old original big-boned Spotted Polands. Everything now sold except the fifty good sows and gilts we are holding for our annual February 9th, brood sow sale. If interested in the greatest pork hog on earth, ask for catalog. Our hogs are recorded in the recognized records. Address

H. L. FAULKNER, BOX R, JAMESPORT, MISSOURI

HOLSTEIN CATTLE

Dutchland Sir Hengerveld Rag Apple 99771

A few choice bull calves out of heavy producing dams sired by the above famous bull for sale.

BLACK AND WHITE FARM
Baden Station, Mo.
Tel. Colfax 1812 R. R. 30

IN MISSOURI

Eight bulls, 2 to 8 months, $100 to $175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.

S. W. COOKE & SON, MAYSVILLE, MO.

HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndyke Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

M. E. MOORE & CO., Cameron, Mo.

HOLSTEIN BULL FOR SALE

For Sale a few Holstein bull calves out of Josephine cows and sired by a son of Pontiac Gerber De Kol. Price $25 f. o. b. Columbia. They are good ones.

D. D. Moss & Son - Columbia, Mo.

HOLSTEINS & GUERNSEYS

We offer 125 head of first-class high grade cows and heifers and several very choice registered heifers and bulls. These are some of the best in Southern Wisconsin. Bred for Conformation and Production. Prices right. Don't forget our $18 calves.
Call at our farms or write for particulars.

EDGEWATER STOCKFARM
FORT ATKINSON, WISCONSIN

JERSEY CATTLE

JERSEY CATTLE

Bulls ready for service. They are sired by the Owl's Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

Jersey Cows

I want to sell 20 head of registered cows and heifers that are either fresh or soon will be. Also four young bulls.

J. B. SMITH Platte City, Mo.

SUNSET JERSEYS--TRIO

Two fancy heifers (both bred) and a fine bull, all of the famous Blue Belle—Golden Rosebay breeding. I will sell this trio for $250. This price cannot be equalled anywhere for such stock. Send for circular, description of herd, production etc.

The ENNIS STOCK AND DAIRY FARM,
Horine Station, Mo.
(Just south of St. Louis)

ANGUS CATTLE

ChoiceAberdeen-Angus

Established 30 years. 100 head in herd. We are offering good useful Bulls, and Heifers of excellent individual merit and breeding. Prices reasonable. Our customers make them popular.

D. L. Sutherland & Sons Windsor, Mo

Aberdeen-Angus

I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.

J. D. Blackwell Fayette, Mo.

Brown's Aberdeen Angus

Choice yearling bulls. Also a few heifers. Poland China boars and gilts.
All Stock Registered

K. H. BROWN, - - BOLIVAR, MO.

ANGUS CATTLE

HERD FOUNDED 1904

Seven early calves—3 BULLS and 4 HEIFERS, sired by Dean's Eric 139686. Every one the right kind, and priced to sell.

V. E. LAWRENCE, SALISBURY, MO.

qualities and he has selected his breeding stock with the view of getting as much size and bone as is possible without neglecting the quality. Most of these spring gilts are of early spring farrow, and are largely the get of Golden Tat by Tatarrax Again, by old Tatarrax. They are bred to two good sons of Col. Wonder Again.

Mr. McPherson also offers a well bred Holstein bull calf, of good size and nice marking, at a price that should move him. When writing kindly refer to this paper.

Chester White Bred Sows

S. D. & B. H. Frost, Kingston, Mo., are offering splendid values in Chester White bred sows and gilts. Messrs. Frost have been identified with Chester Whites for years and the name of Frost is synonymous with quality, size and fair dealing.

Practically all of the sows and gilts for sale are bred close up to prize winning sires and dams. Our readers who are interested can scarcely do better than to get in touch with this firm, and ask their prices.

Hall & Rapp's Polands

Hall & Rapp, Rocheport, Mo., offer our readers spotted and black Poland Chinas. Several mighty good spring boars and gilts sired by the great boar, Smooth Columbus, are offered. The prices are $25 each F. O. B. Rocheport. Such breeding at the above price makes thees boars look mighty cheap.

Weller's Duroc Bred Gilts

J. E. Weller, Faucett, Mo., writes that the spring gilts and yearlings that he now offers the trade, are all bred for early spring farrow, and that they have size and bone and quality to a marked degree. Furthermore, the prices are such that some one is going to pick up some real bargains. Mr. Weller has shipped his Durocs into nearly half the counties of this state and he can show satisfied customers wherevr he hips. Get in touch with Mr. Weller, and kindly menytion this paper.

Belcher and Bennett Bros. Great Poland China Sale N

Our readers who are planning to buy Poland Chinas this spring will do well to keep in mind that on February 19th, John Belcher and Bennett Bros. will hold a sale of bred sows and gilts at the Bennett farm, a few miles west of Lee's Summit, Mo. It will be recalled by many of our readers that the top sale of Missouri last winter was made by John Belcher on his offering featuring the blood of Smooth Columbus. Smooth Columbus is easily one of the top boars of the breed, either individuality or as a breeder. The superior quality of his get made such an impression on Bennett Bros., who, by the way, were the heavy buyers at the above sale, that they entered into negotiations with Mr. Belcher for the purchase of this boar. Mr. Belcher would not entertain a proposition to sell Smooth Columbus outright, but he finally agreed to sell a half interest in the boar for $750. The deal was made and as a result the two firms will top their herds and offer the buying public a very superior lots of sows and gilts bred to this great boar.

The offering will be replete with attractions and we predict that the coming sale will be among the most attractive events to be scheduled in Missouri this winter.

It is not too early to write for a catalog. Write to either John Belcher, Raymore, Mo., or to Bennett Bros., Lee's Summit, Mo. Kindly mention this paper.

Need an Angus Bull?

J. D. Blackwell, Fayette, Mo., offers the readers of this paper some extra good young Angus bulls, at prices that are really bargains. Mr. Blackwell writes that these youngsters are all of nice ages, are strong, rugged fellows, showing extreme fleshing qualities, and represent several of the best families of the breed. Mr. Blackwell also informs us that he has a very desirable lot of heifers either open or bred—according to ages, that he is pricing worth the money. A bull and any number of heifers up to a carload can be purchased by our readers who are thinking of establishing an Angus herd.

JERSEY HEIFERS FOR SALE

Ten Jersey Heifers, 14 to 18 months old, sired by Imm's Signal No. 110996, out of extra fine Jersey cows that for three generations have been sired by registered bulls, bred to Kinloch Grouville Lad 91520 (grandon of the famouss Golden Fern's Lad P-2160 H. C. These heifers are due to freshen in February and March and are priced to sell at once. Write me, or better, come and see. Also eight three-year-olds of about the same breeding due to freshen in January and February.

D. V. VANDIVER, COLUMBIA, MO.

Angus Bargains

Registered bulls and heifers. The market topping kind. Leading families represented. Priced worth the money and satisfaction guaranteed.

Also Poland China Hogs.
J. M. JONES, R. F. D. 3, EVERTON, MO.

The College of Agriculture

Offers Live Stock for Sale

A number of choice Poland China spring boars and gilts. Also some bred sows and gilts. Several desirable Duroc boars from spring pig to yearlings, also spring gilts and sows open or bred.
2 PERCHERON BROOD MARES a black and grey 4 and 7 years old. In foal to the stallion, Honorable. The above live stock is priced exceedingly reasonable for quick sale. Address

Departm't of Animal Husbandry,
Columbia, Mo.

HEREFORD CATTLE

HEREFORD BULL

For sale, a registered Hereford bull, two years old. A good individual and priced right for a quick sale.

Hugh Whiteford - - Guilford, Mo.

SHROPSHIRE SHEEP

Shropshires

Registered Ewes to lamb in March and April would make you money. We have them bred to a son of Ludlow King (04699 R) 234744, a sire of two state fair champions. Also Rams. Write for prices. C. W. CHANDLER, Kellerton, Iowa.
Eighty miles north of St. Joseph, Mo.

AUCTIONEERS

THOMAS E. DEEM

AUCTIONEER

Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased.
Dependable service at a reasonable charge. Address, Cameron, Mo.

Harry W. Graham

AUCTIONEER
PURE BRED LIVE STOCK
Seventeen years experience with America's best breeders.

Chillicothe, Missouri

W. D. ROSS, Auctioneer

Pure bred live stock. Sales made anywhere on reasonable terms. Write for dates.

Otterville Missouri

Brookview Herd of Hampshire Swine

One of the top herds of Hampshires of the entire country is the Brookview herd owned by Isom J. Martin, Lancaster, Mo., whose advertisement will be found elsewhere in this paper. Almost from its establishment this herd has been a powerful factor in the development of this growing breed. At the outset, Mr. Martin selected his herd material with rare judgment, and as a consequence he started from a point that had taken other breeders years to reach. As evidence of the merits of this herd it is only necessary to state that whenever Brookview Hampshires entered in competition with other

Duroc Gilts---Bred

A few extra good gilts, some a year old, sired by prize-winning boars and bred to Merry Chief, a prize-winner at Sedalia. Bred to farrow early next spring. Prices right.

R. L. HILL - - Columbia, Mo.

Hazelwood Durocs

Seventy choice spring boars and gilts sired by HAZELWOOD CHIEF, by CRIMSON COL., and out of OHIO CHIEF bred sows. Get our prices.

E. P. POWELL & SON, Maryville, Mo.

75 Duroc Spring Boars and Gilts

Seventy-five (75) good boars and gilts. Rich breeding, and plenty of size and bone. Pairs, trios or more. Priced to sell.

J. C. Garrard & Son, McBaine, Mo.

Duroc Gilts---Bred for Spring

I now offer a choice lot of big February and March gilts sired by GOLDEN TA and bred to a grandson of COL. WONDER. Priced to sell. Extra size and bone.

J. E. McPherson, Columbia, Mo.

Duroc Hogs for Sale

THE BLOOD OF CHAMPIONS
Am offering my entire herd, 2 herd boars, 10 herd sows, young boars, bred gilts, a few yearling gilts, 50 fall pigs. Not related. Write me if you want the best.
BUCKEYE STOCK FARM, OLEAN, MO.

CHESTER WHITES

O.I.C.'s or Chester Whites

Express prepaid on O. I. C. and Chester White spring boars. Write for prices.

W. P. DOOLITTLE
WOODLAND, MARION CO., MO.

O. I. C. Fall Pigs

Seventy (70) choice ones now ready to ship. Can furnish pairs, no kin. Guarantee accompanies each sale. They are from prize-winning stock on both sides. Order now while you can get the best at bargain prices.

S. D. & B. H. FROST,
Box 4 Kingston, Mo.

HAMPSHIRES

BROOKVIEW HAMPSHIRES

Herd headed by GEN. TIPTON and SIR BROOKVIEW, both grand champions. Spring boars and gilts of choice breeding and individuality. Prices reasonable.

ISOM J. MARTIN, R 5 Lancaster, Mo.

BERKSHIRE HOGS

Big Type Berkshires

Choice Berkshire breeding stock sired by grand champion boars of Illinois and Missouri state fairs. Also S. C. Black Minorca chickens. Prices reasonable.

J. V. FISH, Route 7 BOLIVAR, MO.

RED POLLED

RED POLLED CATTLE

HERD ESTABLISHED 16 YEARS
Young stock for sale at all times. Young bulls sired by Logan 13500. The dual purpose kind. Also Spotted Poland China spring boars and gilts.

M. L. SNYDER, - POLO, MO.

SHORTHORN CATTLE

SPLENDID SHORTHORN HERD BULL

LORD COLLYNIE 348445, a proven sire of merit and a splendid individual. Sired by Collynie and out of the great cow Emma Cowslip. Write for price.

J. F. Richards & Son, - Bevier, Mo.

MOLASSES Richest Feed Lowest Cost
St. Louis Molasses Co., Dept. MF., 400 S. Broadway, St. Louis.

ANNOUNCING A GREAT EVENT

TAYLOR'S 2nd DUROC SOW SALE

To Be Held at

Olean, Mo., Friday, Jan. 21

50 HEAD of COL. WONDER DUROCS

Col. Wonder—a grand champion and sire of champions. Every lot in the sale represents the blood of this great boar

I have selected for this event 50 head of bred sows and gilts, every one representing the blood of Col. Wonder, grand champion Missouri State Fair, 1913, and sire of the grand champion sow at the same fair in 1914 and again in 1915. No better blood exists than Col. Wonder breeding. Included in the sale are daughters and grand daughters of Col. Wonder, and sows bred to him.

SPECIAL ATTRACTIONS

As special attractions I am putting in my entire show herd of sows except the grand champion. There is a litter mate to the champion sow, and also a litter mate to Col. Wonder cataloged.

Remember the date and watch this paper for further announcement.

SEND FOR CATALOG NOW

THE BEST ARE NONE TOO GOOD FOR MISSOURI FARMERS

C. L. TAYLOR Box 6 Olean, Mo.

AUCTIONEERS: Russell and Holtsinger R. P. ROYCE, Fieldman

J. B. Unsell will sell Durocs at Louisiana, Mo., January 19

THE SALE YOU HAVE WAITED FOR

UNSELL'S GREAT DUROC SALE

Louisiana, Mo., Wednesday, January 19

40 RICHLY BRED SOWS and GILTS

I take great pleasure in inviting the readers of this paper to be my guests on the above date. I have selected the offering with great care and believe it to be one of the most attractive lots to be sold this year. Included in the sale are some of my best producing sows. Such as the great sow, WILDA DUCHESS FOREST, by FOREST CHIEF, COL'S TATTLETALE, by .CHIEF'S COL, I WONDER, a daughter of DISTURBER and LUCY WONDER 166, MISS FASHION by FASHION, and others of equal breeding make up the offering. Most of the lot sell bred to one or the other of my two great herd boars,

UNSELL'S DEFENDER 65225

a son of the mighty DEFENDER out of MODEL PRINCESS 1st, or

COL. ILLUSTRATOR 63701

by the champion ILLUSTRATOR out of BONNY TIPPY.

A sow bred to either of the above boars will put your herd in the limelight.

Sale will be in a heated pavilion.

Send now for catalog.

R. P. Royce will represent this paper. Bids intrusted to him will be handled honorably.

Col. Iglehart, Auctioneer

J. B. UNSELL - - - Louisiana, Mo.

C. L. Taylor sells Durocs at Olean, Mo., January 21st

herds they usually got their share of the prize money. At present the herd is headed by two grand champion boars, the name of either being familiar to all Hampshire men, Gen. Tipton and Sir Brookview. The get of these two boars will be found in most of the good herds of the breed. Mr. Martin can furnish our readers with most any age breeding stock they want. Spring boars and gilts as well as bred sows are being priced for sale, and the prices asked are in keeping with the quality offered. Bear in mind that in starting a herd or when adding new blood to established herds it is highly important that only the blood of the best be used. Mr. Martin has as good blood as the breed affords. In writing mention this paper.

Taylor's Sale of Col. Wonder Durocs

One of the most important events of the coming sale season is the annual offering of Durocs from Cha. L. Taylor's celebrated Spring Dale herd. This sale will be held Friday, January 21, at Olean, Mo. Mr. Taylor has selected for this event an unusually attractive lot of Duroc sows and gilts, everyone representing the blood of the noted boar, Col. Wonder, grand champion at Sedalia in 1913 and sire of the grand champion sow in 1914 and again in 1915.

The offering will include three mature sows, twelve spring gilts and the balance will be yearlings.

Among the tried sows is Miss Crimson Wonder, a litter mate to Col. Wonder. It is rare that such a splendid producing sow is cataloged for sale, but Mr. Taylor has determined to make up an offering that will attract any breeder or farmer who is looking for Durocs of merit. Miss Crimson Wonder was shown at the state fair in 1912 and 1913 and each year she was second in her class and the sow that defeated her was made grand champion. A very attractive March yearling daughter of Col. Wonder and out of a Col. Prim dam will please the critical buyer. This young sow has plenty of size and should develop into a very valuable sow. She was 4th in class at Sedalia in 1915 and 3rd in class at St. Louis. She was also in the first prize aged herd at both shows.

Belle of Olean, a March yearling by Professor's Col., and out of Belle of Missouri 4th, a litter mate to Belle of Missouri 3rd, grand champion sow of 1914, is the largest sow in the sale. She shows extreme width and depth and quality. Belle of Missouri 3rd is perhaps the largest Duroc sow in Missouri.

Col. Wonder's Dream II, a litter mate to Col. Wonder's Dream, the sensational grand champion sow this year, will be one of the real attractions of the year. Unfortnately, this great sow has a short tail, but aside from that she looks as though she could make it interesting for her illustrious sister. She sells bred to C. L.'s Col. Wonder. No. 7 in the catalog, a September yearling by Col. Wonder and out of a dam by Illustrator, was good enough to win first in class at St. Louis and second at Sedalia. She was also a member of the first prize young herd at both shows. She sells bred to Show Me, junior champion at Sedalia this past year.

One of the best prospects for a big sow is the September yearling, Missouri Queen, by Professor's Col., out of a daughter of the great sow, Queen Ester. This sow was first in class at Sedalia. One of the tops of the offering is the March yearling, No. 12 in the catalog, that is a full sister to Show Me, the junior champion boar.

The above will give our readers a hint as to the quality of the offering. Suffice it to say that this sale will not disappoint in any way, and we are glad to recommend it to our readers as a place to secure Durocs of proven merit.

Send for the catalog and arrange to be present on the 21st. In case you are prevented from attending in person any bids you may care to send will be handled with fairness by R. P. Royce, who will represent this paper.

Dr. Unsell's Duroc Sale

We wish to direct the attention of our readers to the announcement of Dr J. B. Unsell's Duroc sale to be held at his farm adjoining Louisiana, Mo., on Wednesday, January 19th.

For several years past Dr. Unsell has been engaged in assembling a herd of Durocs that would rank with the best. He proceeded on the theory that foundation animals should be selected because of their peculiar individual excellence as evidenced by their breeding, individuality, and production. Whenever the Doctor found a sow that came up to this standard she was purchased providing the price was not out of reason. But a cheap price nor a high price never got a sow or boar a place in this herd, individual excellence alone counted.

Naturally, the development of this herd has been watched very keenly by Duroc men and much speculation has been indulged in as to when the owner would give the public a chance to buy the produce of the herd. Dr. Unsell is now ready for the public to judge the value of his Durocs and the approaching sale will afford the opportunity.

The coming sale will consist of about 40 or 45 head of bred ows and gilts, representing the very cream of Duroc blood lines. Space does not permit detailed mention of all the good things to be offered but from the following our readers can gain on idea as to the offering.

There are five or six daughters of G. C's Col. that are mighty attractive sows. These sows are two-year-olds and have all proven to be especially good producers. Col's Tattletale by Chief's Col. and out of Tattletale of Idlewild is a very attractive sow. Wilda Duchess Forest by the noted McKee boar, Forest Chief out of Wilda Duchess will furnish competition for the buyers. She sells bred to Unsell's Defender. I Wonder by Disturber out of old Lucy Wonder 166 is a splendid young sow. Miss Fashion, by Fashion, one of the noted sons of Defender, goes in as a very special attraction. Practically all of the sale offering sells bred to one or the other of the two herd boars, Unsell's Defender 65225, and Col. Illustrator 63701. Unsell's Defender, as suggested by the name, is a son of old Defender, the best known boar the breed has produced. The dam of this boar is Model Princess 1st by Model Cherry. Unsell's Defender gives every promise of developing into one of the big boars of the breed. He is a powerfully put up youngster, showing unusual size and mamoth bone. Col. Illustrator is by the champion Illustrator and has for a dam the great sow Bonny Tippy by Tippy Col. Dr. Unsell is planning great things for this boar and if everything goes well breeders will be after his blood.

We have seen this offering and trust that our readers will give it the support it deserves. Dr. Unsell does not expect fancy prices because this is his first sale and for that reason there are bound to be some bargains.

Send for catalog and arrange to be there in person or represented with bid The sale will be held in a heated pavilion Mention this paper when you write.

White to Sell Durocs in February

Just before going to press we were informed that A. White, Jr., Palmyra, Mo., plans to hold a bred sow sale some time near the latter part of February. We feel sure that our readers will be interested to learn of this sale and we believe that we can assure them of a superior offering.

Mr. White has been getting ready for this sale for a long time and the offering that he has selected will represent his best efforts as a breeder. The great boar Select Col. II ,now at the head of the White herd, will figure very strongly in the sale. Select Col. II is regarded by many as one of the top boars of the breed. Watch this paper for further announcement in subsequent issues.

Baldwin Offers Poland China Gilts—Bred

R. F. Baldwin, Rocheport, Mo., is now advertising a very desirable lot of spring gilts that are bred for early spring farrow. These gilts are all of strictly big type breeding and are sired, for the most part, by Mr. Baldwin's splendid boar, King Jumbo, by King of All, the noted Iowa boar. Mr. Baldwin has handled these gilts in a way that assures their future usefulness to the buyer and the prices asked are reasonable indeed.

Angus Bargains

In a recent letter from J. M. Jones, Everton, Mo., he says that the Angus bulls and heifers he now offers are exceptionally good in every way, and that he is pricing them to sell as he needs the room. Mr. Jones is a practical breeder and is thoroughly reliable in every way. In writing please mention this paper.

Spotted Poland China Bred Gilts

B. B. Megown, New London, Mo., can fill the orders of any of our readers who are in the market for choice spotted Poland China sows bred for early spring farrow. Get his prices on this bred stuff.

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE MISSOURI FARMER

COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE AND THE MISSOURI EXPERIMENTAL STATION

Where Do You Stand?

The California Fruit Growers' Association is now contemplating going over the heads of the fruit jobbers and distributors and selling its product direct to the consumer. In other words, this great and successful organization which has saved millions of dollars to the orange growers of the West during recent years is about to take the step which The Missouri Farmer is advocating with reference to the Packing House Combine. And why not? Why should it not shake itself loose from these parasites who perform no absolutely essential service? And who will say it nay? Organized, successful and in control of the orange industry of the Country, is not its power in the premises absolute? If it makes up its mind to sell its own product direct to the people, what is the fruit jobber going to do about it? Won't what he thinks about it matter just about as little as the number of spots on the sun? And would not the power of the live stock producers of the Country be equally absolute if they were similarly organized? If they owned their own Packing plants and distributing markets, wouldn't they be able to tell the Packers to go hang?

Several weeks ago, I chanced to run into a friend who had 4,000 bushels of splendid Jonathan apples in cold storage. He is an expert horticulturist, sprays his trees carefully and I doubt whether one could find a finer lot of Jonathans in the Country at this time. "I am on my way to Chicago now to sell my apples," he said, and when I asked him what he expected to get for them he replied: "I'll have to sell them to a jobber and I hope to get at least $1.25 per bushel." "What will the consumer have to pay per bushel" I asked and he answered "About $2.50." Taking these figures for granted, it means that my friend will receive $5,000 gross for his apples. This will be his total reward for a year's patient toil, battling against insects and weather, interest on his investment, pay for picking, barrels, cold storage rental, freight, etc.—while the jobber and distributors will also get $5,000 for merely taking them out of the cars after they arrive in Chicago and giving the public a chance to buy them. Here you have an example of how the thing is done—how simple the process by which both producer and consumer are "made the goats" of this marvelous system of distribution. It is to free itself for all time to come from such brigandage as this that the California Fruit Growers Association is about to "burn the bridges behind it"—and thus the policies of The Missouri Farmer are about to find endorsement at the hands of the most powerful producers' organization in the Country.

In the meantime, what are you doing to help out in your community? The fight can't be won by sitting around the kitchen stove. It doesn't do any good for you to mutter "good work" as you finish reading an issue of the paper—and then go to sleep until the next one arrives. There are two great things which need to be done at once in every school district in Missouri. First, The Missouri Farmer needs to be introduced into the home of every one of your neighbors in order that they may be enlisted in this great new movement—for until they become aroused to the impending danger we will not be able to get anywhere. To this end, go to them at once and ask them to subscribe. Tell them I will return their money if they are not satisfied. Then prepare to organize a Farm Club. At first, call a meeting of a few leading spirits at some neighbor's home. Then follow it up by calling a school house meeting—and then send to us for Constitution, By-Laws, instructions, etc. Hundreds of our friends are already doing this—but why shouldn't every reader of the paper get into the fight? In the meantime, don't forget about your own subscription. If you will send us a dollar promptly, all past due subscription will be cancelled—but this offer will shortly be withdrawn. But why not also send along the subscriptions of several good neighbors? Why not make this fight a living, vital force in your community? Why not organize while farmers are not rushed with work? Where do **you** stand?

William Hirth, Publisher,
THE MISSOURI FARMER

GEO. B. ELLIS
MANAGING EDITOR

VOL. VIII JANUARY 15, 1916 NO. 2

WILLIAM HIRTH
PUBLISHER

No Holes To Dig with APEX Steel Drive Posts

SIMPLY drive them into place with a few blows of the sledge while you stand in the wagon. Can you imagine anything easier? What could save you more work? You can save money, too—8 to 10 cents on the setting of each post. With steel posts you can burn fence rows clean—protect your stock from lightning. Write for booklets and read how you can save money, time and hard work.

APEX Fence
Fits Rolling Ground

The swinging joint leaves the line wires flexible. Easier to put up than any other fence that we know of. Does not bind, buckle, sag or snap. Stays are reinforced to double strength at every joint. Strong, rigid stays and thorough galvanizing make Apex fence last for many years.

Write for Helpful Books

about steel drive posts and building fence the "Apex Way." If your dealer does not carry the Apex line tell us your needs for fence, gates and posts.

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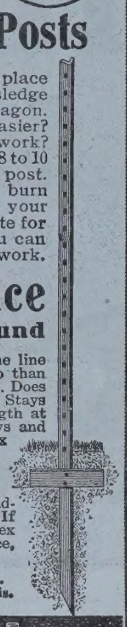


FREE

42

Answers Almost Any Question That Arises on the Farm

Here is a book you can carry easily in in your coat pocket that will tell you instantly and to a penny just how much money is coming to you when you sell your hay, grain or stock at the market price. It is Ropp's New Lightning Calculator—a wonderful time and labor saver for the busy man. It never makes a mistake—and answers a thousand perplexing questions that arise on every farm.

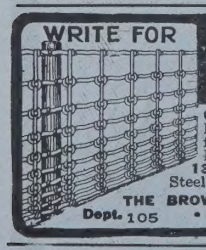
FREE to LANDOWNERS ONLY

Hundreds of thousands of copies of this wonderful book have been sold and the regular price of this edition is 50 cents. However, to acquaint the readers of this paper with the unusual merits of **Square Deal Fence** we will gladly send a copy of Ropp's New Calculator just as illustrated FREE and POSTPAID. We will also mail our latest catalog of

Square Deal Fence

the favorite field and stock fence of discriminating farmers everywhere. The Square Deal Lock double grips the one-piece stay wires to the wavy strand wires without cutting, breaking or slipping. Combines solid strength with remarkable flexibility. The self-draining shape of the Square Deal Lock prevents rust. The one-piece stay wires prevent sagging, bagging and buckling, require fewer posts—the wavy strand wires give springiness, elasticity and life. Landowners! write at once for catalog and get your copy of Ropp's New Calculator free, postpaid. Address

Keystone Steel & Wire Co., 1042 Industrial St., Peoria, Ill.



WRITE FOR BROWN FENCE BARGAIN BOOK AND SAMPLE

Over 25,000,000 rods Brown Fence already sold to 400,000 farmers. Factory Prices, Freight Prepaid. 150 styles, 13c per rod up. Gates and Steel Posts, too! Write postal.

THE BROWN FENCE & WIRE CO.
Dept. 105 • • • Cleveland, Ohio

12½¢ ECONOMY FENCE

Before you buy any more fence, write for facts about our 26-inch ECONOMY HOG FENCE at 12 c. per rod. Many other styles and prices.

Keystone Steel & Wire Co.,
6878 Industrial St. PEORIA, ILL.

A FARMER'S WAY FOR PREVENTING HOG CHOLERA

To The Missouri Farmer:

I have a card from the United States Department of Agriculture requesting me to help in preventing hog cholera. I know of no other way than to help others to learn how to care for their hogs. The first thing to do is to be interested in the welfare of the hog, that is to make him as comfortable as possible in the way of a good dry and warm place to sleep, and then use good common sense. When you feed them don't just pile a wagon load of corn in the lot and wait for them to clean it up and think you are doing all that is necessary. That is all wrong. Hogs are the most difficult animal we have to feed as they are the more liable to fatal attacks of indigestion than cattle or horses. The stomach and bowels become inflamed from over eating too much grain will drop out and fail to come to his feed but not be very sick but since, as long as there is corn scattered around he will some time during the day go and eat a little of it. That hard dry fever making corn will irritate his stomach then he will crawl off in some corner and lie there till he feels just a little better then he will come poking up to the corn again and take another nibble and that is about the last time he will come.

The next thing we hear is that neighbor Jones' hogs have the cholera. They have all been treated alike, some are weaker than others and they get sick first but the whole herd is not doing well. Pretty soon there will be some more falling out of the ranks, then neighbor Jones thinks he must do something. He may be like some others, think he had better ship them or have them vaccinated, but neither one will cure the hog of his trouble.

I will give you my receipt for preventing hog cholera: I feed just what they will clean up and leave them hungry enough—to want a little more. Always feed slop once a day, made from shorts and oats, equal parts, just enough concentrated lye to cause the mixture to turn slimy and slightly yellow and add enough salt to taste and use some tankage. If you have one that gets sick take it out of the feeding lot and put it where it can't get one grain of corn and give it all the water it wants. Dish water with a little milk is better than plain water. It may go for days without craving a drink. Do not offer it anything to eat until it gets to moving around then give a little ship in its drink; care for it that way for a week. When it seems fairly well give small amount of corn once a day, one small ear is a plenty; keep up the slop and the hog will be all right. J. P. Laney, Windsor, Mo.

Editor's Comment: There is no doubt but what a great many hogs are lost every year from worms and from indigestion caused by over feeding on corn. Mr. Laney's suggestions about careful attention and feeding are good and the best feeders and hog raisers are those who give this kind of close attention to their herds. But after we have done all we can do in the way of feeding and in keeping our premises clean and healthful, if the hogs by some chance come in contact with the germs of cholera they will most certainly get the disease. Just as surely as the most robust child in the family will contract measles, whooping cough or smallpox. The wise thing to do is to follow the advice of the successful feeders as to balancing rations, careful feeding, clean premises, isolating sick hogs, etc., but if after all this our hogs are exposed better not lose a moment's time in having them vaccinated with anti-hog-cholera serum.

SUCCESSFUL CO-OPERATION

The Missouri Farmer:

I am a farmer and own 160 acres of land and am a stockholder in a co-operative grain company with a capital stock of $10,000. We are talking of increasing our capital stock to $16,000. We are young in this business but have made a fine success so far. We buy all our flour and corn sell in fact everything the farmers need in the way of feed stuff. Some of us read the article of December 1, on "What Can We Do?" on this meat proposition. I heartily endorse your stand on that question and as I am secretary of our farmers' school district they asked me to write you for plans and instructions on how to get at this proposition for we all are willing to try. What we have undertaken in a small way on co-operation here has sure paid well for corn is bringing a better price in our town than most other towns nearby. Before we organized it was lower in our town than any other near us. We are sure making them come across so we want to make them come across on the live stock and we can.

C. E. Walkup. Windsor.

Do you want to rent, sell or buy a farm? If so, you should join our "Farmers' Market Club" without delay. contain a lot of mighty valuable information. When you write, always please mention The Missouri Farmer.

Read the advertisements in this issue carefully for they come from the best concerns in the Country and they

I'll Rid Your Hogs of WORMS

GILBERT HESS, M. D., D. V. S.

Your hogs are almost certain to be troubled with worms right now; in fact, at all seasons of the year. Unless you treat for worms and get rid of them you can't fatten your swine at a profit.

How about the spring pigs? The chances are that your brood sows are worm-infested. This means stunted litters—pigs from a wormy sow can't get the right start.

I guarantee that if you feed my Stock Tonic regularly as directed, you will rid your hogs of worms, they will keep toned up and vigorous, resist disease better and fatten quickly and cheaply.

Dr. Hess Stock Tonic

25-lb. pail, $1.60. 100 lbs., $5.00.

A Fine Conditioner—A Sure Worm Expeller

Your horses, cattle and sheep are apt to be out of fix right now, because animals off pasture and on dry feed are deprived of the laxatives so plentifully furnished in grass.

Feed my Stock Tonic to your animals now. It contains tonics for enriching the blood, tonics to help their digestion and help them assimilate their feed better, as well as laxatives for keeping the bowels regular and clean.

Remember, when you buy my Stock Tonic from your local dealer you save peddler's horse, team and traveling expenses, and the small dose quantity will prove that my Stock Tonic is the most economical, too. Now read this guarantee:

So sure am I that Dr. Hess Stock Tonic will positively rid your hogs of worms and keep your stock healthy and vigorous, that I have authorized my nearest dealer to supply you with enough for your stock, and if it does not do what I claim, return the empty packages and get your money back.

25-lb. pail, $1.60; 100-lb. sack, $5.00; smaller packages as low as 50c (except in Canada and the far West and the South). Why pay the peddler twice my price?

Dr. Hess Poultry Pan-a-ce-a

I guarantee that this fine poultry tonic will help your hens lay. It will keep them toned up, arouse the dormant egg organs and keep your poultry healthy. Easy to feed and very economical—1 cent's worth a day is enough for thirty fowl. Never sold by peddlers. 1½ lbs. 25c; 5 lbs. 60c; 25-lb. pail, $2.50. (Except in Canada and the far West.)

Dr. Hess Instant Louse Killer

Kills lice on poultry and all farm stock. Dust the hens and chicks with it, sprinkle it on the roosts, in the cracks or, if kept in the dust bath, the hens will distribute it. Also destroys bugs on cucumber, squash and melon vines, cabbage worms, slugs on rose bushes, etc. Comes in handy sifting-top cans. 1 lb. 25c; 3 lbs. 60c. (Except in Canada and the far West.) I guarantee it.

Send for my book that tells all about Dr. Hess Stock Tonic—it's free.

DR. HESS & CLARK, Ashland, Ohio

Bumper Grain Crops
Good Markets — High Prices

Prizes Awarded to Western Canada for Wheat, Oats, Barley, Alfalfa and Grasses

The winnings of Western Canada at the Soil Products Exposition at Denver were easily made. The list comprised Wheat, Oats, Barley and Grasses, the most important being the prizes for Wheat and Oats and sweep stake on Alfalfa.

No less important than the splendid quality of Western Canada's wheat and other grains, is the excellence of the cattle fed and fattened on the grasses of that country. A recent shipment of cattle to Chicago topped the market in that city for quality and price.

Western Canada produced in 1915 one-third as much wheat as all of the United States, or over 300,000,000 bushels.

Canada in proportion to population has a greater exportable surplus of wheat this year than any country in the world, and at present prices you can figure out the revenue for the producer.

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The Missouri Farmer

LUME VIII | JANUARY 15, 1916 | NUMBER 2

Missouri Farmers Take First Step For Better Marketing

By Geo. B. Ellis, Managing Editor

irteen states have formed state keting bureaus within the last and the time has come when the ers of Missouri should get busy join with the farmers of sister s to get some relief from the ent intolerable conditions in dis- g of our farm products. The preliminary step has been taken organizing a state farmers' mar- g bureau and no backward step ld be made but every farmer in state, big or little, landlord or nt, hired man or salaried mana- who produces anything to sell, ld join this movement and help it to success.

the suggestion of The Missouri ner, the secretary of the state d of agriculture, Honorable ll Mayes, issued a call for a state ention on marketing and market itions to meet in Columbia, Wed- ay, January 5, 1916, during Far- Week. In response to this call t one hundred representative far- met on the above date in the e County courthouse and listened a address by the Honorable David n, a world-wide authority on or- ation and marketing for farmers. Lubin showed how by the most ct organization known to civili- n the German farmers absolutely rolled the marketing of their pro- s to such an extent that an in- ous trust for the fixing of prices as we have in this country, is ssible in Germany. Furthermore, through this perfect organiza- starting with the small township leading up through the county, tate and the nation no legislation pass the German Congress affect- agriculture without the endorse- of this farmers' council. "On one hand," said Mr. Lubin, "we that the economic system of the rican farmer is injuriously af- d through defective marketing of products. On the other hand we that there is perhaps no time in history of this country when the rican farmer was better off, when ad more money in the bank, etc. or the country as a whole, why at our cities with their miles and s of skyscrapers and palaces, the der of the world; and when we ld all these things there should to be no hurry to catch up some gn system with an unpronounce- name and try to force it on the rican people.

here is a strange similarity be- n these arguments of today and e used in old Rome in the time of rius Gracchus, in the days of the an Republic, when Tiberius cried e is dying.' 'Restore the land ing farmer or the Republic will sh.' And what was the response? Romans showed him miles and s of streets with marble palaces. Pointing to these they said, 'See, beforetime these buildings were of adobe, of clay, of brick, now they are marble palaces; how is Rome dying?' He predicted that the vast number of foreclosures of the land owning farmers of Rome would soon convert the free conservatives of the Republic into destructive radicals. And what he predicted came to pass!

"After Rome had conquered Carthage, Egypt and Syria the conquering lords brought the cheap corn of those countries into Italy. This forced the Roman farmer into debt, to borrow money of these lords. As a result of all this the Roman farmer was eventually driven from his land. And what happened then? This, Rome perished and crumbled to dust and ruin and we of the twentieth century go to Rome to see these ruins.

"And so it will be in the case of the American Republic if we stolidly permit the operation of a system which must cause the conservative, the landowning farmer of the Nation, to be displaced by the renter."

"While there should not at this time have been more than a trifling percentage of American farming lands in the hands of renters, what do we find? We find that 37 per cent of the agricultural land in the United States is now in the hands of renters; 16 per cent of these renters sprung up during the last 10 years of the census. The census was taken up to 1910 and this is now 1916, and with the same ratio of increase it is now nearly up to 50 per cent. And what of the future? Will it rise to 60, to 70, and so on? If so the American Republic is surely groping its way toward the downward incline of old Rome. They have done away with that sort of thing in Germany and why should we not do away with it here in the United States? We can do away with it by adopting a like system of farm organization and marketing."

We merely make use of the above excerpts from Mr. Lubin's address to emphasize what we have so often said to the farmers of Missouri, that present conditions unmistakably show that we are facing a crisis that only united and early action can avert.

After some further discussion the conference adjourned over to the following day when some 500 or 600 farmers and farmers' wives met in the agricultural auditorium and completed the temporary organization of a state farm marketing association. E. H. Bullock, of Edina, Knox County, was made chairman of the temporary organization and J. Kelley Wright of the state board of agriculture, was made secretary, both to serve until a permanent organization is effected. By unanimous vote of those present the chairman was authorized to name a committee of fifteen who acting with the chairman should issue a call and fix the time and place for perfecting a permanent organization. After adopting the declaration as set forth on this page, the meeting adjourned subject to call as above set forth.

It now rests with the farmers themselves whether or not this new organization shall grow into a powerful business association able to eliminate the great loss now suffered in marketing our products and to put a stop to the discrimination and unfair competition practiced by the greedy trusts which now have control of our markets. When this call is made it should be immediately responded to by every sound thinking farmer in the state, rich or poor, big or little, landlord or tenant. It is going to take co-operation, it will take organization, it will take the united efforts of the thousands of farmers of Missouri and the millions of farmers of the United States to win this fight and win it we must or perish in the effort. It will not only take the co-operative effort of a majority of the farmers to win this great fight but it will take means, thousands of dollars to pay the legitimate expenses of such an organization. But if farmers will stop to think that they are now paying tribute to the trusts every time they sell a hog, a sheep or a steer; that the housewife pays tribute every time she sells a dozen eggs or a pound of poultry or butter; the cost of maintenance of such a farm marketing organization as is herewith proposed will be a mere pittance when compared with

AN ADDRESS TO THE FARMERS OF MISSOURI

We, the farmers of Missouri assembled at "Farmers' Week" hereby declare to our fellow farmers throughout the length and breadth of the state that the gravest crisis in the history of the American farm confronts us at this hour—that the great Meat Packers' Combine, the dealing in grain futures and other like bardens are resting like a black pall over every farm home in the land and fast robbing farm life of all its pleasure and profit. It is because of these sinister influences that farm mortgages and land tenancy are constantly increasing—that rural population is steadily growing less and that thousands of the brightest country boys and girls are being driven to the already overcrowded cities.

Notwithstanding that the increase in meat exports to the warring countries of Europe in 1915 over 1914 amounted to a half million beef cattle and approximately two million hogs, the farmers of this and other states have for some months been passing through one of the worst live stock markets they have ever known—and the hour has arrived when we must either put an end to this practice or submit to a condition little better than Agricultural bondage for all time to come.

Truly as farmers we find ourselves in the midst of a remarkable situation. The international trade balances in our favor during 1915 have broken all former records and it is predicted that New York rather than London will become the future financial center of the world—and yet the true credit for this great achievement belongs to the American farmer rather than to the manufacturers of powder, guns and shells, for it was the farmers' surplus wheat, beef, pork, cotton, corn, horses and mules that have been responsible for the lion's share of the tremendous trade balances which promise to make us the financial Mistress of the Universe. Unlike the manufacturer of war supplies, however, the farmer has not been in position to demand what his products were worth. On the contrary, while he has provided a trade balance large enough to protect American finances and industry against the steady liquidation of our foreign owned securities and brought new glory and prowess to his country, he is being fleeced as never before in his history—and unorganized as we are and have been for years we are helpless.

Again, we repeat that the hour has finally struck when we must give battle to the industrial vampires who are robbing the farm of all its joy, profit and enthusiasm or when we must resign ourselves to a condition of Agricultural servitude—and that our self respect and our duty to our children precludes the latter course goes without saying. To this end, we urge the immediate organizaton of a Farm Club in as nearly as possible every school district in the state. We further urge that a county mass meeting of farmers be called in as many counties as possible and that a County Farmers' Association be formed—these later on to be amalgamated into a powerful state-wide organization of farmers and that by these means we may soon provide ourselves with the facilities and the strength necessary to dealing with the grave situation which confronts us and upon the successful solution of which depends the future of every farm home in the land.

what is being filched from our honest profits from year to year.

In our next issue we hope to be able to publish the names of the committee of fifteen farmers who with president Bullock will fix the time and place for this permanent organization. And when that call is made we sincerely trust that every one of the fifty thousand farmers who reads The Missouri Farmer will put his shoulder to the wheel and help push the Missouri Farm Marketing Association to a complete success.

FUTURE PRICES FOR HORSES

I have never been able to figure out anything else except the Spanish-American and British-Boer wars that made the prices of horses go higher, quicker than was ever known before, following their low time of 1897 when according to statistics they were only worth $31.61 per head.

Now there is one thing that I want you to bear in mind, that we had at the outbreak of this war 21,496,000 horses in the United States. I think that no truer words were ever spoken than those that fell from the lips of old Patrick Henry when he said, "We have no way of judging the future except by the past." So I am going to take you back as far as 1880 and bring you up to the present time covering three and one-half decades.

In 1880 we had in the United States 11,201,800 horses; we had a population of 50,155,178, only about four and one-half times as many people as horses. In 1890 we had 14,215,837 horses and a population of 62,947,714, again not quite four and one-half times as many people as horses. In 1900 we had 16,-206,802 horses and a population of 75,994,575, again a little more than four and one-half times as many people as horses. In 1910 we had 18,-718,578 horses and a population of 91,972,266, nearly five times as many people as horses. Now you see that the increase of our population from 1880 to 1890 was from 50 millions to 62 millions, approximately twelve millions and from 1890 to 1900 was from 62 to 75 millions, an increase of 13 millions and from 1900 to 1910 was from 75 to 91 millions, an increase of 16 millions, and estimating our increases at the same ratio at the outbreak of the war we had a population of more than 100 millions and our statistical report showed 21,496,000 horses, so you see again we had five times as many people as horses in the United States.

Now that we have seen that our increase in population and horses go hand in hand at about the same ratio, let us see about the increase of the number of farms and our commerce. Our commerce is more than two and one-half times as great as it was in 1880. We had at that time a little less than three million farms, while today we have more than six and one-fourth million farms. Our farms have increased in number more than one million in the last ten years so in 1880 we had 11,201,800 horses and less than three million farms which would be about four horses for every farm and at the outbreak of the present war with 21,496,000 horses and more than 6¼ million farms, you see there is only a little more than three horses for every farm and in these figures you must remember that every horse from the youngest to the oldest is counted.

There were in 1880 when we had 11,201,800 horses, about 57 million acres of corn planted and in 1915 with 21,496,000 horses more than 108 million acres planted, more than 59 million acres of wheat and more than 40 million acres of oats. As the country becomes more densely populated and the acreage of everything becomes greater, it requires more and more horses.

Now that we have dealt with our domestic affairs, I want to talk to you some about our export trade and the Spanish-American and British-Boer Wars. On February 15, 1898, the battleship Maine was blown up and 266 American lives lost. On April 22d, President McKinley declared all Cuban ports closed and on April 24th Spain declared ware on the United States. Immediately following this our government commenced buying horses for the war. Following the close of the Spanish-American war, came the British-Boer War which broke out October 11, 1899, and England began buying horses at once. Now we find that the greatest number of horses exported in any one year up to 1899 was 5,246, and that in 1899 we exported 13,894, and in 1900 we exported 64,722 head, in 1901 82,250, and in 1902 103,020 head. You see that during those three years we exported 249,992 horses and 105,350 mules or a total of only 353,352 head during the whole of that war. Now let us stop and think for a minute that we have already in this war exported more than twice that number and no signs of peace, with everyone predicting that it will last from three to five years.

Our horses were valued at $31.61 in 1897 just before the breaking out of the Spanish-American war and at $44 per head in 1900, and mind you the war going on then was the very thing that every right thinking man will tell you made them go higher from that time on and in 1905 our statistics show they were valued at $89.91 per head. They had more than doubled their price of the first year of the British-Boer War and nearly trebled the price of one year prior to the first or Spanish-American War. Now I want to compare the price of the first contract price of the British-Boer War of $94 per head to the first contract price of the present war at $210 per head. I think the contract price at the close of the British-Boer War was $156. Now do you not know that the horses are distributed differently to what they were at that time? Don't you remember at about that time they were so cheap that you could go onto the range and have all you would round up at a dollar per head? Don't you remember reading in the papers that where they were unable to sell them, they were shooting them to get the range for cattle and sheep and some of the members of the Humane Society were wanting to have them arrested for taking the lives of the poor innocent horses? I want to ask you if that condition of things existed at the outbreak of this war? I want to say, No! Why, not four weeks before the present conflict began there were grade range mares sold at auction at Miles City, for more than $160 per head, unbroken, for breeding purposes and not only one or two but hundreds of them were recorded in the account of the sale at more than $160. Our export trade didn't stop with the war; that depleted territory had to be replenished and in 1903 we exported 34,-007 head and in 1904 we exported 42,001 head and in 1905 we exported 35,820 head and the ten years following we exported more than twice as many as we did during the war and just so it will be when this one is over; the whole of Europe will have to be replenished and if it took ten years to supply Great Britain, how long do you think it will take to supply her again along with all the rest of Europe? I want to tell you I don't think it will be done under twenty years. They will not only have to look to us for their work stock but they must come to us for their seed, their breeding stock. I want to go on record that we will have no more importing societies or firms but that we will have exporting firms and breeders.

Now just a word in the analysis of the European horse interest. Russia leads with 32,146,235 at the outbreak of the war. She also has a population of 170,000,000. Germany had 5½ million and more than 800,000 of them were in the army. France had a little over 3⅓ million. The United Kingdom, including England, Ireland, Scotland and Wales had 2,116,800 head. Austria-Hungary with 1,177,077 and Italy with 1,020,000, all of the countries had less than fifty millions of horses and an approximate total population of 461,259,916.

I have here a table compiled by some of our statisticians clipped from the Daily Drovers' Telegram. This table gives the prices and approximate range of values that have prevailed in the Kansas City market in the years named:

	Drafters	Drivers	Southerners	Mules
1900	$70-170	$50 up	$20-80	$30-150
1901	85-165	40 up	20-90	35-165
1902	80-225	75 up	20-85	40-210
1903	135-250	75 up	25-100	40-200
1904	135-270	65 up	35-110	40-205
1905	130-275	75 up	20-100	40-210
1906	130-245	70 up	20-110	55-225
1907	145-275	60 up	25-105	50-200
1908	150-285	80 up	40-140	50-225
1909	135-275	80 up	40-150	70-250
1910	125-300	80 up	40-165	80-275
1911	125-275	80 up	40-150	80-265
1912	120-275	80 up	40-165	80-265
1913	120-290	80 up	40-165	75-265
1914	120-290	80 up	40-175	75-265
1915	120-275	80 up	40-175	75-265

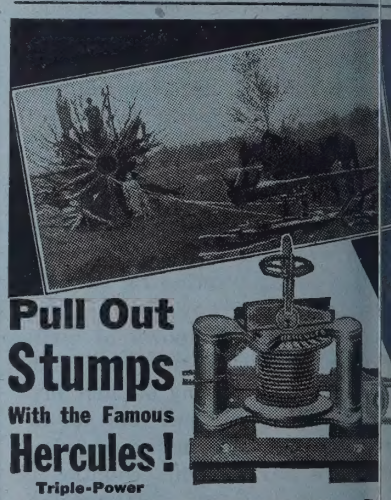
If you will now think back to what I have said relative to war dates and compare the years before the war and the prices thereof for horse flesh and then compare the years following the war and the comparative prices for horses and mules, you will get in mind exactly what I am trying to bring home to you, the fact that better things are in store for the horse breeders who handle good ones after this big war is over. I am optimistic over the future outlook for the horse industry.

I have given you all the facts and figures as they now are, and I cannot see for the life of me why horses and mules will not be higher than we have ever seen them. There are today less full aged horses from five to twelve years old in the country than I have ever seen. You must remember those that have been shipped to warring countries have gone fron forever, and have not supplied an the trade in the east or south. must also remember that this wa the most gigantic conflict that his records. Almost the whole kn world is at war today. Think o Is it any wonder that business wa a standstill in our country for awl Everyone stopped and stood agha the stupdendousness of it all, each wanting to see just where he was, as time has gone along our good p ident having guided our ship pas the dangers of war, not only Mexico, but with Europe, busines resuming the greatest activ known to our government

Now Mr. Breeder it is up to yo get busy. As the saying goes, let any grass grow under your Breed more pure bred horses. better care of them than hereto feed them, care for them and them bigger and better, because far the greatest opportunity the br ers of America have ever had is knocking at their door and it is u you to replenish the world, and t is no state or commonwealth that as great natural resources for the duction of the pure bred horse as souri.

P. M. Gross, Macc

[Delivered before the Draft H Breeders Association Farmers' W Mr. Gross has for several years horses in the St. Joseph, St. Louis Chicago Horse Markets.]



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GETTING INTO THE FIGHT

elow we print the expressions of a ber of our readers on the cam- n which The Missouri Farmer is ing for a great statewide organi- on of farmers. They would fill entire issue if we printed all of n—hence we are merely quoting acts from a few.

W. Hedger, Saline County: "I am earty sympathy with the aims and poses of The Missouri Farmer. I approaching the three score and limit and have been farming prac- lly all that time and have never conditions confronting the far- so gloomy as now and every far- in Missouri should do everything is power to support The Missouri mer in its splendid effort to im- ve these conditions. It's a man's to be sure as any farmer ought to able to see—but I see from every ber of The Missouri Farmer that have men capable of tackling the A few days ago I saw this item he Kansas City Star from a repre- ative of one of the big Packers: e prospects for meat products e never better. The farmers are ing huge profits and there is a pect of a big run of hogs which give a good chance to cut down es.' The English language is in- able of expressing my opinion of statement. But, as the 'Buckshot' n says, it's time to 'get down to ss tacks' and as soon as you go ly to organize the Packing pla nt me in anywhere from $10 to). It's our only show. It's time get busy."

William Butler, Gentry County: ve just read the January 1st issue you are preaching the gospel h to a people who are in Agricul- al bondage. Hope you may prove hful to the end and receive your reward. The enemy is powerful you will have to be as 'wise as a pent', if not as 'harmless as a dove. you can send me some sample ies of the January 1st number I'll to get my neighbors to subscribe. onsider this number so good and ng that it ought to awaken the argic and the dead to life and ac- n. Organization is our only hope.

B. Ingwerson, Pike County: "Your e of January 1st is a corker. You e begun the New Year well. If the mers of Missouri will act on your gestions we will clean up the Bee ist in short order. It has beaten out of more than $15,000 in the 13 years at a conservative esti- te. I inclose a dollar bill for ich please send me as many sample ies of January 1st as you can re. I am going to go after my ghbors at once. The time has come en we must act and there isn't an r to lose."

. L. Buntin, Saline County: "Have d with great interest your recent icles. We have many in this neigh- hood who have lost money on the ent markets. And the worst is come if farmers don't wake up a ke this devil-fish loose. They are king the very life out of the farm nd all because we farmers sit back l allow them to do it. I am for mers' packing plant in St. Louis and such a plant is started I will b d to take some shares—and with est and capable management it l win. I inclose a dollar. I'll l l all I can in my neighborhood."

Henry Millinger, Knox County: "I for a statewide farmers' organiza- n and when you get ready to start packing plant I'll take ten shares tead of one. I think every live ck farmer could afford to do this l be much money ahead. Have ked to some of my neighbors and y feel like I do. It's our only hope o go ahead with all your might l we will be at your heels."

Henry Durst, Palmyra, Mo.: "I like r fight for the farmer for I know at the Packers are doing to us. I ve fed a good many cattle and hogs l have often sat on the fences in stock yards waiting for bids when tle would slump from 75c to $1 per ndred. Organization is our only ance and you can count on me all ng the line."

J. R. Collett, Novinger, Mo.: "You e certainly making a great fight for farmers of Missouri. Some bank ginally sent me your paper and for while I didn't pay much attention it. Then I happend to read the recent article, "What Can We Do?" and it so convincingly showed up the sad plight of us farmers that I waked up—and now you can count on me from this time on. The time has come when something must be done."

W. N. Greene, Jackson County: "I am certainly in sympathy with your splendid fight to better the farmer's conditions. I am president of the Brooking township Farm Bureau and we have organized a farm club in our district and meet every Tuesday evening. Please send us any literature you may have that will help us."

W. B. Gex, Graham, Mo.: "I want to compliment you on the heroic work you are doing to arouse the farmers to organize to secure their rights and I hope you will succeed in binding the agricultural interests of the state into a powerful organization to combat those who seek to criminally exploit them.. Please send literature for Farm Club at once."

Ray L. Sewell, Macon County: "We organized a Farm Club in our district last night with 15 members to start with. Several more would have been out but for the rain. We decided to work in conjunction with The Missouri Farmer and wish you would send a Constitution and By-Laws and other helpful literature. We will meet twice per month and we are going to discuss the Land Bank Bill first."

Vincil P. Crowe, Caldwell County: "Since you are making such a noble fight in the interest of the farmers, it seems that I might at least do what I can in my community. Allow me to express my confidence in your plan of farmers organization. I am a regular reader of your paper and enjoy it immensely and am going to try to get all my neighbors to subscribe for it—so please send sample copies. Also constitution and by-laws for a Farm Club."

J. R. Estill, Howard County: "We are getting ready to organize a Farm Club in our district and any literature you can send us will be thankfully received. Your paper is a great help to me and I appreciate the splendid work you are doing."

J. W. Hunter, Montgomery County: "We met and organized a Farm Club last night, so please send Constitution and By-Laws and other literature at once. Three other school districts south of us organized tonight also—so you see this neck of the woods is getting stirred up pretty well. Please send a bunch of sample copies."

Reo Estep, Clinton County: "Please send Constitution and By-Laws and all other helpful literature to me at once as myself and neighbors want to organize a Farm Club and get busy."

C. W. Cooter, Kearney, Mo.: "The Missouri Farmer is the best farm paper I ever saw and I am going to try to get every friend and neighbor I've got to subscribe for it. I am with you in your great fight."

Gus Bowers, Howard County: "You are sure on the right trail and are doing more for the farmers of this state than any other influence I know of. I also like your Farmers' Market Club which supplies a long felt want. Hope every county will organize."

Lewis T. Pitzer, Scotland County: "I am heartily in sympathy with your great fight for a square deal for the farmer and I will be glad to take some stock in the proposed million dollar packing plant when you get ready to launch it."

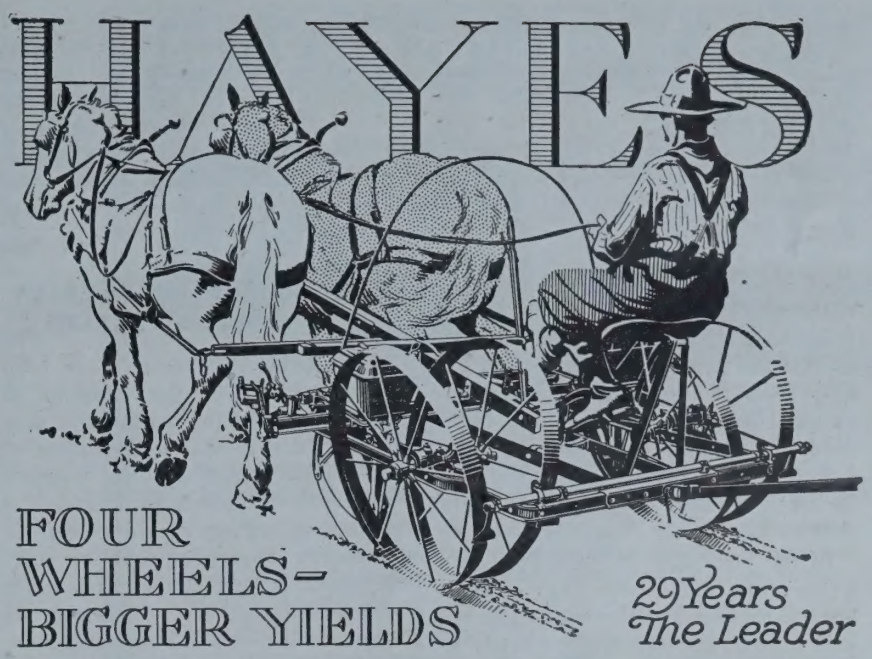
B. R. Wybrant, Jr., Ralls County: "We are going to organize a Farm Club in our district, so please send Constitution and By-Laws and other literature which will get our farmers thoroughly enthused in this great movement."

R. B. Marr, Filley, Mo.: "Dear Mr. Ellis. I inclose a dollar. Wish I could send you a thousand. I must see how many of my farmer friends I can persuade to dig up a dollar for your great paper. Farmers must get together. It's our only chance."

F. F. Forward, Randolph County: "We have organized a Farm Club in our district and I wish you would send us Constitution and By-Laws and any other good literature. Any additional information which will help us will be appreciated."

D. A. Lehenbauer, Marion County: "I am very much interested in your fight for a big statewide farmers' organization and think it is the only solution. Our county already has a

(Continued on page 8)



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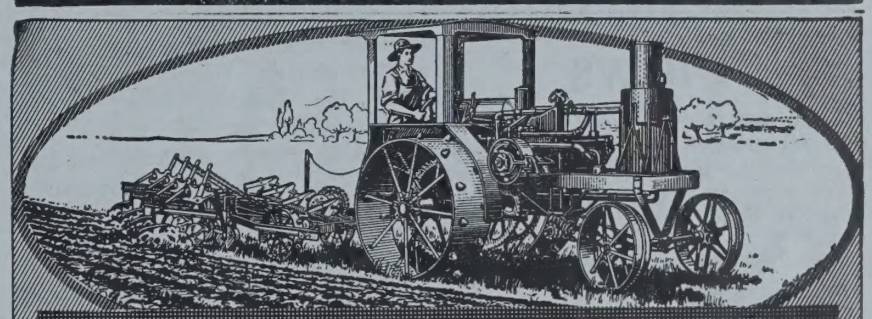

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BEGIN THE YEAR RIGHT

We sincerely wish that every farmer in Missouri who is industrious may prosper abundantly during the year 1916. We would be greatly pleased if we of The Missouri Farmer staff could have a share in bringing that prosperity about and we have some good reasons to believe that we can do that very thing if the farmers will let us help them. We get scores of letters from men all over the state who tell us that the paper has been helpful not only from its teaching of good agricultural practice, but from the influence it exerts on the economic problems which every farmer knows he is facing with greater difficulty every year of his life.

In the last issue of The Farmer a letter by Judge Thomas, a well-known lawyer of Southwest Missouri who says of his own free will that he considers the reading of The Missouri Farmer and the studying and following its teachings by his tenants has been worth one dollar an acre profit to him. And Judge Thomas volunteers to say that he is working for his own interests when he subscribes for the paper for each of his tenants who not only read the paper but they study the articles which deal with subjects along their line of farming.

To begin the year right then do our readers think we are much out of the way when we ask them if they will not only see that their paper is paid for at least one year ahead but that they will speak a good word to any neighbor who is not now getting the paper? The fight we are making is the farmers' fight and if we win it is their gain but if we fail it is their loss. So let us all stand together and win the fight.

LET MISSOURI FARMERS LEARN FROM CANADIAN FARMERS

The farmers of Missouri have been too conservative in the adoption of new methods and for that reason they are far behind the farmers of some of the Northern states and the Western provinces of Canada in the business of co-operative selling of grain and the co-operative buying of feed for their live stock. A few co-operative grain companies have been organized in Missouri and report a successful business but the greater the number we can get established, the more powerful they will be in correcting the evils of the Grain Trust.

How through co-operation, grain growers of Western Canada, in the provinces of Manitoba, Saskatchewan and Alberta, have made a profit of $1,600,000 was told by George F. Chipman, Winnipeg, in an address before the National Conference on Marketing and Farm Credits. Mr. Chipman said in part:

"In the past nine years the grain growers of Manitoba, Saskatchewan and Alberta have organized three companies for the handling of their grain. These three companies are now operating 490 country elevators and one large terminal elevator at the great lakes. The total assets of these three farmers' companies are over four and a half million dollars and a paid up capital of one and one-half million dollars. During their operations the farmers have handled through their own companies over 250,000,000 bushels of grain and have made a net profit on their operations of over $1,600,000. This, in brief, is the record of the three western farmers' grain companies, the Grain Growers' Grain Company, Winnipeg; the Saskatchwan Co-operative Elevator Company, Regina, Saskatchewna, and the Alberta Farmers' Co-operative Elevator Company, Calgary, Alta.

"Prior to fifteen years ago the grain trade of Western Canada was in the hands of a few private companies and the Canadian Pacific Railway and was practically without any regulation of any kind. The result of such affairs was disastrous to the farmers, and after investigation by a Royal Commission the grain trade was brought under a certain amount of Government regulation by the Manitoba Grain Act of 1909. This act bonded every grain company so that the farmers were practically certain of receiving payment for their shipments. But it did not remove the chief grievance of the farmers. In 1901 the first Grain Growers' Association was organized as a protest against the unfair condition of the grain trade. The organization first started in Saskatchewan, but it spread like wildfire all over these provinces, and through their organization the farmers carried their protest to Ottawa, where they secured important amendments to the Grain Act. There was still, however, much to be desired and the farmers decided to go into the grain trade on their own account. In 1906 they established the Grain Growers' Grain Company as a commission house, which has since developed into track buying and the operation of 175 elevators in Manitoba and 2,500,000-bushel terminal elevators at Fort William. In 1911 the farmers of Saskatchwan organized the Saskatchewan Co-operative Elevator Company, in which the Government assisted to the extent of 85 per cent of the money required. In 1913 the farmers of Alberta organized the Alberta Farmers' Co-operative Elevator Company on the same lines as the Saskatchewan Company and with the same assistance from the Provincial Government. All of these companies have been successful, and as a result of their operations they have removed a very large portion of the grievances of the grain trade, in addition to this the organized farmers have established their own journal, the Grain Growers' Guide, which in seven years has reached the circulation of over 34,000 copies per week, and which is now the largest farm journal in the Dominion of Canada.

"All of this struggle has not been brought about without a terrific struggle against the forces of the organized grain trade and with considerable self-sacrifice on the part of the farmers. The farmers' companies are now the biggest single factor in the grain trade of Canada, and it is only a matter of a few years when they will market three-quarters of the Canadian grain crop. It is also expected that in the future they will go into flour milling and possibly the operations of their own line of steamships for the transportation of their grain."

SHALL FARMERS HOLD GRAIN?

There is no doubt in the minds of those who have studied the matter and who are unprejudiced and free from personal interest that the practice of farmers selling their grain as soon as harvested and rushing it all to market within a few weeks gives the elevator men an advantage in price making. Farmers are not all in a position to hold their grain and particularly is this true of tenant farmers, but if only those who are able to do so, would store their surplus in their own bins it would prevent the crowding of elevators and mills and the congestion of shipping and hence these conditions could not be used to break the price of grain.

There are some difficulties in the way of farmers holding grain. Often thrashing is done before the grain is dry, or thrashing is done when on account of weather the grain is too damp to store and in such cases it would be disastrous for the grower to try to hold the grain unless he was fixed to dry it out. But eliminating all the wet grain and all that raised by tenants if other farmers who are able to do so would build good granaries and store their grain and then through some organization market the grain about as needed for consumption and export there is little doubt but what they would get a better average price than they do under the present disorganied system of marketing.

In discussing this question at the recent National Conference of Marketing and Rural Credits, Mr. G. W. Lawrence, Secretary of Farmers' Grain Dealers' Association of Kansas, said that the proper place to store surplus grain was on the farms where it was grown instead of elevators, either privately owned or co-operative.

"From the producers' standpoint we ought to store the grain where it will tend to 'Bull the Market.' From the consumers' standpoint we ought to store where it will tend to 'Bear the Market.' From the speculators' standpoint the grain ought to be stored where they can get the most complete knowledge of the supply, and enable

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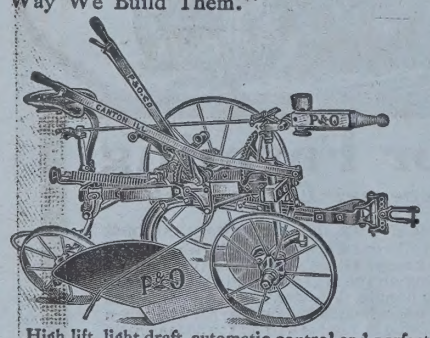

High lift, light draft, automatic control and perfect bottom. Removable dust proof wheel boxes with hard oil screw caps. Beam is high in the throat, giving ample clearance in deep plowing. Double bails hold plow steady and rigid, making it run absolutely true and leaving a smooth, level furrow bottom. Only truly automatic rear wheel control ever put on a plow; holds rear wheel rigid regardless of ordinary weaving of team, but allows it to castor naturally on the turn, making a square turn possible.

Collars and linch pins inside the screw caps take end thrust off of boxes. Bottom so hung in frame as to throw weight of plow, dirt and driver all on wheels, insuring light draft. Spring washers prevent nuts from working loose. High grade coulter with chilled cone take-up bearings, and quick adjustable clamp.

Powerful foot lift. Hitch adjustable without removing bolts or pins. Bottom is built on a double ribbed malleable frog, the strongest made; strong in the bend where steel frogs are weak. Different types of P & O bottoms interchangeable. P & O Diamond Plows have every convenience and adjustment for the performance of perfect plowing.

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90 bu. per acre from stump land

When David Bennison of Iowa bought a sixty acre tract of C press covered land near New Madrid, i

Southeast Missouri along the Cotton Belt Route

the neighbors laughed at him. But Bennisc knew good corn land. He cleared that trac planted corn, and the first yield—grow among stumps—brought 90 bu. per acre. Th wonderful depth and fertility of soil the is amazing. 90 bu. per acre there is better th average but not uncommon. Mr. Mahon of Dexter, Mo. says "Last year our co yielde 75 bu. per acre. We have made 90 b and it will run above 60 bu. an acre year and year out". Mr. Hunter of New Madrid sa many of his fields of corn average 80, 90 a 100 bu. per acre. There isn't a richer soil America than that in Southeast Missou

There isn't a section anywhere where y can buy rich land so cheap that the fi staple, field crop will pay for its cost a clearing (if you buy unimproved). And th rich soil makes wonderful yields of anythin C. D. DeField of East Prairie says "We c our alfalfa every 28 days; five times a seaso It averages a ton per cutting. Clover do well; in fact any kind of feed or pastur I raised 40 mules last year without doi any winter feeding at all. Cattle and ho go through winter here without feeding." bu. per acre corn land at $35 will go quick; a

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them to best manipulate the market. From the millers' standpoint it ought to be stored where they can cheaply and easily secure their supply. So it will not be strange in discussing this question, if our ideas may differ. But to arrive at a conclusion that is most beneficial to all concerned, I know of no better way than a comparison of ideas or a discussion of the question. First, I desire to express a negative proposition and that is our local co-operative elevator companies are not the proper ones to store grain. We are not organized for that purpose. We have not that in mind when we employ managers, and very few of our managers are properly versed in the handling of options, nor have they time to devote to that line of thought nor the facilities to successfully conduct this line of business, neither are our companies organized with sufficient capital. If the producers desire to handle the storage business on the co-operative plan, let them form organizations for that purpose. At the present time I believe that the most satisfactory place to store the larger part of the surplus grain is on the farm, and by the farmers. By so doing the farmer can market the grain at less expense, doing at least a part of it at the time of the year that work is not so pressing, and in many cases doing it with his own equipment and thereby not feeling the expense.

Exceptions occur where a farmer is located so near market that he can dump his wheat in the elevator or when he is threshing it at a time when he thinks the demand and the price is above the average for the year, or when the need for money is so great that it is a necessity to sacrifice time or grain to raise it. (A condition that we hope to see remedied by our rural credit system.) But our idea is that if we can hold the surplus of grain on the farm until needed, we will equalize the supply to the demand, thus establishing a more uniform and staple price for the crop. Frequently we will save a back haul in freight, save our elevators from the strain that we so often put upon them, to care for our grain while we are forcing it on the market, relieve the situation frequently when we have a scarcity of cars, save at least one commission and the added expense of storage at terminal points.

"I do not wish to convey the idea that I am opposed to terminal elevators, because I am not, and as every one must admit, they are a necessity to the satisfactory handling of the food products of our land, but I do think we have been forcing our grain on the terminal elevators too much to get the best result to either the producer, the shipper or the consumer."

We don't want to force The Missouri Farmer onto anybody—and if you don't want it and don't intend to renew, let us know, when we will stop it. We are playing a square game. We want you on our list of course because we are fighting your fight—but in the last analysis, it's up to you.

BALANCED DAIRY RATIONS

Most feeders of dairy cows can produce protein more cheaply than they can buy it, according to C. H. Eckles of the Dairy Department of the Missouri College of Agriculture. Wise is the man who has a good supply of legume forage on hand from his alfalfa, clover, cowpea, or soybean fields, for the dairy cow cannot do her best on corn, timothy hay, or fodder even with good succulent silage to help maintain summer pasture conditions.

Bran at a dollar a hundred furnishes protein at a cost of about eight and a half cents a pound, while cottonseed at $1.90 a hundred furnishes it at a cost of little over five cents a pound. The cost of producing the protein on the farm in alfalfa, clover, or other leguminous crops varies with local conditions so that no such definite figures can be given, but almost any farmer should be able to supply himself at much less than five cents a pound. If he has neglected to do so, however, he must purchase protein in some form to supplement the abundance of silage and corn which he undoubtedly has on hand under Missouri conditions.

Feeding two pounds of cottonseed meal a day to a cow that has been giving milk on such a ration as corn, fodder, and timothy hay, will increase the flow to a surprising degree. In spite of the many things that have combined to raise the price of cottonseed meal this year, it is probably the cheapest concentrate to buy for this purpose.

Some good dairy rations which Professor Eckles suggests are as follows:

(1)	Corn silage	25 lbs.
	Clover hay	10 lbs.
	Corn	4 lbs.
	Bran	4 lbs.
(2)	Corn silage	30 lbs.
	Alfalfa or cowpea hay	10 lbs.
	Corn	6 lbs.
	Bran	2 lbs.
(3)	Clover hay	20 lbs.
	Corn	4 to 5 lbs.
	Bran or oats	2 to 4 lbs.
(4)	Clover hay	20 lbs.
	Corn and cob meal	5-7 lbs.
	Gluten or cottonseed meal	2 lbs.
(5)	Alfalfa or cowpea hay	10 lbs.
	Corn fodder	10 lbs.
	Corn	5 to 7 lbs.
	Bran	2 lbs.
(6)	Alfalfa or cowpea hay	15-20 lbs.
	Corn	8-10 lbs.

Each of these rations includes a whole day's feed for the ordinary cow, half to be given in the morning and the other half in the evening, but they are not intended for the cow of unusual dairy capacity, or one that is being fed for heavy production, or to make a record. The amounts specified are those to be fed to a cow giving from 20 to 25 pound of milk a day, and cows giving more than this should receive more feed, especially more grain, while those giving less milk should have the grain cut down. The general plan followed is to give each cow all the roughness she will eat, and about one pound of grain for each three pounds of milk produced.

SELF-FEEDERS FOR FATTENING SWINE

The Iowa Station has perhaps done more experimental work along this line than any other station. Among other trials they conducted one where several feeds were placed in separate self-feeders and the hogs allowed to eat as much of each as they desired. The following feeds were used:

Shelled corn
Wheat middlings
Meat meal (60% protein) tankage
Whole oats
Linseed oil meal
Charcoal
Ground limestone
Common rock salt
Water

They found that pigs weighing about 45 pounds at the beginning of the trial, when fed as indicated above, weighed around 290 pounds at the end of the 162-day test. During this time, for each 100 pounds gain, they ate the following feeds:

Shelled corn	372.40 lbs.
Meat meal	27.57 "
Oats	2.53 "
Oil meal	1.15 "
Middlings	14.54 "
Charcoal	.10 "
Limestone	.14 "
Salt	.13 "
Total	418.55 lbs.

The above shows that corn, meat meal, and middlings were the feeds mostly used by the hogs when allowed to eat each at will. The gain obtained was quite satisfactory both as to rate and economy.

The Missouri Station fed two lots of hogs averaging in weight at the beginning about 110 pounds, 56 days on a ration of corn 12 parts, tankage 1 part. One lot was hand fed and for the other a self-feeder was used. The results from this trial show very little difference, either as to rate or economy of gain, indicating that the use of the self-feeder for fattening hogs was as satisfactory as hand feeding.

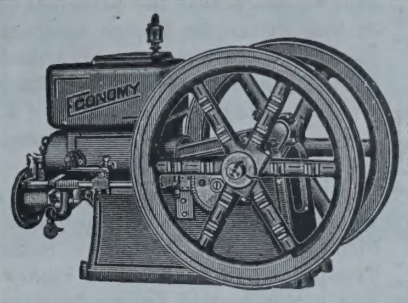
The Minnesota Station reports as follows upon the results of three trials where the method of self-feeding was compared with hand feeding for fattening swine.

"In all three tests, the self-feeder pigs ate more grain per day, and their daily gains were somewhat larger. On the other hand, the hand fed pigs produced a little more pork for each pound of grain consumed. The self-feeder, then, gives a little faster gains but requires slightly more feed for a given gain."

The above experimnetal work indicates that self-feeders may be used satisfactorily for fattening swine. It can be used, of course, only when it is desired to full feed.

L. A. Weaver,
Missouri Experiment Station.

SEARS, ROEBUCK AND CO. CHICAGO.



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If you are interested in gasoline engines, write for our special January and February Engine Proposition No. 88M16.

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Don't buy a buggy or engine until you have seen this special proposition, as it means a big saving to you.

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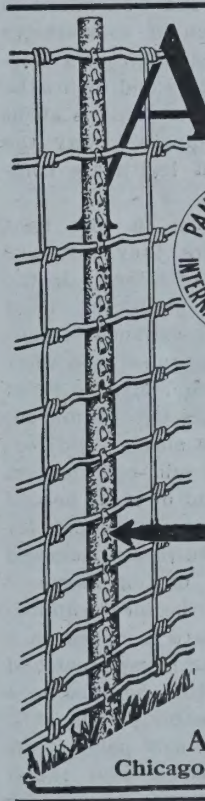

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Where other separators are good the New Galloway Sanitary is as good or better. Where others are wrong the Sanitary is right. The best skimming service, the most improved design, the best materials and finish for less money! If the Galloway Sanitary is as good as I say it is, you cannot afford to buy any other kind!

$34.50

If it is not as good as I say, then I could not afford to offer it to you for a ninety-day trial. I couldn't afford to guarantee it for ten years against defective workmanship and materials. You save money when you buy it; you make money when you use it. Try it. If you like it, buy it; if you don't, send it back. That's my selling plan in a nutshell. Shipped from Spokane Omaha Minneapolis, Chicago, Waterloo and Kansas City.

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THE MISSOURI FARMER

Devoted to Better Farming, Better Farm Homes and Better Citizenship.

Vol. VIII January 15, 1916 No. 2.

William Hirth - - - Publisher
Geo. B. Ellis - - Managing Editor

Published twice a month, on the 1st and 15th, at Columbia, Mo.

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To render service is our aim and we will endeavor to answer all pertinent questions or have them answered by competent authority. When answer is desired direct, always inclose stamp.

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A USEFUL LIFE ENDED

"He has achieved success who has lived well, laughed often, and loved much; who has gained the respect of intelligent men and the love of little children; who has left the world better than he found it, whether by an improved poppy, a perfect poem or a rescued soul; who has never lacked appreciation of earth's beauty or failed to express it; who has always looked for the best in others and given the best he had; whose life is an inspiration, whose memory a beneditcion."

But a few days after receiving a card with "greetings of the season" signed by W. H. Bowker and containing the above quoted beautiful sentiment, news reached us of Mr. Bowker's death, which occurred January 4 at his home in Boston, Mass. Mr. Bowker was only 65 years old, was a graduate of the Massachusetts Agricultural College and had always taken a very deep interest in the agricultural progres of the country.

He was one of the foremost men in this country connected with the business of manufacturing commercial fertilizers, and we have never seen anything in his business methods that would show that he did not consider the farmers' interest and the permanency of agriculture the two things of greatest importance. Why should not all men take this view of life and strive to leave the world better because of their having lived in it.

A DOUBTING THOMAS

A subscriber from Vandalia, Mo., sends us a marked copy of one of the stock yard's dailies calling our attention to a report from La Crosse, Wis., showing the losses of the first large farmers' co-operative packing house established in this country. This friend with an air of "I told you so" seemingly is getting a lot of satisfaction out of the fact that because of bad management that a farmers' plant has sustained a loss during the first few months of its existence. He probably fails to consider that in private business or in stock companies there are failures sometimes. Like too many other farmers our friend depends for his information upon what he reads in his Stock Yards paper, a publication controlled and circulated in the interests of packers and not for a single minute in the interest of farmers and stockmen who are credulous enough to believe that the packers are bosom (?) friends of the farmers.

From reliable sources of information we learn that the principal cause of loss in the La Crosse co-operative packing plant was a mistake made in selecting a manager. When this plant was organized with a capital of $250,000 and with some 2,500 stockholders an independent packing plant was purchased to start with and the man who had been operating the plant was hired at a good salary as manager. The plant had been losing money before it was bought by the co-operative company and it was surely a mistake to place the man in charge of the new company who made a failure of his own business. Not only did they make that mistake but the farmers' company paid $122,000 for the old plant which experts have said was not worth more than $40,000. This is the same old story of farmers allowing themselves to be fleeced by promoters who have no interest in the farmer except to bleed him of his money. All over the United States promoters have played this same game in selling farmers machinery for creameries, canning factories, etc., at from two to four times their worth and then after the farmers were tied up with this expensive outfit they found they had neglected the first and all important thing in the organization, the supply of raw material. The fault is not in the co-operative principle but it is in the unbusiness-like way in which it is taken up and in allowing unscrupulous promoters to get hold of the business.

In this fight against the packers farmers should not allow the paid agents of the packers to get into the organization and defeat their efforts in co-operation. The packers in their own interests can well afford to aid in the promotion of co-operative plants if they can get their own mercenares in as managers and insure the failure of the business. This is about the cheapest and quickest way the packers can kill off legitimate competition.

If stock raisers win in this fight against the packers they must use every available line of attack. In the first place meat producers must change their present methods of selling everything they raise and they must supply the home demand without letting the packer get two profits out of it. There is not a single valid reason why farmers should not cure on the farm every pound of meat needed for home consumption and enough for local markets. At the recent Ham and Bacon Show held during Farmers' Week the quality of the meat ehibited was up to the standard in appearance of any of the packing house meat and the quality was better because as a rule the meat was better cured. This, then we consider the first point of attack and every farmer who raises hogs should kill and cure enough for his own use and whatever he can sell advantageously in his home town. Some may say this is too small a matter to have any effect but that is just where and why we farmers fail. There are some 214,000 farmers raising hogs in Missouri and if every farmer on the average would find a local market for the meat from only five hogs it would mean more than a million head, about one-fourth of all the hogs marketed in one year in Missouri. If the packers' toll is but a dollar a head that would mean a million less for the packers and a million more for the farmers.

In a recent issue we published the statement that the Cudahy Packing Company out of their profits last year distributed a stock dividend of 58 per cent. Last week's newspapers contain the statement that Armour & Company made their high record in profits last year. It is stated that their net earnings on a capital of $20,000,000 last year were $11,156,000 or 55.78 per cent and that the net earnings for the previous year, 1914, were 38.19 per cent. While thousands of farmers have struggled to make a bare living and few have done better than make a net return of 5 or 6 per cent on their investment here are the packers making net profits of 38 to 58 per cent. But that is not the worst of it for they use these millions squeezed out of hard working farmers to hammer down the prices of hogs and cattle at a time when nine feeders out of ten are losing money.

After the slaughtering of enough meat for the home supply and the local market then will come municipal abattoirs, and co-operative packing plants which we will discuss in some future article.

A SKEPTIC AMONG FARMERS

Skepticism and conservatism are probably the two greatest hindrances to progress among the hundreds of barriers we run up against. Farmers are skeptics because they have been so often fooled by the oily tongued society leaches who have so often preyed upon them and they are conservative in their views largely no doubt because their profits are so small that they have little money to invest in untried ventures. It is not surprising to us then when a proposition like the Missouri Land Bank is offered for the benefit of farmers that many of those who would be benefited by the proposed change on account of their skepticism and conservatism should oppose what is, in the light of other countries, bound to be of material help to them.

One of our readers, Judge James M. Rea of Andrew County, writes along this line as follows: "Farmers are both landed and landless, the latter in the majority. Then posing as farmers are the extensive holders of valuable farm lands who do not farm at all but simply farm farmers. Now, won't the Land Bank Bill, you so ardently espouse, play largely into the hands of the latter, the actual landed farmer next and the landless farmer not at all? It is bound to increase the price of land and the landless can't begin to buy land at present prices. So when your bill increases the price of land, rent will advance, wages fall, tenancy and homelessness increase, likewise the rush to the city, which in turn will decrease wages there, drive more men, women and children to the slums. Granting the bill and its adherents to mean well as can be they are on a false scent as farmers—actual farmers so often go.

If the bonds should be exempt from taxation in order to enable them to bear a less rate of interest, why would not exempting all notes and bonds from taxation let all borrowers enjoy a lower interest rate?

Wouldn't that reach landless debtors, tenants, hired hands, and others? Of course it would. Isn't the duty of officialdom to look out for the needy instead of the few?"

The weight of Judge Rea's argument seems to be that lowering the rate of interest will tend to increase the selling price of land and that high prices for land is a bad thing for the country. First, if those who believe in this theory, for it is only theory, have the welfare of the poor man at heart, then why do they not urge a law fixing a higher rate of interest? If a low rate of interest is a bad thing for the borrower then a high rate must be a good thing. We remember very distinctly when only about fifteen years ago our Missouri Legislature passed a law lowering the legal rate of interest to six per cent that about the same argument was made by the money lenders who opposed the change as the opponents of the Missouri Land Bank now make against a lower rate of interest for farm loans. But where could you find a man today who would risk his reputation by advocating raising the legal rate of interest in Missouri back to where it was twenty years ago? Now let us just say to those who sincerely want the farmer to succeed and who are theorizing against the Missouri Land Bank Bill that we who are favoring it are not theorizing or speculating about what it will do but we have plenty of the best of evidence to satisfy even the most skeptical, if he is really seeking the truth, that it will be a good thing for those who are struggling to own a home on a Missouri farm. Land credit based upon the same fundamental principles as the Missouri Land Bank, that is amortization and a low rate of interest, has been in operation in Germany for 150 years and if it is a bad thing why does not the German farmer demand a change? In France, Italy, Ireland, Autralia and New Zealand different forms of the rural credit system have been in operation for many years and who has ever heard of the farmers, the actual home loving, home owning farmers of any of those countries demanding that these laws be repealed. It is about time that theorists like our esteemed friend, Judge Rea, look for the evidence furnished by thousands of farmers of the countries mentioned above who have changed their position from peasant and tenant to landowner and then get in line for the first real measure offered in the interests of the landless class in Missouri, for a great many years. It is no use to obscure this question by raising other questions and by claiming that this measure does not go far enough, but let us adopt progressive measures, one at a time if necessary, for the defeat of one good principle helps to defeat others whenever they are proposed.

GETTING INTO THE FIGHT

(Continued from page 5)

County Farm Bureau—but please send Constitution and By-Laws and other literature describing your Farm Clubs."

Henry Reinwald, Saline County: "You've got the only farm paper I know of that is really standing up for the farmer. We are trying to organize a farmers' elevator at Sweet Springs at the present time. I am in favor of Farm Clubs. The Packers are sure fleecing the Producer and organization is our only hope."

Thus we could continue column after column—but our only purpose is to show our readers how firmly this great new movement has already gotten started throughout the state. In the above extracts we have eliminated most of the fine things which these men had to say about The Missouri Farmer—for without exception they agree that it is the only farm paper they know anything about that is putting up a real fight in the farmer's behalf and that every farmer in the state should get up behind it. Scores of farmers are asking for sample copies in order to raise clubs of subscriptions and this is true almost without exception of the men mentioned above. While it is impossible for us to print one-fourth of the letters we are receiving, we want a word from every farmer who reads the paper. We want to know where you stand from you direct.

WILL THE MISSOURI LAND BANK HELP THE BORROWER?

To The Missouri Farmer:

Believing your sincere desire is to furnish the Missouri farmers with information for the better uplift of and welfare of those engaged in Agricultural pursuits, and as I am one seeking more light in regard to the benefits to accrue to our farmers from supporting and voting for the proposed Gardner Land Bank Law to be submitted at the next general election. Some provision of state or government aid for obtaining a lower rate of interest than is obtained of the land sharks and bankers, while admitting land mortgages are the saftest and best of loans obtainable, is the most needed remedy to help the farming class. All efforts at providing relief for overcoming these extortions of high interest rates have failed in the past, to a close observer, by reasons of the certain obstructed hand of the banker which has prevented legislative action.

I had in possession until recently a printed pamphlet I prized highly, containing the many laws and reliefs given to the farmers of the many foreign countries at rates of interest bearing but 3½ to 4 per cent per annum for aid in the better development of farming interests of those European countries. I have long hoped for such aid in this country which has been promised for ten or more years past by legislative measures.

Now I utterly fail to see the desired relief in the proposed Gardner Land Loan Bank Bill as I cannot see that it materially reduces rates of interest, and the necessary measures of its providing sufficient amount of capital is so insignificant and slow in method to meet and relieve the vast mortgage indebtedness of $112,565,400 that is now the chief burden of our farming classes demanding relief from the extortionary interest rates which must be paid annually.

The Gardner Land Bill, if I understand it, exacts a rate of 5% interest (which should be 3½ or 4 per cent) and other conditions of cost including payment annually of a sinking fund for a stipulated loan to run 20 or 25 years, and the interest that might accrue from these sinking fund payments, these long-time loans would make the farmers loan cost him not less than 6½ per cent, and not sufficient means provided for to meet five per cent of farmers now burdened in our state with farm mortgages. We stand opposed to this pretended Gardner Land Bill for rural loan benefit without more light on the subject.

Nevada, Mo. John W. Layne.

Editor's Reply: In my long experience in dealing with different classes of men I think the fellow who is hardest to understand is the one who tells you he agrees with you in principle but can not go with you because you do not go fast enough or far enough to suit him. Our correspondent says farmers need relief but he can not see any relief in the Gardner Land Bank plan which we have been advocating for the last eighteen months. If our friend will tell us what rate of interest he has been paying and for what length of time he has been able to get a loan then we will be in a position to tell him just about how much this bill will help him, but as he does not do this we will discuss it from average data:

In the first place the state can not fix a rate of interest lower than what would have to be paid for money borrowed on state bonds. Interest rates are lower in the older countries of Europe than they are here and that is true whether it applies to the individual or to the Government. All we can hope to do for the borower here is to get the lowest rate and the best terms of payment consistent with the price of money in this country. The last bonds offered by the State of Missouri were drawn at 3½ per cent but when they were offered for sale the state could not find a buyer and before they were sold it was necessary to allow a commission which made them net 4 per cent. Now in the Gardner Bill the first bonds will be offered at 4.3 per cent. Until a market is established for these Land Bank bonds, we will perhaps be doing very well to sell the bonds at par drawing 4.3 per cent interest. If the bonds should sell for less the profits would go into the reserve fund and may be returned to the borrower under the provisions of the bill. The borrower is charged 4.3 per cent plus one-half per cent to pay expenses which makes his rate of interest 4.8. Interest rates on farm loans in Missouri for the last few years have been anywhere from 5 to 7 per cent and in most cases there is a commission charge when the loan is made and every time it is renewed. Every farm borrower can figure his own saving by taking the difference between 4.8 per cent and the rate he has been paying including the commissions.

But there is another advantage of more value perhaps than the lower rate of interest and that is in the long time and the privilege of paying a small annual payment on the loan After the farmer secures a loan under this plan he need not worry about its renewal for if he can meet the interest and the small annual payment, both of which amount to about what the average man now pays out for interest alone, he will extinguish the entire debt in twenty-five years. Is not that worth while? To have the debt wiped out in twenty-five years and the worry of renewal all removed with it?

Our friend seems to think we can not take care of but a small part of our mortgage indebtednes with the Gardner Land Bank. On the original capital of $1,000,000 the Bank Commissioner can sell bonds and loan to the amount of $40,000,000. And in addition to this he can issue bonds and loan to the amount of $30 for every dollar in the net reserve fund which means that approximately $50,000,000 may be loaned before it is necessary to increase the capital of the bank.

According to the last census report there was a mortgage debt of $112,565,403 on 64,028 farms from which exact data was obtained. But there were nearly 25,000 farms from which the information was not ascertained. It is reasonable to suppose that these farms were mortgaged as heavily as the ones listed. Then to this if we add the mortgages on the 82,958 farms operated by tenants the total mortgage debt on all farms in Missouri is probably not much short of $225,000,000. But let us not get alarmed because every one is not going to avail himself of the privilege of the State Land Bank at once. Already we see the good effects coming from a discussion of rural credits in lower rates of interest and more favorable terms and if we begin loaning money by the Missouri Land Bank it will make itself felt on all other farm loans made in the state. By the time we loan the maximum amount under this bill the United States Government will probably have a rural credit plan in operation or the state can enlarge its own bank and all legitimate borrowers will be taken care of.

The Missouri Land Bank plan is only a beginning as we have so often stated but the men who are too timid to take the first step can not hope to gain anything by opposing this bill because it does not go far enough. Let us take what is offered and when it is offered.

If you have any seed corn, cowpeas, soybeans, clover, timothy or any other farm seeds for sale, you should join our "Farmers' Market Club" at once. This will enable you to sell it quickly.

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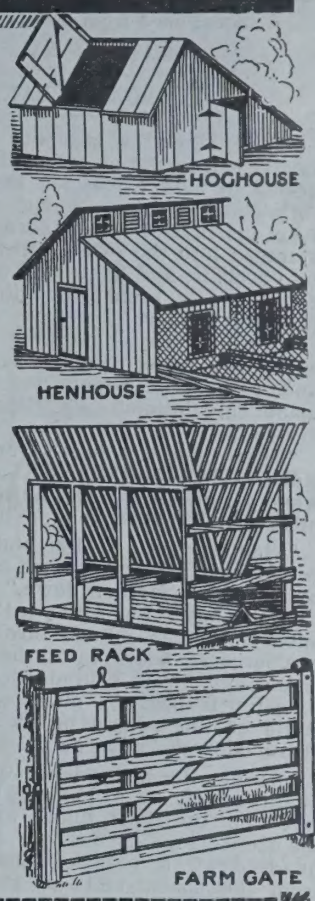

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The Plunderer

By ROY NORTON

Author of "The Garden of Fate"

(Continued from last issue)

CHAPTER XV

"MR. SLOAN SPEAKS"

Wow! Somethin' seems to have kind of livened up the gloom of this dump, seems to me," exclaimed Bill on the following morning, when returning from his regular trip underground, he stamped into the office, threw himself into a chair, and hauled off one of his rubber boots preparatory to donning those of leather.

Dick had been bent over the high desk, with plans unrolled before him, and a sheet of paper on which he made calculations, whistling as he did so.

"First time I've heard you whistle since we left the Coeur d'Alenes," Bill went on, grinning slyly, as if secretly pleased. "What're you up to?"

"Finding out if by sinking we couldn't cut that green lead about two hundred feet farther down."

"Bully boy! I'm with you!" encouraged the older miner, throwing the cumbersome boots into the corner, and coming over behind Dick, where he could inspect the plans across the angle of the other's broad shoulder. "How does she dope out?"

"We cut the green lead on the six-hundred-foot, at a hundred and ten feet from the shaft, didn't we? Well, the men before us cut on the five-hundred at a hundred and seventy from the shaft, and at two-twenty from the shaft on the four-hundred-foot level, where they stoped out a lot of it before concluding it wouldn't pay to work. It was a strong but almost barren ledge when they first came into it on the two-hundred-foot level. The Bonanza chute made gold because they happened to hit it at a crossing on the four-hundred-foot level. At the six-hundred, as we know, it was almost like a chimney of ore that is playing out as we drift west. If the mill had not been put out of business, we were going to stope it out, though, and prove whether it was the permanent ledge, weren't we?"

"Right you are, pardner."

"Well, then, at the same angle, we would have to drift less than seventy feet on the seven-hundred-foot level to cut it again, and at the eight-hundred-foot we'd just about have it at the foot of the shaft. Well, I'm sinking, regardless of expense."

"It might be right, boy, it might be right," Bill said, thoughtfully scowling at the plans, and going over the figures of the dip. "But you're the boss. What you say goes."

"But don't you think I'm right?"

"Yes," hesitatingly, "or, anyway, it's worth takin' a chance on. Bells used to say the mines around here all had to get depth, and that most of the ledges came in stronger as they went down. The Cross ain't shown it so far, but eight hundred feet ought to show whether that's the right line of work."

"How is the sump hole under the shaft?" Dick asked.

"Must be somewhere about seventy or eighty feet of water in it; but we can pump that out in no time. She isn't makin' much water. Almost a dry mine now, for some reason I don't quite get. Looks as if it leaked away a good deal, somewhere, through the formation. There wouldn't be no trouble in sinkin' the shaft."

"And thirty feet, about, would bring us to the seven-hundred-foot mark?"

"Yes."

"Then I'll tell you what I want to do: I want you to shift the crew so that there is a day and a night shift. The rebuilding of the dam can be put off for a while, except for such work as the millmen are agreeable to take on. I want to sink! I don't want to waste any time about it. I want to go down just as fast as it can be done, and when we get to the seven-hundred-foot, one gang must start to drift for the green lead, and the others must keep going down."

He was almost knocked over the desk by a rousing, enthusiastic slap on the back.

"Now you're my old pardner again!" Bill shouted. "You're the lad again that was fresh from the schools, knew what he wanted, and went after it. Dick, I've been kind of worried about you since we came here," the veteran went on, in a softer tone of voice. You ain't been like the old Dick. You ain't had the zip! It's as if you were afraid all the time of losing Sloan's money, and it worried you. And sometimes—now, I don't want you to get sore and cuss me—it seemed to me as if you mind wa'n't altogether on the job. As if the Cross didn't mean everything."

He waited expectantly for a moment, as if inviting a confidence; then, observing that the younger man was flushed, and not looking at him, grinned knowingly, and trudged out of the office, calling back as he went: "There'll be sump water in the creek in half an hour."

As if imbued with new energy, he ordered one of the idle millmen to act as stoker, if he cared to do so, which was cheerfully done, had the extra pump attached, saw the fire roaring from another boiler, and by noon the shaft rang with the steady throb of the pistons pounding and pulling the waste water upward. The last of the unwatering of the Cross was going forward in haste. By six o'clock in the evening he reported that soundings showed that the map had not been checked up, and that the shaft was seven hundred and ten feet deep, and that they would commence a drift on the seven-hundred-foot mark the next day.

Dick was awakened at an early hour and found Bill missing. He went over to the hoist house, where a sleepy night man, new to the hours, grinned at him with a pleasant: "Looks like we're busy, just—the—same, Mr. Townsend! The old man"—the superintendent of a mine is always "the old man," be he but twenty—"left orders last night that when the water was clear at seven hundred feet he was to be called. He kicked up two of the three men at four this mornin.' and they're down there puttin' the steel into the rock ever since. Hear 'em? He's makin' things hump!"

Dick leaned over the unused compartment of the shaft, and heard the steady, savage chugging of the drills. Bill was "makin' things hump!" with a vengeance.

A man who had been sent to the camp for the semi-weekly mail arrived while the partners were at breakfast, and the first letter laid before them was one with a New York postmark, which Dick read anxiously. It was from Sloan, who told him that he had been unexpectedly called to the Pacific coast on a hurried trip, and that, while he did not have time to visit the Croix d'Or, he very earnestly hoped that Dick would arrange, on receipt of the letter, to meet him in Seattle, and named a date.

"Whe-e-w! You got to move some, ain't you? Let's see, if you want to meet him you'll have to be hittin' the trail out of here in an hour," said Bill, laying down his knife and fork. "What do you s'pose is up? Goin' to tie the poke strings again?"

Dick feared something was amiss. And he continued to think of this after he had written a hasty note to Joan, telling her of his abrupt absence, and that he expected to return in a week. He pondered for a moment whether or not to add some note of affection, but decided that he was still under her ban, and so contented himself with the closing line:

"I am following your advice. We are sinking!"

He had to run, bag in hand, to catch the stage from Goldpan, and as it jolted along over the rough passes and rugged inclines he had a medley of thought. Sometimes he could not imagine why Sloan had been so anxious to talk with him, and in the other and happier intervals, he thought of Joan Presby, daughter of the man whom he had come to regard as antagonistic in many ways.

The confusion of mind dwelt with him persistently after he had boarded the rough "accommodation" that carried him to the main line, where he must wait for the thunderous arrival of the long express train that was to carry him across the broad and splendid State of Washington. Idaho and Oregon were left behind. The magnificent wheat belt spread from horizon to horizon, and harvesters paused to waive their hats at the travelers. The Western ranges of the Olympics, solid, dignified, and engraved against the sky with their outline of peak and forest, came into view, and yet his perturbation continued.

He saw the splendid panorama of Puget Sound open to his view, and the train, at last, after those weary hours of jolting, rattled into the long sheds that at that time disgraced the young giant city of the Northwest. It was the first time he had even entered its shadows, and as he turned its corner he looked curiously at the stump of a tree that had been hollowed into an ample office, and was assailed by the strident cries of cabmen.

"The Butler House," he said, relinquishing his bag into the hands of the first driver who reached him, and settled back into the cushions with a sense of bewilderment, as if something long forgotten had been recalled. He knew what it was as he drove along in all that clamor of sound which issues from a great and hurrying city. It was New York, and he was in the young New York of the Northwest, with great skeleton structures uprearing and the turmoil of building. Only here was a difference, for side by side on the streets walked men clad in the latest fashion, and men bound to or coming from the arctic fields of gold-bound Alaska. Electric cars tearing along at a reckless speed, freight wagons heavily laden, newsboys screaming the call of extras, and emerging from behind log wagons, and everything betokening that clash of the old and the intensely new.

At the Butler House the man behind the desk twirled the register toward him, and assigned him a room.

"Sloan?" he replied to Dick's inquiry. "Oh, yes. He's the old chap from New York who said he was expecting someone, and to send him right up. I suppose you're the man. Here, boy, show Mr. Townsend to five-fifty. Right that way, sir."

And before his words were finished he had turned to a new arrival.

The clamor of the streets, busy as is no other city in the world busy when the season is on, was still in his ears, striking a familiar note in his memory, and the modernity of the elevator, the brass-buttoned boy, and the hotel itself brought back the last time he had seen Mr. Sloan, and the day he had parted from his father in that office on Wall Street. He found the Wall Street veteran grayer, much older, and more kindly, when he was ushered into the room to receive his greeting. He subsided into a chair, but his father's old-time friend protested.

"Stand up!" he commanded, "and turn around, young fellow, so I can see whether you have filled out. Humph! You'll do, I guess, physically. I don't think I should want to have any trouble with you. You look as if you could hold your own most anywhere. I'm glad. Now, sit down, and tell me all about the mine."

He listened while Dick went into details of the work, sparing none of the misfortunes and disappointments, and telling of the new method employed. He was interrupted now and then by a shrewd question, an exclamation, or a word of assent, and, after he had finished the account, said: "Well, that is all there is to report. What do you think?"

"Who is Thomas W. Presby?" Sloan's question was abrupt.

"The owner of the Rattler, the mine next to us."

"He is?" the question was explosive. "Ah, ha! The moth in the closet, eh? So that accounts for it! I spent a hundred dollars, then, to good purpose, it seems to me!"

Dick looked an intent and wondering question.

"An agent here in Seattle wrote me that they had written you, making an offer of sixty thousand dollars for the property—yes—the same one you wrote me about. He said they had reason to believe I was the financial backer for the mine, and that they now wished to deal with me, inasmuch as you might be carried away by youthful enthusiasm to squandering my hard-earned cash. I wrote back that your judgment satisfied me. Then, just before I left, I got a flat offer of a hundred thousand dollars for the property in full, or seventy-five thousand for my share alone. It set me to thinking, and wondering if some one wasn't trying to cut your feet from under you. So, having business in Portland, I came on up here, and got after this agent."

Dick had a chill of apprehension. He knew before the loyal old man had proceeded half-way what to expect.

"It cost me a hundred dollars in entertainment, and a lot of apparent readiness to talk business, to get him confidential with me. Then I got the name of the would-be purchaser, under injunctions of secrecy, because those were the agent's positive instructions. The man who wants to buy is Presby!"

For one black, unworthy instant, Dick looked out of the window, wondering if it were possible that Joan had known of her father's efforts, and had withheld the information. Then the memory of that gentle face, the candid eyes, her courageous advice, and—last of all—the kiss and prayer on her lips, made him mentally reproach himself for the thought. But he remembered that he still owed affection and deference to the straunch old man who sat before him, who had been his benefactor in an hour of need and backed faith with money.

"Well, sir," he said, turning to meet the kindly eyes, "what do you think of it?"

"Think of it? Think of it?" Sloan replied, raising his voice. "I'll tell you my answer. 'You sit down," I said, 'and write this man Presby that I knew no one in connection with the Croix d'Or but the son of the man who many times befriended me, in desperate situations when I needed it! That I was paying back to the son what I was unfortunately prevented from paying back to the father—a constant gratitude! That I'd see him or any other man in their graves before I'd sell Richard Townsend out in that way. That I'd back Dick Townsend on the Croix d'Or as long as he wanted me to, and that when he gave that up, I'd still back him on any other mine he said was good!' That's what I said!"

He had lost his calm, club poise, and was again the virulent business man of that Wall Street battle, waged daily, where men must have force or fail to survive. Dick saw in him the man he was, the man who at time had shaken the financial world with his desperate bravery and daring, back in the days when giants fought for the beginnings of supremacy. He felt very inexperienced and young, as he looked at this veteran with scars, and impulsively rose to his feet and held out his hand. He was almost dumb with gratitude.

"I shouldn't have asked you to say so much," he said. "I am—well—I am sort of down and out with it all! I feel a little bit as I did when the Cornell eleven piled on top of me in the annual, when I played half-back."

"Hey! And wasn't that a game!" the old man suddenly enthused, with sparkling eyes. "And how your father and I did yell and howl and beat the head of those in front! Gad! I remember the old man had a silk hat, and he banged it up and down on a bald head in front until there was nothing but a rim left, and then looked as sheepish as a boy caught stealing apples when he realized what he had done. Oh, but your Daddy was a man, even if he did have a temper, my boy!"

His eyes sparkled with a fervid love of the game of his college days, and he seemed to have dismissed the Croix d'Or from his mind, as if it were of no importance. Nor did he, during the course of that visit, refer to it again. He made exception, when he shook hands with Dick at the train.

Don't let anybody bluff you," he said. "Remember that a brave front alone often wins. If you fail with the Croix the world is still big, and—well—you're one of my legatees. Good-by. Good luck!"

Again Dick endured the rumbling of trains through long hours, the change from one to another at small junctions, the day and night in a stage coach whose springs seemed to have lost resiliency, and the discourse of two drummers, Hebraic, the chill aloofness of a supercilious mining expert new to the district, and the heated discussions of two drill runners, veterans, off to a new field, and celebrating the journey with a demijohn. The latter were union men, and long after he was tired of their babel they broached a conversation which brought Dick to a point of eager listening.

"Yes, you see," one of the men asserted; "they got the good on him. Thompson had been a good delegate until he got the finger itch, then he had an idea he could use the miners' union to scratch 'em. He held up one or two small mines before the big guns got wise. That got him to feelin' his oats, and he went for bigger game."

"But how did they get him?" the other runner insisted.

"They got him over here to where we're goin'—Goldpan. He held up some fellers that's got a mine called the Craw Door, or somethin' like that. Fetched three of his pals from Denver with him. They called 'emselves miners! God! Miners nothin'! They had worked around Cripple Creek long enough to get union cards, but two of 'em was prize fighters, and the other used to be bouncer at the old Alcazar when it was the hottest place to lose money that ever turned a crooked card. I remember there one time when—"

"Nobody asked you about that," growled the other man. "What I'm interested in is about this big stiff, Thompson."

"Him? Oh, yes. Where was I? Well, he fixed things for a hold-up. Was goin' to get these fellers at the Craw Door to untie their pokes, but they don't stand for it. He packs a meetin' with a lot of swampers that don't know nothin' about the case, and before they gets done they votes a strike, and an old feller from this Craw Door gets his time. Gets kicked to death, the same as they uster in Park City when the Cousin Jacks from the Ontario cut loose on one another. The Denver council takes cawgnizance of this, and investigates. It snoops around till it gets the goods. Then—wow! bing! goes this here Thompson. They sue him themselves, and now he's up in Canon City, a-lookin' plaintive like through these things."

He held his knotted, rough fingers open before his face, and jerked his head sideways, simulating a man peering through penitentiary bars. Then, with a roar, he started in to bellow, "The union forever—hooraw, boys hooraw!" in which his companion, forgetting all the story, joined until it was again time to tilt the wicker-covered jug.

And so that was the end of Thompson and presumably the strike, Dick thought, as he settled back into the corner he had claimed. And it was easy to see, with this damning evidence to be brought forward, that Bells Park's murderers would pay, to the full, the penalty. For them, on trial, it meant nothing less than life. He was human enough to be glad.

The stage rattled into Goldpan, and, stiff and sore from his journey, he began his tramp toward the trail of the cut-off leading homeward: He stopped but once. It was in front of the High Light, where a small scrap of paper still clung to the plate glass. On it was written, in a hurried, but firm and womanly, handwriting:

This place is closed for good. It is not for sale. It has held hell. Hereafter it shall hold nothing but cobwebs. Lily Meredith.

The date was that of the tragic night, the night when Bells Park, fighting for those on whom he had bestowed a queer, distorted affection, had been kicked to death by the ruffians now cowering in a distant jail!

Verily the camp and the district had memories for him as he trudged away from its straggling shanties, and filled his lungs with the fresh, free air from the wide, rugged stretches beyond. When he came through the borders of the Rattler he looked eagerly, insistently, for a glimpse of his heart's desire, and thought, with annoyance, that he did not so much as know the cabin which she called home. But he was not rewarded. It was still the same, with no enlivening touch of form or color, the same spider-web tramways debouching into the top of the mill, the same sullen roar and rumble of falling stamps, the same columns of smoke from tall chimney and humble log structure, alike, and the same careless clash of the breakers.

Bill came hurrying down the trail to meet him, waving his hat, and shouting a welcome. Up at the yard the smith held a black hand and muscled arm up to shade his eyes from the last sunlight, and then shook a hammer aloft. From the door of the engine room the man who had been Bells' assistant bawled a greeting, and the fat cook shook a ladle at him through the mess-house window. It all gave him an immense and satisfactory warmth of home-coming, and the Croix d'Or, with its steadfast, friendly little colony, was home in truth!

"We're in sixty feet on the seven-hundred-foot," Bill grinned, with the air of one giving a pleasant surprise, "and say, boy, we've hit the edge of ore. You were all right. The green lead is still there, only she looks better to me than she did before, and I know rock, some."

There was nothing wanting in the pleasure of his return, and the last addition to that satisfactory day was a note he found, lying on the very top of other letters awaiting him. It was from Joan Presby, and Bill, starting to enter the office, saw his partner's face in the light of the lamp, smiled affectionately, and then tiptoed away into the darkness, as if to avoid intrusion at such a time.

(Continued in next issue)

Control of the Bag or Basket Worm.

If you would save the arbor vitaes, red cedars, maples, and other trees and shrubs, pick off the long brown slender silken cases or cocoons which dangle from their twigs and branches, and burn them. This will destroy the well-known bag or basket worm which is now in the egg stage within the cases, according to T. J. Talbert of the Missouri College of Agriculture. This pest is often a great deal more destructive than canker worms, San Jose scale, and other pests. Each bag or case may contain from 700 to 1200 eggs which during next May an June will hatch into as many hungry caterpillars.

The bag or basket worm is one of the most common and injurious insect pests in the parks and plantings of the larger cities and towns of Missouri. In many cases it is doing more harm to shrubbery and shade trees than all other insects combined. If the proper measures of prevention are put into practice, it is, however, one of the easiest insects to control.

A simple way of destroying the pest is to collect the cases or bags during the fall and winter and burn them. If this work is thoroughly done, the eggs of the insects will be destroyed and the pest may be completely stamped out.

Since the caterpillars that hatch from bag-worm eggs are leaf-eaters, they may be destroyed by the use of arsenical poisons. When the worms are small or just emerging from the bag-like cases during May and June they may be killed easily by spraying the foliage thoroughly with arsenate of lead paste at the rate of 3 pounds to 50 gallons of water. This spray should be applied just as soon as the pest begins to feed in the spring. Later sprays may require more poison. During the summer, sticky bands placed around the trunks of the trees will protect them from the caterpillars which wander at this season.

The kind of a fight which The Missouri Farmer has been making during the last few months enables us to see what kind of stuff there is in our readers. It shows up those who are willing to fight—and those who are "past kicking"—who are content to keep on drifting down stream.

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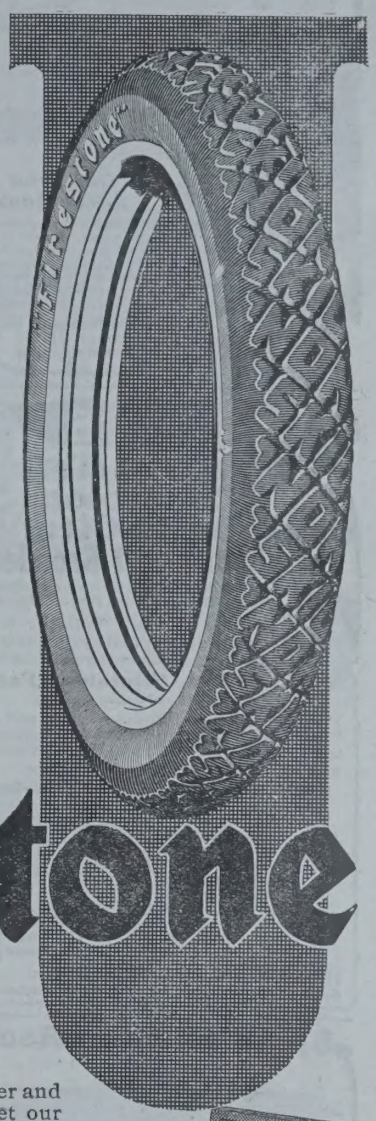

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HANDLING THE FARM FLOCK

Every line of work has contributed its part to the advancement and civilization of the world, but we feel that poultry has done more than many other things, for the sale of poultry and eggs has made it possible for many boys and girls to go to school, who would not otherwise have had the opportunity.

When this country was new, the hen was of great value for she furnished food to the pioneer to tide him over in time of famine between feasts. As the country becomes more densely populated and the method of farming changes from the extensive to the intensive, we find the hen and her products are all the more important.

Last year the poultry and poultry products in the State of Missouri amounted to more than $52,000,000, or more than a million dollars each week, and we say without hesitation that it is the best method of distributing money there is in existence, for practically every dollar of it goes to the exact place where it is needed, and that is to keep up the expenses of the home. The fowl is also more universally grown by people of all nations and climates than any other animal. Recognizing the importance of poultry and its general distribution, it is well to give its production some study. The poultry breeders of the state have recognized the value of organization and have therefore organized the Missouri State Poultry Association which is composed of 6,000 poultry breeders who now bear the distinction of having the largest state organization in the United States.

The great value of poultry and eggs does not come from the exclusive poultry farms, but from the flocks upon farms where other lines of work are carried on. There is no farm properly equipped without a nice flock of hens. Just how large the flock should be depends upon many conditions, the principal ones being: The amount of range the birds have and the amount of feed they get on the range.

The greatest value of a flock comes from the birds getting their living by picking up shattered grain which would otherwise be lost, or by catching insects which are injurious to crops.

Various estimates have been made as to the number of hens which should be kept on a farm. As the number depends greatly upon the stock fed about the barn, we believe that this will partly determine the number of fowls kept. Under ordinary conditions where the fowls have the freedom of the farm and are permitted to get the shattered grain, leaves of hay, etc., about the barn, we believe that about 25 hens for each horse and cow kept is the most economical number to keep.

One mistake too often made is keeping unprofitable birds in the flock. All birds with crooked backs, wry tails severely injured in any way or very old birds should be culled from the flock for they are not usually profitable and therefore reduce the profits of the rest of the flock.

The old method of hatching from a promiscuous flock is rapidly disappearing. The better plan is to select a pen of the best females and place them in a pen with a good male and do all the hatching from this pen. Where the flock is reproduced by doing the hatching with hens, we find this error often made. The hens which lay through the winter season are the best hens on the farm and are the first to go broody in the spring. About the time these hens go broody, the hens which loafed all winter have begun to lay. Therefore, the farmer being anxious to hatch some early chicks, sets the good hens on the poor hens' eggs. The better plan is to select the breeders at this season and at breeding time place them in a pen and make the poor layers raise chicks from the good winter layers. If this is done, no male is required with the outside flock which reduces the cost of feeding, and if breeding males are purchased each year, much will be saved for the number of males will be reduced. Then, too, the same mating will do for two years.

The two-year old hen is the best age for breeding purposes. Her chicks are larger and stronger than those from pullets.

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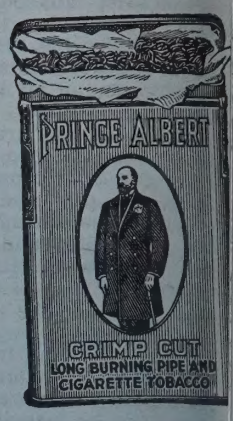

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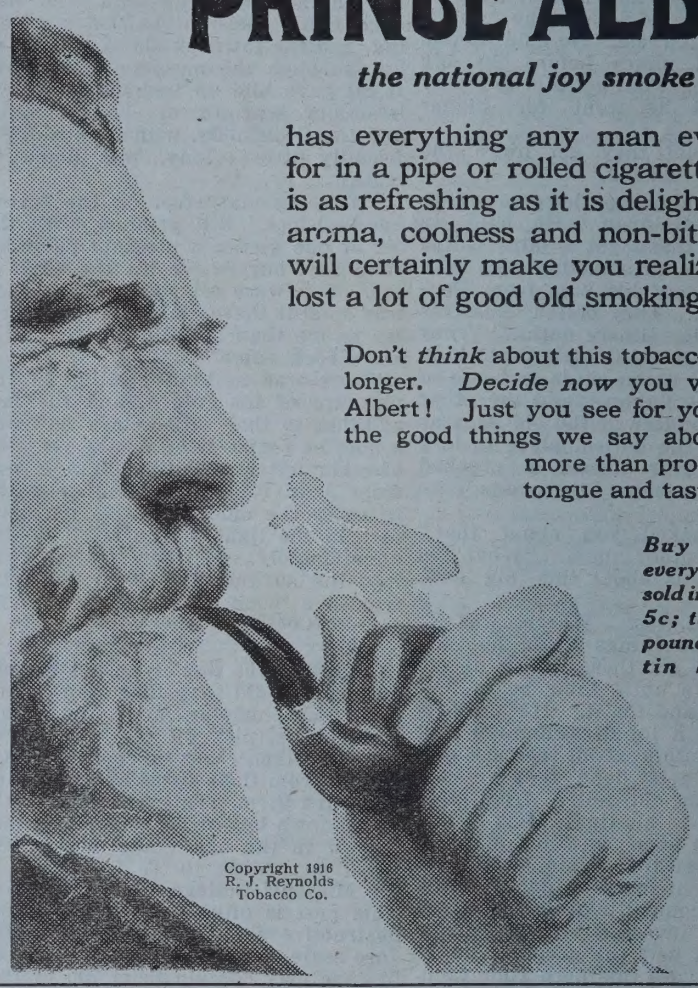

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Fifteen females in most breeds can be mated with one male. A male placed in a pen where there has been no male, the eggs will become fertile in about three days and will remain fertile for about three weeks after the male is removed.

The only serious problem connected with this method is balancing the ration for the hens in the pen. The egg is made in three principal parts, the yolk, the white, and the shell, and made out of three different kinds of feed. The yolk is made principally of fat-forming foods, the white of protein and the shell of minerals, principally lime. The lack of either kind of feed will limit the egg yield. The tendency too often is to feed too much yolk material and not enough lime.

The following shows an unbalanced and a balanced ration for egg production:

Unbalanced Ration	Yolks	Whites
100 lbs. Corn	255	134
100 lbs. Wheat	243	182
20 lbs. Oats	39	31
20 lbs. Bran	31	41
20 lbs. Shorts	41	44
20 lbs. Corn Meal	50	27
Totals	659	459

Balanced Ration	Yolks	Whites
100 lbs. Corn	255	134
100 lbs. Wheat	243	182
20 lbs. Oats	39	31
20 lbs. Bran	31	41
20 lbs. Shorts	41	44
20 lbs. Corn Meal	50	27
20 lbs. Beef Scraps	21	221
Totals	680	680

It will be seen that the unbalanced ration produced more fat than albumen and would therefore be a good fattening ration. The grain (corn and wheat) should be fed in the litter, one pint in the morning and one quart in evening, to ten hens if penned. Amount of range, size of breed, season, etc. will influence quantity of feed consumed. As fat or yolk material produces heat, it should be increased during winter and decreased in summer.

The mash should be in hopper where the hens can eat at any time. Oats may be fed with either grain or mash. One-half pound of fine table salt and two pounds of fine charcoal should be added to each one hundred pounds of mash. Grit and oystershell or ground limestone should be before the birds at all times. Water serves the two-fold purpose of being made part of the egg and softening the feed for digestion. Therefore, fresh water should be before the fowls constantly.

C. T. Patterson, Pathologist.
Missouri State Poultry Exp. Station
Mountain Grove.

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THE POULTRY MITE

Everyone knows the gray poultry mite which takes on a distinct reddish cast after the meal of blood. It is commonest in dark, damp, dirty poultry houses where it thrives upon filth and the logical remedies recommended by T. J. Talbert, of the Missouri College of Agriculture, are sunshine, ventilation, and cleanliness. The hen house should be so constructed that it can easily be kept clean and that there will be no cracks or crevices in the roosts or elsewhere to furnish hiding places for the mite during the day time when they are not on the fowl

ey feed at night, crawling from wl to fowl, so that one infested bird ay introduce them into the entire ck.

Sunshine is one of the best disinfects as well as a great foe to the te, and it should be given access to st as much of the hen-house as posle. Regular spraying with kerone emulsion, strong tobacco solns, or commercial stock dips will lp greatly. Commercial lime sulur and miscible oils put on the arket in such form that they will x readily with water for use in raying orchards are also helpful in mbating the mite.

One application is not enough and e spray should be repeated in about week in order to kill the young hich may have developed from the gs laid about the roosts or in the h before the first spraying. It ould be applied with sufficient force penetrate all cracks and crevices. Kerosene emulsion properly prered at home will give as good reits as anything which can be purased. Mr. Talbert gives the followg directions for making it: "Disve half a pound of laundry soap, or ound of lye soap, in a gallon of soft ter; take the solution off the fire d add two gallons of kerosene bee cooling. Mix them thoroughly by urning ten or fifteen minutes and e one part of the emulsion to eight nine parts of water when ready to ply.

One part boiled lime sulphur made actly as for orchard spraying may mixed with eight parts of water, d the commercial stock dips may be ed in accordance with printed dictions usually furnished with them. rong tea made by boiling tobacco ems in water gives good results, and itewashing should not be neglected. Spray pumps of many different sizes d types will give good results. cket pumps, knapsack sprayers, and tomatic sprayers will be useful in e garden and orchard as well as in e hen-house, although a longer hose extension rod will be needed in the chard. A barrel pump or power rayer may be used with good results it is already on hand, but is more pensive than the average farm eds for hen-house work.

SIZE AND SHAPE OF AN EGG

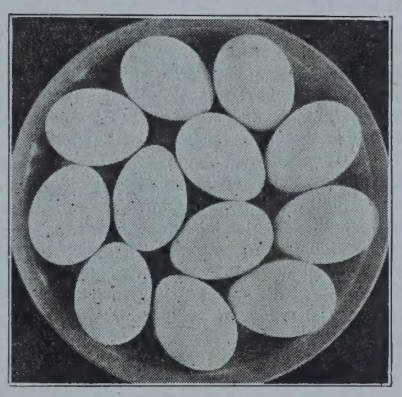
Much has been said about high cords made by hens in the egg layg contests as well as records made hens in the yards of poultry breeds. The number of eggs produced is t all that should be considered, for egg to be of value should be of od size and shape, and be covered th a sound, smooth shell.

It is indeed very fortunate for the ultry industry that hens' eggs are l so near the same size. The eggs the different breeds in the contest this place varied in weight from 2.03 ounces to 2.29 ounces, while the hens themselves averaged in weight from 3.12 pounds to 6.36 pounds, and strange as it may seem, the hens whose eggs averaged 2.03 ounces averaged 5.75 pounds, while the ones whose eggs averaged 2.29 ounces averaged only 3.40 pounds each. In fact, we find that the size of the hen has little or no influence on the size of an egg. A four pound hen will lay an egg the same size as an eight pound hen.

After studying the poultry business from every angle, one recognizes the fact that the size and shape of an egg is the one thing all breeders can work for, for it is the only thing in common with all breeds and varieties.

In poultry shows, the breeders of the various breeds and varieties cannot enter a free-for-all competition on size, shape, color, comb, earlobes, shanks, or any other characteristic, for they are not the same with different breeds, but the size and shape of all eggs should be the same. Therefore, this is one of the most important points to be considered in breeding.

An ideal egg should be an oblong oval slightly tapering from one end to the other and should weigh 2 1-6 ounces, or 26 ounces to the dozen. Egg markets require them to weigh at least 24 ounces to the dozen. Eggs of this size and shape are the correct size to fill the standard egg case filler, and if incubated, will give better results than where various sizes and



shapes are incubated together. The old idea that round eggs hatch pullets and the long eggs hatch cockerels is incorrect, for a hen lays uniformly shaped eggs regularly which hatch approximately an equal number of cockerels and pullets.

Nothing can be told from the size and shape of an egg whether it is fertile or infertile, or whether it would hatch a cockerel or a pullet, but the shape of an egg is a characteristic which is transmitted to the offspring. Therefore, use as breeders only the hens which produce eggs of correct size and shape.

C. T. Patterson, Pathologist,
State Poultry Experiment Station,

A Couple of Old "War Horses"

"I am an old man 74 years old—deaf as a post and my left side was put out of business by a bad fall, so you see I can't help very much. But here's my check for two dollars. I've always been in favor of farmers and stock raisers organizing. I inclose the names of some of my neighbors so you can send them a copy of your fine paper. I am for you and your great cause." J. H. Hyland, Saline County.

"I inclose my check for the paper. I am an old man past 71 years old and all done up with rheumatism, so I can't do much in getting up a Farm Club. But you are surely on the right road. The time is here when farmers must wake up and do something. As your friend Lyon says, everybody is organized except farmers and Indians." Stephen Demarest, Linn County.

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BRONZE TURKEYS AND BUFF ORPINGTONS

A few prize winning Mammoth Bronze Turkey toms and hens for sale. Also ngle Comb Buff Orpingtons. Eggs in season.

STONE, The Mammoth Bronze Turkey Man,
Route 6 COLUMBIA, MISSOURI.

By Old Jim Riley

I am sure that Gen'l Sherman never had tha "grip", 'cause if he had a had, he wouldn't have sed what he did about war. Talkin' about things that are ketchin, judgin' by tha things that have bin goin' on at tha White House during the last couple uv years, it must be as full uv love germs as a hound pup is uv fleas in August. It's about time for the ground hog filosofers to crawl out uv their holes agin.

BUCKSHOT BY THE PROFESSOR

After all, I'd just about as leave take my chance in the trenches over in Europe as to go up against an infernal case of "grip" over here in the peace loving U. S. A.

Everybody dead over in your school district—or just sleeping? Why not organize a Farm Club? Why not stir things up a bit?

The only time you can tell that some people are alive is when you cross the path of their selfishness. Then they raise a "holler" that you can hear over in the next township.

I don't belong to the "peace at any price" bunch by a whole lot but on the other hand, I don't want to see this Country converted into a place where the rattle of the sword drowns out the whirr of factory wheels and the music of the self-binder.

Have you sent the editor that dollar for three year's renewal yet? Better do it today—because then he'll cancel all past due subscription and start you into the New Year with a clean bill of health. Just think! For one dollar you will be able to read my "dope" until January 1918! Ain't that a bargain?

No other set of men have the resources and the power possessed by the farmers of the U. S.—and when they permit the Packers or anybody else to make a "door mat" of them, it's their own fault. They are really not entitled to much sympathy.

Seems to me the government might give a fellow who goes up against the "grip" and comes out of it alive, some kind of a medal like they do over in Europe when a fellow gets his lungs shot out—or has been run over by a 42-centimeter gun or something like that.

As long as blood is thicker than water, just so long will it be mighty difficult for a whole lot of perfectly good people to keep their neutrality on straight.

You can't raise a full crop of anything unless you get a full stand. It looks like any blamed fool ought to know this—and yet when you consider how many still depend on the "good lookin' ears," apparently a lot of them don't.

A fellow who lives in the woods way down on the Arkansas line sent the publisher a dollar the other day and said, "You can't tell me nuthin' new about farmin' and I don't really need your paper—but I just want to see what that fool professer feller and old Jim Riley will have to say durin' the next three years." Well now, if it wasn't for one thing, I'd feel real complimented. This man shows a high order of ntelligence—but I don't mind telling him that there isn't a ringboned, knock kneed, flea bitten old blind mule in creation that I wouldn't rather be hitched up with than old Jim Riley.

Makes Hens Lay

Many who have used Dr. Hess Poultry Pan-a-ce-a say that it makes hens lay better than any other tonic they have ever used. Better drop a line to Dr. Hess & Clark, Ashland, Ohio, and ask them for full particulars. Mention The Missouri Farmer.

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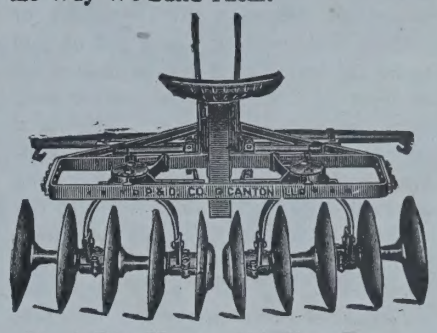
Reversible Disc Harrows

Especially adapted to work in vineyards and orchards, and are just as efficient as the ordinary harrow in the open field. They are simple and very strong. "It's the Way We Build Them."



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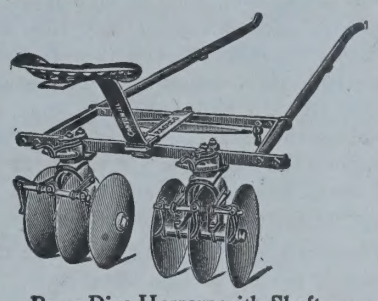
Gangs can be quickly reversed for out or in-throw simply by releasing a lever strap, swinging gangs around and replacing strap. Solid or cut-out blades. The No. 2 Reversible is made with short, medium or long frame, and with 8, 10 or 12 discs, 16, 18 or 20 inch. The No. 3 Reversible is made with a short frame, 6 discs, and 16, 18 or 20-inch discs. Tongue Truck is furnished when wanted. It can also be equipped with scrapers and Bull Tongue Center Cut.



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The P & O Pony Disc Harrow is built especially for use on truck farms, in orchards and vineyards, and for general discing where a small harrow is wanted. Can be furnished with pole or shafts, and with 6 discs, 16, 18 or 20-inch. Equipped with scrapers.

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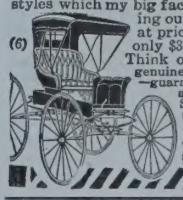

When writing advertisers please mention The Missouri Farmer.

DRY SALT MEAT CURING

We prefer a hog that will dress at least 200 pounds, as that gives us a ham of good size and quality. The dressed hogs are not cut up until entirely cooled out, but we always avoid having them frozen. When the meat is cut and trimmed it is scattered out on boxes or benches and dry salt sown over it, not much, but enough to just whiten it well. This is to start drawing the blood from the lean meat and the joints, which it will do in one or two days, and then the real work of salting is done. We use a tub or box to do the salting in, and in this place at least half a bushel of coarse salt. Begin with the shoulders, placing a shoulder in the tub or box and rubbing it all over with salt, skin side and all, working the salt well into the shanks, ends and sides of the piece, taking plenty of time to do the work thoroughly. As each piece is salted, it is packed down in the box or cask, if the latter be sure to provide holes in the bottom for drainage, as the soaking of the bottom pieces in the bloody brine drawn out by the salt, always means strong meat.

Before placing any meat in the cask or box, put about half an inch of salt over the bottom, and, as each layer of meat is packed scatter salt liberally all over it, filling the cracks well. Pack shoulders first, hams next, and bacon sides on top, and less salt may be used on the sides, but it is well to remember that meat is all worth 12 to 15 cents per pound and salt costs at most $1.50 per 280 pound barrel.

We have no rule as to how long the meat is to lay in this "first salt;" if small two weeks will do, if larger twenty to twenty-five days, and at the end of this time it is taken up, the old salt shaken off and shoulders and hams re-salted exactly as was done the first time, only that we do not use nearly as much salt, the sides not being resalted at all.

Ten to fifteen days is the usual time the meat is allowed to lay in "second salt;" if allowed to lay longer no harm will result, but we think that too long a time in second salt tends to make ham and shoulder meat rather dryer when cooked.

When hanging the meat up to smoke we brush off all loose salt as this prevents the smoke coating the meat well and it is this coating of smoke that helps preserve the freshness of the meat as well as to protect it from insects.

We use maple, hickory or walnut wood to smoke with and build smoke fires every morning for three weeks or more, or until the meat is uniformly smoked a light brown.

Before the flies come in spring we smoke another day, and on the next day take down the meat, wrap each piece well in paper, place in sacks, two to four pieces in a sack, and hang the sacks to the rafters in the smoke house.

This is all; no borax, no saltpeter, no sugar, no pepper, nothing but meat and salt, and in more than fifty years experience, never a spoiled pound of meat. Once in a while we practice some new method with a few pieces, but the meat cured by the old process, which has been used in our family for more than 100 years, is so much better flavor that we never have found anything to beat it. C. D. Lyon.

Some Helps for Butchering

Lever for Hanging: Mr. Ed. F. Neidel of Dittman, Mo., writes that he has found the following contrivance a great help. A good solid post set very firmly in the ground with two cross pieces fastened at right angles near the top to hang hogs on. Fasten a lever pole on top of post, the pole fastened on with iron pin so it will turn from side to side. A short chain with hook is fastened to short ends of lever pole, then by fastening the chain to gambrel stick one man at the long end of the lever can lift a big hog and swing it either way so it can be hung on the cross arm.

[Mr. Neidel sends a sketch of this arrangement but it is not sufficiently plain to reproduce. But we understand it to be two strong 2x4 pieces bolted at right angles near top of post. With this arrangement four hogs, one to each arm could be hung around the post or more if the cross arms were strong enough to hold them.]

Galvanized Barrel for Heating Water: Mr. F. D. Hussey of Platte County writes that he has found that one man can handle the butchering in this manner: Have a platform for scraping made on runners or a stone boat will do. Get a galvanized barrel then have a blacksmith make out of an old wagon tire a band that will go over the barrel say one-third up—not quite to large part. Then have iron legs welded on this band so it will hold the bottom of barrel high enough to put a fire under it. Next take three 2x6 pieces bolted together at the top which makes a tripod to set over the barrel. Get a small block and tackle (the wire stretcher kind) and fasten to top of tripod. With the block and tackle one man can then lift the hog in and out the barrel with ease. When hog is ready for hanging raise with block and tackle and swing to hanging pole one end of which it attached to the tripod. By using two chains one for holding pole when first hanging and the other on pole when one is removed and slipped along the hanging pole.

By sending us a dollar for three years renewal at once, we will cancel all past due subscription and date you three years ahead from this time. That will start you in with a clean slate—and you will be contributing your mite toward the great fight we are making for a "square deal" for the farmer.

LYON'S PRACTICAL FARM PAPERS

Here it is 1916 and no severe winter weather yet, but the weather bureau tells us that the average temperature for December was the lowest in ten years, that for 1914 excepted.

The Ohio river reached near the danger line of 50 feet at Cincinnati twice during December, once about the 15th and again on the 31st, so it may be seen that we have had some rain, yet we have had so little hard freezing that the fields are not very soft. Nearly all the corn is in the cribs, some shock corn still standing, and the price is 65 cents per bushel.

Our son-in-law and daughter, from eastern Illinois, are home on a visit, and he tells us that their big snow of Christmas day, caught him with 1000 bushels of corn to husk yet, the 2500 bushels in his cribs representing his own work as it was impossible for them to get hands. He made this 3500 bushels of corn on 70 acres and did all the work himself, plowing more than half of it five times, besides growing and harvesting 40 acres of oats, yielding him a crop of 2000 bushels.

We are putting our manure upon the wheat this winter, the first time we ever did so, and some of the neighbors think we are crazy. Well, perhaps we are, but we look at it this way: there is only eight acres of the wheat, and we have sown it thickly to timothy, intending to sow red clover in March.

It lays close to the barns, and in such shape that if we get a heavy stand of grass and clover in 1917, we can either pasture it down, or mow it for hay, break it again in 1918 instead of letting it lay until 1919, and hope to make at least 60 bushels of corn per acre from it. Our favorite practice is to break sod for corn, sow the corn stubble to small grains, seed to timothy and clover and let this grow two years, a perfect "four year rotation," but we have practiced this so long, and with such good results as to increasing fertilty, that we can now risk breaking a field twice in succession, or cut the rotation short one year.

That riot among the half civilized people of the old world, is going to cut our supply of agricultural potash short this year, and this is going to work a hardship upon us farmers who use commercial fertilizers. We use lots of potash, not only in tobacco fertilizer, but in that used on the corn crop, and this year, instead of a 4 to 6 per cent goods, we will have to put up with 1½ per cent. Our tobacco stalks contain 3 to 4 per cent, but as yet no one has invented a machine to grind them fine enough to drill, so we scatter them thinly over the fields, always with results comparable to those attained from a liberal application of manure. As I write, January 4, 8 p. m., the mercury stands at 58 degrees; it is clear, and a brisk wind is blowing from the south. I predict colder weather soon. C. D. Lyon.

Feeding Value of Kafir Grain.

A reader from Barton says he has quite a good crop of blackhull kafir and that he has had no experience in feeding it and would like to have our opinion as to its relative value as compared with corn for feeding various kinds of live stock.

We have had no extensive experience ourselves with feeding kafir grain but what we have had has been very satisfactory. Kafir may be substituted for corn in feeding most any kind of stock and a rough estimate will be to count on about 90 per cent of gain from feeding a hundred pounds of kafir that may be obtained from feeding a hundred pounds of shelled corn. The kafir is eaten just as readily by all kinds of stock as corn is eaten but the grains get very hard and better results will be obtained if the kafir is ground. Where the animals are not full fed very good results are obtained by feeding the kafir in the head without thrashing.

Kafir is coming into more favor every year as a poultry feed and on the farm as good a way as any is to feed it to the poultry in the head. Scratching the grain out of the heads will give the hens some exercise and will save the expense of thrashig.

A little time taken now to study the seed catalogues may mean a good garden next summer.

FINE SEED CORN

Yellow Corn: Reid's Yellow Dent, Shenandoah and Gold Mine crossed, Berry's Perfection, Funk's 90-Day Yellow. 90-day White Cap Dent. White Corn: Boone County White, Johnson County White, St. Charles White, Iowa Silver Mine. Prices per bushel, F. O. B. Skidmore. Butted and tipped by hand, graded and tested, $2.50; over ten bushels $2.40; 20 bushel lots $2.30. Sacks free. Crated ear corn, $5 per bu.; 5 bushels or more $4 per bu.

Winnings: 1904, First on best six varieties in entire show at World's Fair held at St. Louis in 1904. Prize gold medal. 1913, First on 10 ears yellow at Maryville, State Show; grand shampion ten ears in young men's class. 1915, First and second a Missouri State Corn Show.

A. F. Howden, Skidmore, Mo.

SEED CORN

Johnson County White, the best I ever grew and all in crib by Nov. 1. Price low this year, $2.25 single bushel, $4 for two bushel bag shelled. Crated $3 a bushel, extra selected ears. Order early.

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We Make Lowest Wholesale Prices on "Hi-Quality" Pure Tested Seed Corn, Alfalfa, Clover and other field seeds; also Garden and Flower Seeds, Small Fruit, Shrubbery and Nursery Stock at very low prices. My **1916 Planting Guide and Pure Seed Book,** 116 pages, printed in four colors, hundreds illustrations, authority on field crops, gardener's encyclopedia, orchardist's and berry-grower's manual. Get it.

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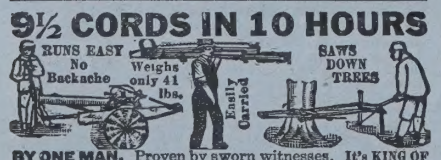

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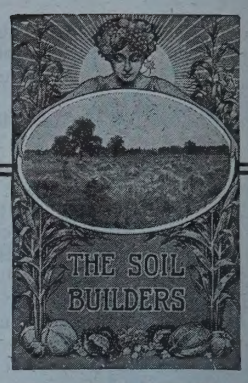

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VALUE OF GOOD SIRES

Probably no parade in the world has ever represented so many prize-winning and state and world-record animals bred by one educational institution as that seen by Farmers' Week visitors at the College of Agriculture of the University of Missouri at Columbia last week.

The parade was to show that what the College of Agriculture has done, with a few good animals, any individual breeder of moderate means may do. The entire Hampshire flock, for example, was bred from three Hampshire ewes, and the Holstein herd, one of the finest in the country, was descended from three cows purchased for about $500 in 1902. This herd now includes thirty-six cows that could not be replaced for $10,000 and that have produced surplus stock which sold for $6,218 in cash, while the milk more than supported the herd.

The parade was led by Honoroble the imported Percheron stallion—a sire of many prize winners—followed by sixteen other draft horses. Among these was Josephine 32,564 and three of her foals which are owned by the College of Agriculture. Three others have been sold for $1,100.

Among the dairy cows was Grace Briggs, probably the holder of the world's long-distance record. So far as is known, no other cow has ever equalled her production of nearly 112,000 pounds of milk and 6,000 pounds of butter in sixteen years that she has been in milk. She was bred by the dairy department of the college.

With the exception of one animal, all the Hereford cattle in the parade were those raised on the University farm. The larger part of the herd is descended from two cows purchased in 1904.

Among the sheep, the most striking lesson was in the exhibit of the different crosses of a medium-priced purebred ram and grade western ewes. The daughters and grand-daughters of the typical, ninety-pound western ewes looked so much like the purebred sheep that in many cases they could hardly be distinguished.

The entire parade was designed to show the value of good sires on the stock farm.

A four-year-old Holstein cow, Ormsby Jane Segris Aaggie, No. 150943 whose picture is shown above is one of the great cows of the world. She is owned by Oliver Cabana, Jr., Buffalo, N. Y. She freshened the first time at the age of two years and ten months; was put in official test and made a record of 17 and 24-100 pounds of butter and 437 pounds of milk in seven days. Freshened again at four years of age and made a test of 22 and 94-100 pounds of butter and 535 pounds of milk in seven days. After her third calf she made the following great record: 1 day 7.29 pounds butter, 100.5 pounds of milk; 7 days 44.42 pounds butter and 721.5 pounds milk; 30 days 180 pounds of butter and 3050 pounds of milk. She weighs about 1500 pounds and is the ideal dairy type.

LOSS FROM OX WARBLES

Most men who have had any considerable experience in handling cattle will readily recognize the presence of the ox warble in the backs of cattle if they will just take the time to examine the animals, but this is too often neglected. Until recently warbles were not regarded as serious, says the Department of Agriculture, because it was thought that the loss they occasioned came principally from the damage they did to hides. Even this loss in the aggregate, however, is important, as hides show warble holes three to six months in the year and dealers pay from 50 cents to $1.50 less for hides that show even moderate warble infestation. In many cases the scars left after the holes have healed cause buyers to cut prices considerably.

The loss from the warble, however, is by no means limited to the holes the maggots cut in the hides. Extensive investigations in Germany and Denmark indicate that the losses through reduction in milk supply in dairy cattle, the retardation of growth in young stock, and the loss of flesh in all classes of animals are twofold greater than the damage done to the hides. In some of these tests the early extraction of the grubs from the backs of infested cattle resulted in an increase of nearly 25 per cent in the milk production. Animals from which the grubs had been extracted showed a gain of more than 5 per cent in weight over similar animals in which the pests were allowed to develop normally.

Thus far the veterinarans and entomologists of the Department have determined no better way of controlling these pests than through the systematic extraction and destruction of the grubs from the backs of infested animals.

When the larvae are nearly ready to leave their host they may be easily squeezed out by pressing the swelling with the fingers, but if not so far developed it is often very difficult to get them out by squeezing. In such cases a slender pair of forceps may be used for pulling them out. If the swelling and its opening are still very small the best way of extracting the grub is to make an incision with a knife, after which the grub can be squeezed out by applying strong pressure. Kill the grub when removed.

It is important that warbles be removed as early in their development as possible. This relieves the infested animals from the irritation and prevents the enlargement of the exit holes. While this practice is not applicable to ranch conditions it is easily put into effect on small farms and in dairies. In the Southern states the herds should be gone over early in December, and about twice later at monthly intervals. In the Northern states the extraction should be begun six weeks to two months later. If no grubs are allowed to drop to the ground and reach maturity the number appearing in cattle in subsequent years will be materially reduced, and if extraction is followed up for several years almost complete eradication will result. Of course it is important where possible to get concerted action among the stockmen in the destruction of these pests.

In extensive experiments along this line in Germany it was determined that the cost of removing all of the warbles from the backs of cattle during one season was about three cents per head. In this case men were employed especially to do the work.

Investigations conducted by the Department indicate that eradication also may be accomplished by the use of arsenical dips, which are extensively employed at the present time for destroying cattle ticks. The arsenical dip appears to act not upon the well-developed grub beneath the skin, but upon the eggs or the newly hatched larvae, probably the latter. It is not unlikely that the destructive action of arsenical dips upon warbles is more or less dependent upon the fact that arsenic is stored up in small quantities in and upon the skin of cattle which are repeatedly dipped in arsenical dips.

Hundreds of farmers from all over Missouri have written us saying, "I am under many obligations to the bank for introducing me to your fine paper which I wouldn't be without for four times the price"—or words to that effect.

A few moments spent at the telephone talking to some of your good neighbors will enable you to send us a "Special Club" of three "Market Club" subscriptions—and you will have your own "Market Club" subscription free for the trouble.

Send No Money

—In Advance on This Great 60 Days Feeding Offer

I want every farmer and stockman to see for himself, **before he pays,** what SAL-VET will do for his own farm animals. I want you to see how it will destroy the ravenous destructive worms that are eating the high priced feed which should go to nourish your animals—how it will stop your losses from worms—how it will aid digestion making your stock thrive better—grow faster—gain in weight and value. I want to prove my claims right on your own farm before you pay me a cent. You take no risk whatever.

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SAL-VET is not only superior to other preparations for ridding stock of worms and aiding digestion, but is also the cheapest; costing only $\frac{1}{12}$ of a cent a day for each sheep or hog and only $\frac{1}{3}$ of a cent a day for each horse or head of cattle. Requires no dosing—no drenching—no starving—no trouble to feed. It is a medicated salt but without antimony. Simply give your farm animals free access to it and THEY DOCTOR THEMSELVES. I want to send you enough to last all your stock 60 days. I want to show you results before you pay a penny. I get thousands of letters like these:

"When I began feeding SAL-VET to my pigs, they were very wormy, coughed a great deal, and some were runts. I have now fed SAL-VET for about seventy days, and I assure you these pigs look different. They are all in fine condition, and there is not a scrub in the bunch."
GEORGE THORNTON, Rt. No. 2, Brooklyn, Wis.

"Our sheep became infested with stomach worms and were dying almost daily. Reading of the remarkable cures accomplished by SAL-VET I decided to try it. Much to my surprise I have not had the loss of a single sheep since. SAL-VET does exactly as you claim."
JOHN E. TEMPLIN, Blanchester, Ohio

(247)

Send No Money—Just the Coupon

Now fill out the coupon—tell me how many head of stock you have and I will supply you enough to last all your stock 60 days; you pay the freight charges when it arrives and feed it according to directions. If SAL-VET does not do what I claim and you make a specific report in 60 days, I'll cancel the charge; you won't owe me a penny. Address **SIDNEY R. FEIL, Pres.,**

THE FEIL MFG. CO., Chemists, Dept. 82 . CLEVELAND, O.

Prices
Each 40 lb. pkge. $2.25
Each 100 lb. pkge. 5.00
Each 200 lb. pkge. 9.00
Each 300 lb. pkge. 13.00
500 lbs. 21.12
No orders filled for less than 40 lbs. on this 60-day trial offer. Shipments for 60 days' trial are based on 1 lb. of SAL-VET for each sheep or hog and 4 lbs. for each horse or head of cattle. Thousands of dealers sell SAL-VET at above prices but in the far West and South the prices are a little higher on account of the extra freight charges.

"I have not lost a hog since I began feeding Sal Vet. My neighbors all arounnd me have had their hogs die. I will never do without it."—J. T. Deatherage, Ink, Mo.

"Sal Vet" is the best worm destroyer for colts and hogs I have ever used. Am very well pleased with it."—E. J. Douglass, McBaine, Mo.

"Just as you claimed, Sal-Vet is the best worm destroyer one can use. It expelled worms from my horses after other remedies had failed."—R. B. Gaines, Braggodocio, Mo.

THE FEIL MFG. CO.
Dept. 82-1-15-16 [Cleveland, Ohio
Supply me enough SAL-VET to last my stock sixty days. I agree to pay the freight, feed it as directed, and will then pay for it if it does what you claim. If it fails and I so report specifically in 60 days, you are to cancel the charge and I will owe you nothing.

I have.....hogs.....sheep.....horses.....cattle

Name.....

P. O. .....

Ship. Sta.....*State*.....

ENGINE POWER COSTS LESS NOW

LET me send you an engine to earn its own cost while you pay for it. **Easy to start; no cranking;** easy to understand and manage; and easy to pay for on any suitable, reasonable terms of payment, during a year. I have helped many thousands to own engines in this way, during my 29 years of engine building.

WITTE ENGINES

Gasoline, Kerosene and Gas

SEE THESE LOW PRICES: 2 H-P, $34.95; 3 H-P, $52.45; 4 H-P, $69.75; 6 H-P, $97.75; 8 H-P, $139.65; 12 H-P, $197.00; 16 H-P, $279.70; 22 H-P, $359.80. (*F. O. B. Factory*) Portable Engines and Saw-Rig outfits proportionally low. **Guaranteed high quality**—as durable as superior design, best materials and workmanship can make.

Guaranteed 5 Years

Fine Book Free My book, "How to Judge Engines," will show you how to select the engine most suitable to your needs, and how easy it is to run a WITTE at any kind of work. Get my engine facts before you decide on any engine.

ED. H. WITTE, WITTE ENGINE WORKS
1846 Oakland Ave., Kansas City, Mo.
1846 Empire Bldg., - Pittsburgh, Pa.

SAM JORDAN'S "SAY"

It occurs to me that next fall a "pure-bred sire" campaign should be made through all the Ozark counties. At every stop I attempt to organize pure-bred sire clubs of from four to six members each, and each club organized for the purpose of securing a pure-bred bull of the type decided upon. There are many breeders of pure-bred cattle who simply make beef steers of the bull calves rather than try to find a market for them as bulls. These calves could be sold at a price that would be better than beef prices and they would do great service in improving the herds of South Missouri. Cattle feeders from the north come to South Missouri to buy stock cattle but the grades are so scrubby that it is impossible to pay for them what better bred cattle would readily bring. These clubs could be kept in touch with each other and exchanges could be made as conditions might seem to warrant. A bull could thus be kept as long as he might be serviceable.

Sam Jordan.

TRAPPING SKUNK

The Missouri Farmer:

I note your promise to help those who need information about trapping fur animals. I have been trapping for skunk and have had no success. Please help me out. Eugene C. Duncan, Scotland County.

Skunks are one of the easiest, if not the easiest, of all fur-bearing animals to trap. First, locate the den. You can tell whether it is used by the fur-bearer by examining the sides and bottom of the entrance. If inhabited you will discover long black or black and white hairs—sometimes pure white. After the burrow is located, all that is necessary is to place the trap at the entrance to the hole. It does not even have to be concealed, although it is best to do so.

Do not take up your trap if you catch an animal, thinking there are no more there. I have seen dens with as many as fourteen skunks in them.

One of my favorite methods is to construct small three-sided pens in vicinity of the dens and in the back part of the pen place a piece of bloody meat. In my trapping I always use Animal Attractor for skunks and trail scent. This costs but 65c per bottle postpaid and can be had by writing the Animal Attractor Co. Stanwood, Iowa. Warm nights, especially if misty, are best for taking the skunk. In extremely cold weather the animals den up, and do not travel about much.

G. J. Thiessen.

Live Stock Notes

R. P. ROYCE, Fieldman

COMING SALES

POLAND CHINAS

W. Z. Baker, Rich Hill, Mo., February 1.
Bridges Bros., Slater, Mo., February 11.
Will G. Lockridge, Fayette, Mo., Feb. 17.
W. A. Baker & Son, Butler, Mo., Feb 18.
Bennett Bros. and Belcher Lee's Summit, Mo., February 19.
W. I. Britt, Rush Hill, Mo., March 9.

DUROC JERSEYS

J. A. Porterfield, Jamesport, Mo., Feb. 8.
Dowden & Partridge, Maryville, Mo., February 11.

SADDLE HORSES

E. D. Moore, Columbia, Mo., March 10.

PERCHERON

E. H. Salisbury, Kirksville, Mo., Feb. 25.

ANGUS CATTLE

E. H. Salisbury, Kirksville, Mo., Feb. 25.

Bridge's Bros.' Initial Poland China Sale

Attention is directed to the advertisement of Bridges Bros., Slater, Mo., in which they announce that on Friday, February 11th, they will hold their first public sale of Poland China bred sows and gilts.

Perhaps no firm has been watched with keener interest by breeders and others connected with Poland China interests than has been accorded this firm. The Bridges boys—there are four of them—drifted into the hog business in the most natural way possible. For a long time they had been sending market topping hogs from their feed lots, and because of the marked excellence of their stock (they always used pure bred blood) their neighbors began calling on them for boars. Finally the demand grew to such proportions that they were forced to go into the pure bred business to supply it. They recognized the value of the best and set about to get as good as the breed afforded. A great deal of time and money and thought went into the selection of their foundation stock and it is pretty generally conceeded that their herd will rank with the really good ones of the state.

This is their first sale, and is made up for the most part from the produce of their purchases. Forty head will be sold and will consist of 8 tried sows, 7 fall yearlings and 25 spring gilts, and taken as a whole it is one of the most uniform, attractive, desirable and well bred lots to be sold in Missouri this year. We don't remember having seen a nicer lot of spring gilts than we saw in preparation for the coming sale. All of the offering is bred to one or the other of the three herd boars now in service, Long Wonder Timm 75708, the top boar of Sigel Brown's fall sale, a son of the celebrated Long Wonder and out of a daughter of the 1125-pound grand champion of Nebraska, Big Timm; Bridges' Bob Wonder 76481, a son of Big Bob Wonder and out of the top sow in Walter's 1915 spring sale and Model Big Bone 3rd 76482, a son of the great boar, Long Big Bone, and out of a Big Bob dam.

The breeding of these three young boars can not be improved upon and they are just the kind of individuals that one would expect from such great blood lines. Space does not permit extended mention of all the good things in the sale but readers in the market will do well to keep their eyes on the fall yearling by Long King's Model. She has wonderful size and bone and everything one looks for in a real brood sow. Another fall yearling of exceptional quality is No 12, in the catalog. A February daughter of Sterling Prince is good enough to go into any herd. The Big Bob Wonder gilts out of a Moore's Halvor dam, are right in every way. Others by Big Bob, Long Jumbo II, Blue Valley Expansion, Longfellow Sampson, Longview's Master Orphan, a son of the $2500 Grand Master make the offering particularly attractive. Send for catalog now, and watch this paper for more details.

W. A. Baker & Son's Annual Big Type Poland China Sow Sale

Readers of this paper will be interested to read the announcement of W. A. Baker & Son, pioneer breeders of big type Poland Chinas. This reliable firm will hold their annual sale at Butler, Mo., Friday, February 18th and will offer, as usual, 50 head of very superior bred sows and gilts.

No herd in Southwest Missouri, or indeed, in the state, is better known than this one and the annual February sales are as regular as ground hog day—and as much looked forward to.

This firm has long made a practice of showing at the leading fairs of the middle west and to attempt to give a list of their winnings would require too much space. Suffice it to say, they usually get their share, which is evidence that the kind of hogs they are producing are the kind that win. We have been familiar with this herd for several years and give it as our opinion that this year's offering is easily the best they have ever raised. We make this statement because we are confident that more size, considerably more bone, and the same quality are more pronounced this year than ever before.

The offering will consist of 10 tried sows, 20 fall yearlings and 20 spring gilts. A number of the tried sows have been drafted from the private herd and are among the choice producing sows owned by Messrs. Baker. The 20 fall gilts make up a very attractive lot. They possess plenty of size and bone and show that degree of quality that is also a hall mark of the Baker kind. The 20 spring gilts are largely the get of Big Bone's Son Jr. and furnish eloquent proof of the value of this splendid boar. Among the attractions that have been put in are two under a year gilts by Major B. Look. One of these gilts won first in class at Topeka and Hutchinson and was reserve champion at one of the shows. She is a very high class gilt in every way and will be among the very top gilts sold in any sale. A junior yearling by Big Look and out of Susie Hadley 2nd is another cracking good one. This gilt has produced a litter.

Several of the spring gilts were on the show circuit last fall and two that were in the money everywhere shown are cataloged. Practically all the offering is sired by Big Look, and Big Bone's Son Jr. Both boars are prize winners and proven sires. Big Bone's Son Jr. was shown at five big shows in 1914 and was first and champion at two, first at one, second at one, and third at one. He was shown again in 1915 with marked success, winning as a senior yearling at Sedalia. Two new boars will figure in the offering this year, one, Jumbo King 77152 by Big Long Jumbo and out of a Long King's Equal dam is one of the real good prospects the writer has seen, the other boar, Missouri King 77259 is an Expansion bred boar recently purchased in Iowa because he came up to the Baker standard. The offering is immune and first class in ever way. Send for the catalog and watch this paper for more particulars.

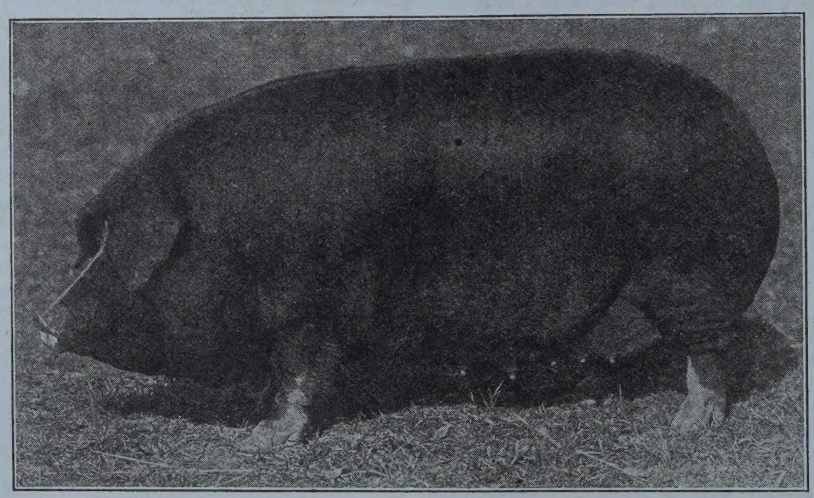
Dowden and Partridge Sell Durocs at Maryville, February 11th.

Friday February 11th, Dowden and Partridge will sell at Maryville, Mo., 40 head of Duroc sows and gilts. This firm maintains two large herds and each year they select the tops for a bred sow sale. This year's offering, as stated above, will consist of 40 head, including 20 tried sows and yearlings and 20 spring gilts. The offering throughout is a very attractive one and those of our readers who are in the market for good useful Durocs will be serving their own interests if they arrange to attend this sale. Perhaps the most attractive sow to be sold is the good daughter of the great sire, Defender. This sow, while not overly large, has more size than is usually found and the fact that she has proven to be a good producer should make her particularly sought after. There are a number of excellent brood sow prospects among the twelve daughters of Grand Model 5th. Grand Model 5th, one of the herd boars now in service, is a splendid son of the noted Grand Model, grand champion boar at Iowa, Minnesota and South Dakota in 1914. Grand Model 5th was shown this year at the Nebraska and Missouri State Fairs and at each show he was placed

W. Z. BAKER'S GREAT SALE OF BIG TYPE POLANDS

RICH HILL, MISSOURI, TUESDAY, FEBRUARY 1, 1916

1913 Show Record at Topeka, Hutchinson, St. Joseph, Sedalia and Kansas City, 17 Firsts, 19 Seconds, 7 Thirds, 3 Fourths, 9 Championships and 3 grand championships,



1915 Show Record at Topeka, Hutchinson, Sedalia and St. Louis: 17 Firsts, 25 Seconds, 27 Thirds, 13 Fourths, 12 Fifths, 6 Sixths, 11 Championchips and 2 Grand Championships.

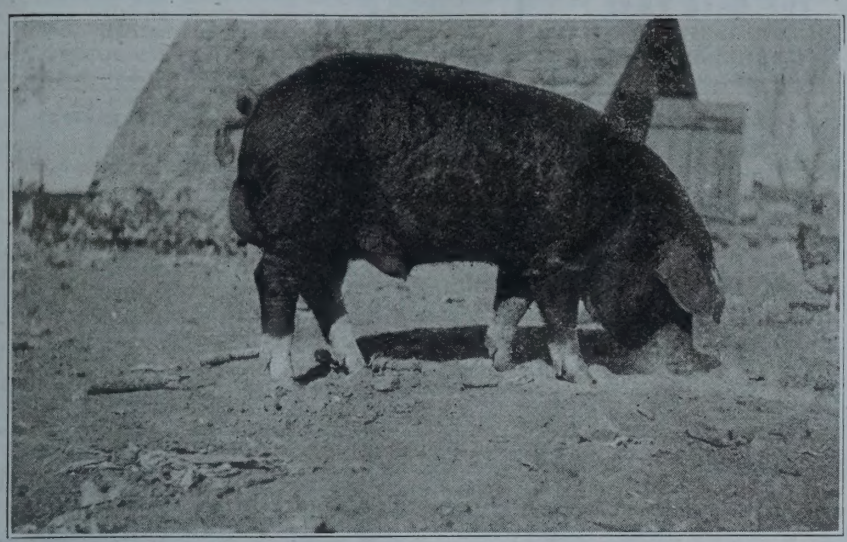
Owing to a change of location I find it necessary to materially reduce my herd. Many sows I am cataloging would not be for sale if it were possible for me to keep as large a herd as formerly.

40 HEAD--20 TRIED SOWS AND YEARLINGS--20 SPRING GILTS

Every one bred deep in the blood of champions. AS SPECIAL ATTRACTIONS I am selling JOSIE'S BEST, HADLEY'S BEAUTY 2nd, 1913 grand champion (shown above), HADLEY'S LILY, MISS LOOK and other prize winning sows and gilts. The entire offering is immune. This is the opening sale of the season and will afford an excellent opportunity to secure show prospects for 1916. Send now for catalog and plan to be my guests February 1st. Sale in town. R. P. Royce will represent this paper.

W. Z. BAKER, - - RICH HILL, MISSOURI

BRIDGES BROS. INITIAL SALE OF POLAND CHINAS



SLATER, MO., FRIDAY, FEBRUARY 11

40 HEAD TRIED SOWS and GILTS

We announce this sale feeling confident that our offering merits the patronage of breeders and farmers who are in the market for big type Poland Chinas. In establishing this herd we have selected only such individuals from the leading herds of Missouri, Iowa, Kansas and Nebraska as were outstanding. It is the produce from these foundation animales that we are offering and the sale will contain daughters of A Wonder, Big Bob, Big Bob Wonder, Long Jumbo 2nd, Major Look, Pawnee Price, Long King's Model, Trusty King, Sterling Prince, Blue Valley Expansion, Longfellow Sampson and a number of outstanding granddaughters of Grand Master. The offering sells bred to our three herd boars, LONG WONDER, TIMM, BRIDGES' BIG BOB (shown herewith) and MODEL BIG BONE 3rd, a trio of young boars the equal of any in breeding and individuality. We breed and feed for size and you will find spring gilts weighing around 400 pounds and yearlings above 500 pounds. Sale will be held in town. Every animal immune. We have a small mailing list, therefore if you want a catalog drop us a card. R. P. Royce will represent this paper and will handle mail bids with fairness. Keep the date in mind and watch the next issue of this paper.

BRIDGES BROTHERS, Slater, Mo.

AUCTIONEERS: HARRIMAN & SPARKS

W. A. Baker & Son's Annual Poland China Sow Sale. . . . .

50 HEAD

10 tried sows
20 fall yearlings
20 sp'ng gilts

BUTLER, MISSOURI, FRIDAY, FEBRUARY 18th, 1916

Following our usual custom we will hold our annual bred sow sale on the above date and will offer the buying public 50 head of real big type Poland Chinas—"the Baker kind"—the kind that wins for us and will win for you. We believe that our 1916 offering is easily the best that we have ever raised--more size and bone. Many of these sows and gilts are prize winners and all are bred along the same lines as all our wjnners.

The major portion of the offering is sired by BIG BONE'S SON JR. and BIG LOOK—all our own breeding. They are bred to Big Bone's Son Jr., Big Look, Jumbo King and to Missouri King.

THIS OFFERING IS IMMUME. Sale will be held in heated pavilion. Send for catalogue; mention this paper

W. A. Baker & Son Butler, Mo.

Auctioneers: R. L. Harriman and Clyde Robbins.
R. P. Royce, Fieldman.

3rd in his class, and it might be added that at Nebraska there were 26 junior yearlings in the ring. Other sows in the sale are, a daughter of Col. Protection, one by Chief Select 2nd, one by S. & C's Golden Model, one by Select Gano, 15 daughters of Crimson Col., a son of King the Col., 3 by Crimson Echo, and 4 by Mozingo Chief. Most of the lot are bred to one of the two boars, Grand Model 5th and Model Chief by the Champion S. & C's Valley Chief. However a variety of breeding is offered as there will be some bred to Crison Col., Echo's Climax, Crimson Model and Select Gano.

The entire lot are immune and will be presented in tip top breeding condition. The sale will be held in town in a heated sale pavilion. The catalogs are now ready for mailing and will be sent to all who apply. We will have more to say in regard to this offering in our next issue. R. L. (Bob) Hill, secretary of The Missouri Duroc Breeders' Association, will represent this paper at the sale and will be glad to handle mail bids for our readers or to assist them in any way in making their selections.

Baker's Sale of Poland China Sows

W. Z. Baker, the well-known Poland China breeder and exhibitor, of Rich Hill, Mo., announces that on Tuesday, February 1st, he will offer a select draft of bred sows and gilts.

Mr. Baker is making a change in location and because of the fact that he will operate a smaller farm it is necessary to materially reduce his herd. The offering will therefore include a number of his private herd sows that otherwise he would not sell, and further, in order to make the sale especially attractive he has decided to sell practically his entire 1915 show herd.

For a number of years past, Mr. Baker's herd has figured prominently in the best shows of the Corn Belt and a brief review of his winnings would show a record that any breeder might well envy. In glancing through the show record of this herd we find that during the campaigns of 1913 and 1915 it won a total of 20 championships, 5 grand championships, 34 first prizes, 44 second prizes, 34 third prizes, 16 fourth prizes and six sixth premiums. These prizes were won at Topeka, Hutchinson, St. Joseph, Sedalia, Kansas City and St. Louis.

The draft will consist of 40 head—20 tried sows and yearlings and 20 spring gilts. To give our readers an idea of the quality of the offering it might be well to note a few of the animals listed. No. 1 in the catalog, Hadley's Beauty 2nd, was the grand champion sow at Sedalia and the Royal in 1913. Mr. Baker informed us that this sow had farrowed 66 pigs in her last 6 litters, and that he has shown 9 of them and won on all—one was a champion. She sells bred to King Blaine, grand champion at St. Louis. No. 2, Josie's Best, a 2-year-old daughter of White Sox Chief, was grand champion at St. Louis. She is a splendid individual and a producer of the kind most sought after. No. 3, Hadley's Lily, by King Hadley, is a very attractive sow. No. 6 was the champion under a year gilt at St. Louis. Two other tried sows that are listed are Miss Look, the dam of King Blaine, and Miss Wonder.

Most of the spring gilts are by King Hadley and King John—both prominent winners at Sedalia, the American Royal and St. Joseph. Incidentally, this sale will be the last opportunity to secure the blood of these two boars, as they both died last summer. Send for the catalog and arrange to attend the opening sale of the season. R. P. Royce will represent this paper and will handle mail bids.

Things Worth Knowing

Here are some things worth knowing about the advertisements in this issue. The Southern Pine Association will send you a free book of plans on farm homes, barns, hog houses, chicken houses, feed racks, farm gates, etc. It is free for the asking and every farmer should have a copy. If you are in need of a good incubator, you will find a number of the very best advertised in this issue. Likewise, if you are going to do any fencing or need any new farm implements you should study the ads carefully for they all come from reliable concerns.

Dowden and Partridge

ANNUAL DUROC SOW SALE

Maryville, Mo., Friday, February 11

40 Bred Sows and Gilts 40

EVERYTHING IMMUNE

On the above date, at Gray's Sale Pavilion, we will hold our annual bred sow sale. Our offering this year is replete with the most popular blood lines of the breed. Included in the same are daughters of Defender, Col. Protection, Grand Model 5th Crimson Col., Chief Select 2d, and other noted boars. The offering will feature the blood of

Grand Model 5th

a prize winning son of Grand Model.

If you want size and bone and quality combined to a high degree in Durocs that will make you money attend this sale.

CATATOGS MAILED ON REQUEST

DOWDEN & PARTRIDGE

MARYVILLE, MO.

COL. W. M. PUTMAN, Auctioneer. R. L. (Bob) HILL, Fieldman.

Last Call for Taylor's Col. Wonder Duroc Sale

This is the last opportunity to call our readers' attention to the sale of Durocs to be held at Olean, Mo., Friday, January 21st. Last week during the meeting of the Missouri Duroc-Jersey Breeders' Association the writer saw Mr. Taylor, and he stated that he never had a bunch of hogs do better than the sale offering has done. This is good news, but it was to be expected. The coming sale will be Mr. Taylor's second public sale and he is again featuring the get of his remarkable herd boar, Col. Wonder. The offering will consist of practically fifty head of sows and gilts. Most of the offering will be tried sows and yearlings, only 10 head of spring gilts will be offered. Everything cataloged is either sired by Col. Wonder or is bred to him or one of his sons. The entire 1915 show herd of sows with the exception of Col. Wonder's Dream, are included.

Further, Mr. Taylor has gone rather deep into his breeding herd and has cataloged a number of sows, any one of which would be an attraction. For instance, a litter mate to Col. Wonder is listed, as well as a litter mate to Col. Wonder's Dream. No herd in the Corn Belt stands higher than Mr. Taylor's herd, and because of the excellent blood that has been concentrated it produces a very uniform and high class lot of Durocs. We know of no sale that the breeder or beginner can do better to attend and we trust that the readers of this paper will be there to support it. In case any of our readers find that they can not attend their bids will be handled fairly and honorably by the representative of this paper, R. P. Royce.

Hall & Rapp's Poland Chinas

Hall & Rapp, Rocheport, Mo., are offering a desirable lot of spring boars sired by Smooth Columbus and Spotted Monster. Bred. gilts are also for sale. It will pay any of our readers to get this firms prices before buying.

Belcher and Bennett Bros.' Smooth Columbus Sale.

Our readers who are interested in Poland Chinas will note with interest the advertisement of Belcher and Bennett Bros., in which they announce that on Saturday, February 19th, they will offer at public sale, at the Bennett farm, six miles from Lee's Summit, Mo., 45 head of bred sows and gilts.

This sale is noteworthy for several reasons. In the first place, the fact that every sow is either sired by or bred to the great boar Smooth Columbus, would be sufficient to attract buyers of the better sorts. A second fact of note is that it was Smooth Columbus that made it possible for John Belcher to hold the record sale of the state last year. And last, but more important, is the outstanding individual excellence of the offering.

Both firms rank at the top as breeders and when Bennett Bros. paid $750 for a half interest in Smooth Columbus it was a foregone conclusion that the two herds would be topped for a winter sale.

The 45 head cataloged consist of 35 tried sows and yearlings and ten extra choice spring gilts. Taken as a whole we doubt if a more attractive lot will be sold in any state. It is difficult to know just where to begin describing the offering but the 7 Smooth Columbus gilts are about all one could ask. Five of the gilts are yearlings and 2 are spring gilts. Indeed, one of the latter was the first prize junior gilt at Sedalia last year. Breeders who saw her will recall her unusual size and extreme quality. She should weigh around 400 pounds by sale day. Mr. Belcher made the remark that he believed these gilts represent the 7 best gilts by one sire he ever saw go in a sale. We have tried to recall seven better ones and we are at a loss to name them. Another real attraction is the great sow Fessy's Lady, a 3 year old daughter of old A Wonder. This sow, No. 1 in the catalog, is not only a splendid individual, but she has proven to be an exceptional producer. She sells bred to Smooth Columbus. Another tried sow is by Pritchett's A Wonder. Two extra good yearlings are by Big Orange. Two daughters of Big Joe, one a yearling, and one a spring gilt, would be attractive in any sale. A yearling by Black Big Bone 2nd, grand champion at Iowa in 1915, is also in the offering. Another attractive number is the gilt my Long Big Bone, who is a litter mate to the Iowa champion. Space does not permit more detailed mention of the offering at this time but we will have more to say in future issues.

That part of the offering sired by Smooth Columbus will be sold bred to the splendid young boar, Master Orphan, by The Big Orphan, and out of Lady Rose 2nd, by Long Wonder, the sire of old A Wonder. Lady Rose 2nd was one of the best producing sows of the breed. This cross is producing an unusual amount of size and quality and for the benefit of the buyers, the owners have arranged to have an ocular demonstration of what it will do, by exhibiting several Smooth Columbus-The Master Orphan gilts. Further, they will have on exhibit a September 5th, litter out of the cheapest sow sold in the 1915 sale, sired by Smooth Columbus, that will weigh over 200 pounds by sale day.

The entire offering is immune and will be presented in the very best possible condition to go on and do the buyer good. Send for catalog now and watch this paper for further notice. When writing kindly mention The Missouri Farmer.

Buyers of Pure-Bred Live Stock

Our readers are reminded that the service of our fieldman is at their disposal in buying pure bred live stock. He will be glad to answer any questions, advise with our readers, or make selctions for them.

Angus Cows and Heifers

In a recent letter from J. M. Jones, Everton, Mo., who advertises Angus cattle and Poland China hog, in this paper, he has the following to say concerning the cattle he now has ready for sale: "We are now offering ten head of cows and heifers that are not only well bred and ready to make money for the man who wants to handle the market topping kind, but we are pricing them well worth the money. We are short of room and as we are getting a bunch of young bulls ready for the spring trade we must move them. We have recently sold six head of bulls to a Wyoming buyer."

Porterfield's Duroc Sow Sale

Our readers are reminded that on February 8th J. A. Porterfield will hold his annual bred sow sale at Jamesport, Mo. The coming sale will feature the get of Top Inventor, one of the real big type Duroc boars owned in Missouri.

Mr. Porterfield's 1916 offering is up to his standard of former years and will afford an excellent opportunity to purchase well bred Durocs of the type most approved by breders and farmers. Fifty head are cataloged to sell and will include about 40 early spring gilts and 10 tried sows. The major portion of the spring gilts are by Top Inventor and will be sold bred to Iowa Cherry Col., a young boar of exceptional promise that has been recently added to the herd. He is by Cherry Col., one of the mot popular sires of the breed. Other boars represented in the offering are King of Cols. II, AuctioneerII and Graceful Lad, by Beauty's Model Top. We have seen this offering and do not hesitate to recommend it to those of our readers who are in the market for good useful Durocs that have made good wherever tried. Send for catalog and mention this paper.

Linhardt's Polands

H. O. Linhardt, Lohman, Mo., is now prepared to send out a very attractive lot of strictly big type Poland China gilts. Mr. Linhardt has one of the good herds of his section. He has spent time and money in building up his herd and the class of hogs he produces meet with ready demand. When writing mention this paper.

Lockridge Postpones His Poland China Bred Sow Sale

Will G. Lockridge, Fayette, Mo., advises us that he has decided to postpone the sale of bred sows and gilts from February 2nd to a later date in February, not yet definitely decided upon.

Watch this paper for his advertisement.

Porter Offers Poland Chinas, Jerseys and Seed Corn

M. D. Porter, Vandalia, Mo., the veteran Poland China breeder, is now advertising a number of extra good gilts that are bred to his splendid young boar, Rock Valley Wonder. These gilts are sired by Smooth Columbus, Black Big Wonder, Longfellow Sampson, Joe Hadley and other prominent boars. The young boar Rock Valley Wonder, is not only a prize winner himself but is counted the best pig that John Miller raised last year. This fact alone should be sufficient to move these gilts, as the mere mention of John Miller is to bring to mind one of

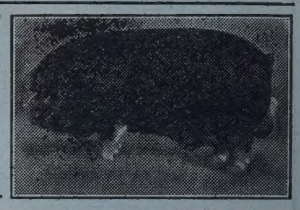
POLAND CHINAS

Smooth Columbus
THE BOAR THAT PUT MISSOURI ON THE MAP. HEADS OUR HERD

15 Extra Choice Spring Boars—Bargains! Sired by SMOOTH COLUMBUS, the record sire of the state, and others by BIG JOE. Head boar material here. Must be sold as we need the room. Get our prices. All immune. Satisfaction guaranteed.
BENNETT BROS. R. 5, LEE'S SUMMIT, MO.

Spring Boars by the Grand Champion
A desirable lot of early spring boars by The Giant, acknowledged to be one of the greatest young Poland China boars of the breed. Prices within reach of all.
WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

Poland Chinas & Shorthorns
Spring boars and gilts, pairs, trios or more. A few sows and gilts bred for fall farrow. Several choice young bulls and heifers. Satisfaction guaranteed.
H. S. Williamson, Route 6 Centralia, Mo.



POLAND CHINA BARGAINS
I have some good Big Type Poland China hogs; some tried sows, one aged boar, some spring gilts and spring boars. Registered stuff. Cholera immune. Come and see them or write me. LOU LE FEVRE, Collins, Mo.

BALDWIN HEIGHTS POLAND BOARS $25
Choice spring boars sired by King Jumbo by King of All, and out of sows bred in the purple. Your choice for $25. Satisfaction guaranteed.
R. F. BALDWIN, Rt 1, ROCHEPORT, MO.

MEGOWN'S SPOTTED POLANDS
No matured stock for sale but booking orders for pigs to be shipped later. Have length, bone, size and big spots. Sired by two of the biggest boars in the State for their age.
B. B. MEGOWN, - - - - - - NEW LONDON, MISSOURI

PORTER'S POLAND CHINAS PLEASE!
Choice, well bred, strictly big type Poland China gilts bred to ROCK VALLEY WONDER. Also fine yearling Jersey bull and yearling heifers. Prices reaonable. Reid's Yellow Dent Seed Corn $1.50 per bushel (samples furnished).
M. D. PORTER, VANDALIA, MISSOURI

BAKER'S REAL BIG-TYPE POLANDS
We have a number of extra good spring boars sired by Big Look that we are offering worth the money. Need the room and must sell. Remember our February 18th sale.
W. A. BAKER & SONS, BUTLER, MO.

Linhardt's Polands
Choice spring boars and gilts. Fall boars and gilts. All sired by Giant Mammoth, Governor Hadley and Mammoth Wonder. Satisfaction is guaranteed. Have shipped to 23 states.
H. O. LINHARDT, LOHMAN, MO.

DOOLEY'S SPOTTED POLANDS
Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pair and trios no relation. Also registry furnished. Send check with first letter.
EDGAR DOOLEY, - Etterville, Mo

BIG TYPE BOARS FOR SALE
Hear we are with the good big type sping boars by SOOTH COLUMBUS and SPOTTED MONSTER out of WONDER and LEADER sows. Crated and on the car at Rocheport, for $25.
HALL & RAPP, ROCHEPORT, MO.

DUROC JERSEYS

COL. WONDER DUROC BOARS $25
At recent Missouri State Fair my herd won 35 ribbons—3 championships, 15 firsts. Col. Wonder sires my champions—he will sire them for you. Choice bred gilts. Spring boars by Col. Wonder $25 each. Send check in first letter. Nothing but the best sent on mail orders.
CHAS. L. TAYLOR - - - - - - Olean, Mo.

BIG TYPE DUROC GILTS
We offer a choice lot of spring gilts bred for early farrow. Big type, big bone, big breeding and big quality. Also a few yearling sows. Priced to sell and satisfaction guaranteed.
W. H. & GEO. E. THOMSON - - - - - - Columbia, Missouri

Durocs With Size and Bone
I am offering a choice lot of early spring pigs with unusual size, bone and quality. Bred right and priced right. Visitors welcome.
A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

Duroc Boars For Sale
Anything from a 50-lb. weanling to a 500-lb. herd and show boar. We offer some first-class herd header prospects. Good strong boned farmer's stock boars. Also gilts. I also have one 16-months and one weanling Shorthorn bull. Write me your wants. Will try to please you—the price will be right. Over forty old customers are buying here because both prices and stock have been right. Write today for that boar. I have got him. J. E. WELLER, FAUCETT, MO.

A. No. 1 Duroc Spring Boars
I am offering a few extra choice spring boars sired by ILLUSTRATOR and out of TATTLETALE 39th, junior champion International 1913. A few by CRIMSON CHIEF AGAIN. Write or come.
W. C. WATSON, - - - - - - NEW LONDON, MO.

SELECT COL. II Heads White's Durocs

27--BIG DUROC BOARS--27
Weight 175 to 200 lbs. in breeding condition, March farrow. Big bone, stretchy wide backs, good colors, direct from prize winning sires and dams, choicely bred. Forty gilts of the same type. Guaranteed. Prices moderate.
A. WHITE JR., . Box 422 Palmyra, Mo.

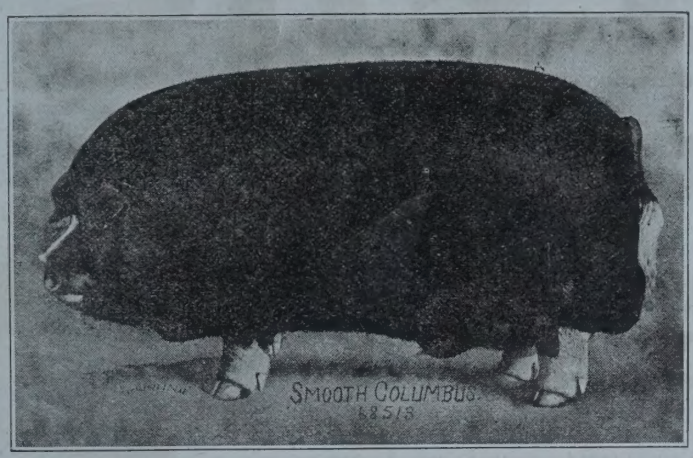
Durocs Bred Deep in the Blood of Champions
It costs no more to buy Durocs sired by proven champions. Spring boars and gilts sired by Col Wonder, Instructor, and other boars. Plenty of size and stretch. Pairs or more of unrelated stock. Price, $25.00 each.
ROCKWOOD FARM, IBERIA, MO.

SMITH BROTHERS DUROC BRED SOWS
Sows and gilts by Col. Bob., Beauty's Model, S. & C's Valley Chief and Instructor, out of equally well bred sows, and bred to Pal's Fancy Advancer, the largest yearling in the state.
W. O. & B. A. SMITH, - - - - - THOMPSON, MISSOURI

BELCHER & BENNETT BROS.' POLAND CHINA SOW SALE

The Sire that put Missouri on the map.

A sow sired by Smooth Columbus or bred to him will add prestige to your herd.



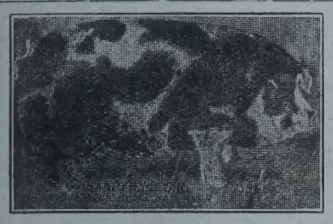
SATURDAY, FEBRUARY 19, 1916
Lee's Summit, Mo.

35 Tried Sows and Yearlings
10 Choice Spring Gilts

Everything sired by or bred to **Smooth Columbus.**

The offering includes FESSY'S LADY, bred for early litter; 7 outstanding daughters of SMOOTH COLUMBUS, bred to THE MASTER ORPHAN; 2 yearlings by BIG ORANGE; 3 daughters of BIG JOE; 1 by BIG BLACK BONE 2nd; 1 by LONG BIG BONE; 6 yearling granddaughters of A WONDER; others by several of the most noted boars of the breed. Sale will be held at Bennett Bros.' farm, six miles west of Lee's Summit, and can be reached by rock roads from Belton, Grandview, Pleasant Hill, Greenwood and other nearby towns. Send for catalog mentioning this paper.

John Belcher, Raymore, Mo., Bennett Bros. Lee's Summit, Mo. **Harriman & Sparks, Auctioneers, R. P. Royce, Fieldman**



FAULKNER'S FAMOUS SPOTTED POLANDS

Are the Original, Big-Boned, Spotted Kind

WE are not the originator, but the preserver of the old original big-boned Spotted Polands. Everything now sold except the fifty good sows and gilts we are holding for our annual February 9th, brood sow sale. If interested in the greatest pork hog on earth, ask for catalog. Our hogs are recorded in the recognized records. Address

H. L. FAULKNER, BOX R, JAMESPORT, MISSOURI

Duroc Gilts---Bred

A few extra good gilts, some a year ld, sired by prize-winning boars and red to Merry Chief, a prize-winner at edalia. Bred to farrow early next pring. Prices right.

t. L. HILL - - Columbia, Mo.

Hazelwood Durocs

Seventy choice spring boars and gilts ired by HAZELWOOD CHIEF, by CRIMSON COL., and out of OHIO CHIEF red sows. Get our prices.

E. P. POWELL & SON, Maryville, Mo.

75 Duroc Spring Boars and Gilts

Seventy-five (75) good boars and gilts. Rich breeding, and plenty of size and bone. Pairs, trios or more. Priced to sell

I. C. Garrard & Son, McBaine, Mo

Duroc Gilts---Bred for Spring

I now offer a choice lot of big February nd March gilts sired by GOLDEN TA nd bred to a grandson of COL. WONDER. Priced to sell. Extra size and one.

J. E. McPherson, Columbia, Mo.

Duroc Hogs for Sale

THE BLOOD OF CHAMPIONS

Am offering my entire herd, 2 herd boars, 0 herd sows, young boars, bred gilts, a ew yearling gilts, 50 fall pigs. Not reated. Write me if you want the best.

BUCKEYE STOCK FARM, OLEAN, MO.

CHESTER WHITES

O.I.C.'s or Chester Whites

Express prepaid on O. I. C. and Chester White spring boars. Write for prices.

W. P. DOOLITTLE
WOODLAND, MARION CO., MO.

HAMPSHIRES

BROOKVIEW HAMPSHIRES

Herd headed by GEN. TIPTON and SIR BROOKVIEW, both grand champions. Spring boars and gilts of choice breeding and individuality. Prices reasonable.

ISOM J. MARTIN, R 5 Lancaster, Mo.

BERKSHIRE HOGS

Big Type Berkshires

Choice Berkshire breeding stock sired by grand champion boars of Illinois and Missouri state fairs. Also S. C. Black Minorca chickens. Prices reasonable.

J. V. FISH, Route 7 BOLIVAR, MO.

the pioneer advocates of the big type Poland. The Jersey bull referred to in the advertisement is by an imported bull and won second at the Iowa State Fair in 1914 as a junior calf. Mr. Porter advises us that he is pricing all this livestock worth the money and that he guarantees it to please. The seed corn offered is carefully selected from high producing strains. In writing mention this paper.

Thomson Bros. Offer Duroc Bred Gilts

Notice the change in the advertisement of W. H. & Geo. E. Thomson, Columbia, Mo. This well known firm is now offering the readers of this paper some splendid values in bred gilts and yearlings. We have seen this lot and will say that they are right in every way. The spring gilts are sired by Col. Wonder II, counted the best son of the noted Col. Wonder, by Beauty's Col., a son of Beauty's Model Top, the champion and sire of champions, and by I Am Col. Enough, the strongly bred Col. boar that rendered such valuable service in the Thomson herd. The yearling sows are by Columbus and Col. Wonder II. These gilts are decidedly well bred and are well grown. Messrs. Thomson have enjoyed a very satisfactory trade on their Durocs and this present offering is sold on the same liberal guarantee of satisfaction. Write this firm for prices.

Rockwood Durocs

Rockwood Farm, Ieria, Mo., offers an extra good lot of Duroc spring gilts bred for early spring farrow. These gilts are sired by such noted hogs as Col. Wonder, and Instructor. The prices are very reasonable.

Cooke's Holsteins

Harry Cooke, of the firm of S. W. Cooke & Sons, Maysville, Mo., who advertise Holsteins in this paper, was in the office last week while attending Farmers' Week, and informed us that they had an exceptionally attractive lot of bull calves on hand now that were ready for sale. The calves are sired by Prince Segis Walker Petjre, one of the best bred Holstein bulls ever brought to Missouri. This bull comes from a long line of high producing dams and the calves by him are for the most part out of A. R. O. dams. Messrs. Cooke can at all times supply anything our readers may want in cows and heifers.

Williamson's Poland Chinas

Look up the advertisement of H. S. Williamson, Centralia, Mo., and note that he offers Poland China gilts of first-class big type breeding that are bred to farrow in early spring. Mr. Williamson has insisted upon size and bone in his herd, and it is commonly remarked by visitors that this herd shows as much, if not more, bone than any herd in the country. His prices are reasonable and he sells on a guarantee.

HEREFORD CATTLE

HEREFORD BULL

For sale, a registered Hereford bull two years old. A good individual and priced right for a quick sale.

Hugh Whiteford - - Guilford, Mo.

RED POLLED

RED POLLED CATTLE

HERD ESTABLISHED 16 YEARS

Young stock for sale at all times. Young bulls sired by Logan 13500. The dual purpose kind. Also Spotted Poland China spring boars and gilts.

M. L. SNYDER, - POLO, MO.

ANGUS CATTLE

ChoiceAberdeen-Angus

Established 30 years. 100 head in herd. We are offering good useful Bulls and Heifers of excellent individual merit and breeding. Price reasonable. Our customers make them popular.

J. L. Sutherland & Sons Windsor, Mo

Aberdeen-Angus

I am offering a number of young bul,sl cows and heifers — good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.

J. D. Blackwell Fayette, Mo.

Brown's Aberdeen Angus

Choice yearling bulls. Also a few heifers. Poland China boars and gilts. All Stock Registered

K. H. BROWN, - - BOLIVAR, MO.

ANGUS CATTLE

HERD FOUNDED 1904

Seven early calves—3 BULLS and 4 HEIFERS, sired by Dean's Eric 139686 Every one the right kind, and priced to sell.

V. E. LAWRENCE, SALISBURY, MO.

Angus Bargains

Registered bulls and heifers. The market topping kind. Leading families represented. Priced worth the money and satisfaction guaranteed.

Also Poland China Hogs.

J. M. JONES, R. F. D. 3, EVERTON, MO.

PERCHERON STALLION FOR SALE

I offer for sale the reg. 4-yr-old Percheron stallion, Prince Imperial Dark gray; will weigh 1800 pounds.. Sound, gentle, and broke to work. Cash or terms.

J. A. Eckenrod, R3, Springfield, Mo.

AUCTIONEERS

THOMAS E. DEEM

AUCTIONEER

Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased.

Dependable service at a reasonable charge. Address, Cameron, Mo.

HOLSTEIN CATTLE

Dutchland Sir Hengerveld Rag Apple 99771

A few choice bull calves out of heavy producing dams sired by the above famous bull for sale.

BLACK AND WHITE FARM
Baden Station, Mo.
Tel. Colfax 1812 R. R. 30

IN MISSOURI

Eight bulls, 2 to 8 months, $100 to $175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.

S. W. COOKE & SON, MAYSVILLE, MO.

HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndyke Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

M. E. MOORE & CO., Cameron, Mo.

JERSEY CATTLE

JERSEY CATTLE

Bulls ready for service. They are sired by the Owl's Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

Jersey Cows

I want to sell 20 head of registered cows and heifers that are either fresh or soon will be. Also four young bulls.

J. B. SMITH Platte City, Mo.

SUNSET JERSEYS--TRIO

Two fancy heifers (both bred) and a fine bull, all of the famous Blue Belle—Golden Rosebay breeding. I will sell this trio for $250. This price cannot be equalled anywhere for such stock. Send for circular, description of herd, production etc.

The ENNIS STOCK AND DAIRY FARM,
Horine Station, Mo.
(Just south of St. Louis)

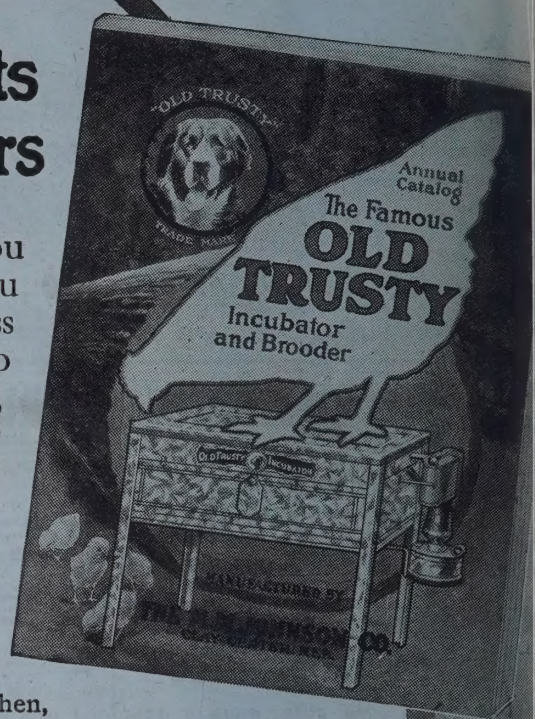
MOLASSES Richest Feed Lowest Cost

St. Louis Molasses Co., Dept. MF., 400 S. Broadway, St. Louis.

Old Trusty Incubators

Brought Success and Profits To 650,000 Poultry Raisers

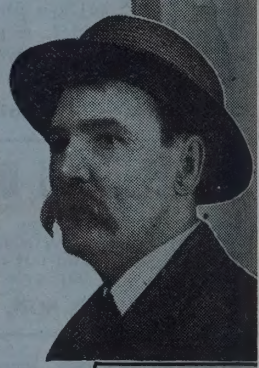
H. H. Johnson



READER, if *profits* can interest you I want you to get in touch with us. I want to tell you how and why Old Trusty has brought success and profits to so many thousands of people, and to outline to you the *Johnson Plan* of raising chickens, ducks, turkeys or geese on a *money-making* scale. I want to give you the same plans and ideas that started our customers from coast to coast doubling up their poultry incomes.

Maybe you have never given chickens much thought. Do you know that chickens can return more *actual cash* for the little attention you give them than pork, beef or mutton? On some farms Old Trusty has made the poultry *pay all the bills and more.* A mainstay income so to speak. Profits in other lines are saved—or put into the bank or into improvements or luxuries that were not possible before. Let me tell you of homes where this has worked out. But, whether you go into poultry raising for all there's in it, or just let it bring a few extra dollars now and then, it will pay you to get the Johnson plan.

Write Today for This New 136-Page Book—Full of the Ideas That Started Others Making Poultry Incomes FREE



M. M. Johnson
An Engineer and a Poultry Raiser. Inventor of Old Trusty and Founder of the Largest Incubator Business in the World.

There will be no obligation whatever. The book is free. I just want you to know what we have done in starting others, and what we can do for you too if you want to make more money than you are making now.

There's no experiment about it—no lessons to learn—no big investment made—you do not drop any of your present work—and it's not even necessary to have had previous experience, for *Old Trusty brings all the experience that's needed.* Anyone can operate it—even the most inexperienced have made big hatches with it right from the start. When you think of the fact that this incubator is used by *hundreds of thousands* more people than those who use any other, you must admit that it has made a *big success.* It leaves no doubt as to the *best* incubator. One thing about Old Trusty is that profits are *sure* if you do your part.

It can turn out record-making hatches for you at any time of the year. In coldest January or February as easy as in warm May or June.

Make Winter Hatches for Big Profits

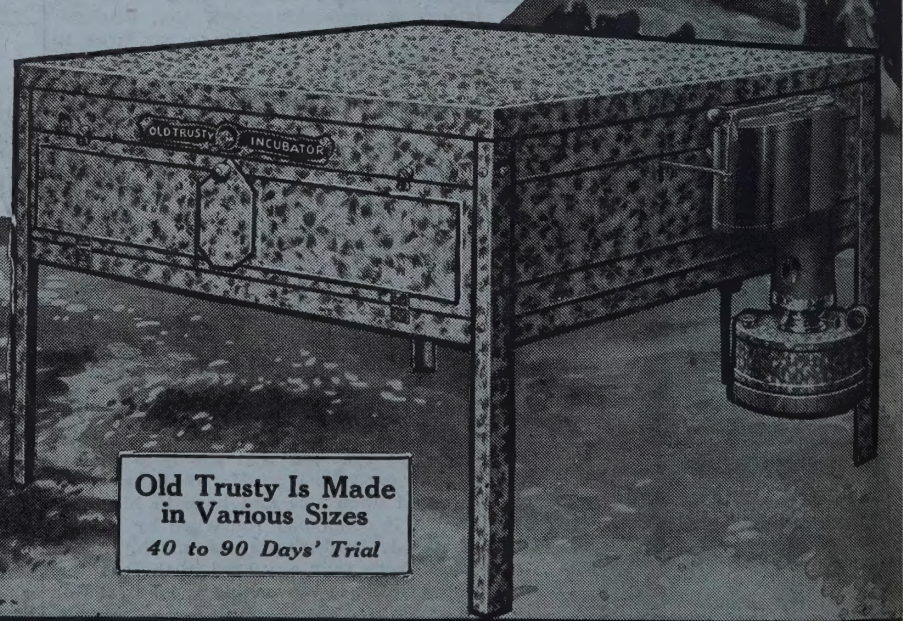
It's the cold weather hatches that give you the big profits in chickens to sell in July and August or laying pullets in the fall and winter months when egg prices are highest. You need Old Trusty for this work. Here and there you may find an incubator that can make cold weather hatches, but remember, you are asked a high price for it. Old Trusty gives you top-notch construction at the bottom price because it's built in the largest exclusive incubator and brooder factory in the world. We make its parts in lots of tens of thousands. We have the most modern labor and cost saving equipment. We have no "big guns" drawing fat salaries and adding to our overhead cost. Therefore we are in a position to give you the biggest value for the least money. That's Old Trusty.

Practically speaking, there's no wear out to Old Trusty. One customer, Mr. S. W. Warren, at Tryon, Neb., bought an Old Trusty of us twelve years ago. A few weeks ago he wrote that it's still giving good service. That gives Old Trusty a pretty low cost per year, don't you think? And figuring that Old Trusty generally pays back its cost with the first hatch, what could be a better investment? But I am not going to urge you to buy an Old Trusty. What I want you to do is to send for our book and then arrange your plans accordingly. In this book we give you the facts on the raising of poultry as we found from actual experience. You'll find no fancy advertising language in it and nothing drawn from the imagination. It's just a home-made book gotten up by ourselves here in our own printing shop in Clay Center, but it's crammed full of sane *money-making* ideas from cover to cover.

Send for it today then you're in line for another income. Write your name on a postal or send a letter, as you prefer. But mail it today. Yours truly,
H. H. JOHNSON

The M. M. Johnson Co., Clay Center, Neb.

Less than $10 still buys OLD TRUSTY Shipped freight paid to anywhere east of the Rockies — a trifle more to points farther west. Quick shipment from factory at Clay Center or warehouses at St. Joseph, Mo., or Seattle, Wash.



Old Trusty Is Made in Various Sizes
40 to 90 Days' Trial

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

Library College of Agriculture University of Illinois

THE
MISSOURI FARMER
COLUMBIA, MO.
THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE AND THE MISSOURI EXPERIMENTAL STATION

Abraham Lincoln

A few days ago marked the birthday of Abraham Lincoln and from one end of our mighty land to the other all thinking men paid silent tribute to this great character who impresses himself more and more upon the ideals of the great Republic for which he lived and died. The past history of our Nation is rich with men whose names have been written in imperishable letters upon the scroll of time. There is the sainted Washington who looms majestic through the mists that reach back to Valley Forge and to the Brandywine. There is Jefferson whose philosophy of human liberty will be read and invoked as long as the phrase means anything and as long as society continues to strive toward equality of opportunity—while closely following after are the names of Benjamin Franklin, Patrick Henry, Alexander Hamilton and others whose courage, manhood and patriotism will ever remain a sacred heritage to those who today enjoy the blessings and the privileges for which these titans fought and toiled in the long ago—for truly in all the toilsome struggles of civilization no other set of men ever wrought as splendidly as did these.

And yet, great as all these men were, Lincoln was something more—something which has caused the millions to pause with profound awe, not only at the master statesman but to love the man himself as perhaps no other man has ever been loved in the World's history—to pay tribute to that beautiful quality of simplicity and deep humanity which marked his every act and which is so often missing in the makeup of those who succeed in scaling the dizzy and perilous heights of immortality.

Truly, the life and history of this remarkable man constitutes a romance and a heritage of inestimable value to the idealism of the Nation. Emerging from a little log cabin hidden away among the wildwood of the Kentucky hills he fought his way step by step until finally he found himself the chief actor in one of the most tragic dramas the World has ever known. With no education save that which he laboriously acquired by the light of a candle after his arduous day's work was done, he emerged a polished thinker before whom the philosophers and learned men of all time may well bow in reverent awe. Unschooled and untutored in statecraft, he stepped from his law office at Springfield into the seething whirlpool of politics at the National capitol—and although there were those who came into his councils to scoff, in the end they remained to pray—content to meekly follow this man of whom the gruff old Stanton said, as he looked into his dead face, "There lies the greatest leader of men the World has ever known." Brave as a lion he was yet as gentle as a woman. Always ready to listen to the advice of others—and always deliberately seeking it—he was nevertheless in the end as firm as the everlasting hills—altogether the rarest mixture of might and tenderness, of profound understanding and human simplicity the realm of statesmanship has ever produced.

Is it any wonder that as the years pass on his figure should loom larger and larger in the retrospect and that the ideals for which he toiled should more and more become a guiding star for those who labor honestly and conscientiously in our halls of state? Does not the life of Lincoln typify more than that of any other man the best there is in Democracy? Has any other man ever so splendidly interpreted the true meaning of human right? Was not his every act and smile and jest a rebuke to arrogance and snobbery? Is not the rock bestrewn, briar and bramble bordered path which reached from the little log cabin in the backwoods of Kentucky to the White House a marvelous inspiration to every American boy—it matters not how humble and lowly his circumstances at this hour? It is in this latter sense that I wish to especially commend the life and acts of this great man to the young farmer boys who may chance to read these lines. If you have never read the history of Abraham Lincoln do so at your earliest opportunity—for you cannot follow his career without desiring to give the best possible account of your stewardship in the years to come.

—By the Author of After Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VIII FEBRUARY 15, 1916 NO. 4

WILLIAM HIRTH
PUBLISHER

Fence Your Farm The "APEX WAY"

Save Work and Money

THESE two books will tell you how you can save work and money and have better looking fence the "Apex Way." Let us send them to you free. They show how easily you can put up APEX fence — how the "swinging joint" lets it fit hilly ground as readily as level stretches, and how it keeps its shape and always looks neat.

Save Post Hole Digging By Using APEX Steel Drive Posts

They cost less to use than wood posts and outlast a generation. Can be driven into any soil, gravel or soft shale rock. Made of elastic carbon angle steel—the strongest and toughest post material known. Use Apex Posts for your next fence—save work—save 8 to 10 cents in setting each post—have better looking fence—burn fence rows clean—ground the lightning and protect stock.

Write for Free Books

Read the helpful hints on fence building that save money, time and hard work.

Janesville Barb Wire Co.
519 S. Franklin St., Janesville, Wis.

FOR LEVEL OR HILLY LAND USE

KITSELMAN FENCE

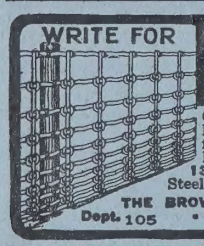
HORSE-HIGH, BULL-STRONG, PIG-TIGHT

Made of Open Hearth wire, heavily galvanized—a strong, durable, long-lasting, rust-resisting fence. Sold direct to the Farmer at wire mill prices. Here's a few of our big values:

26-inch Hog Fence - 12 cts. a rod.
47-inch Farm Fence - 18 cts. a rod.
48-inch Poultry Fence - 24 cts. a rod.
Special Prices on Galv. Barbed Wire.

Our big Catalog of fence values shows 100 styles and heights of Farm, Poultry and Lawn Fence at money-saving prices. Write for it to-day. It's free.

KITSELMAN BROS. Box 48 Muncie, Ind.



WRITE FOR BROWN FENCE BARGAIN BOOK AND SAMPLE

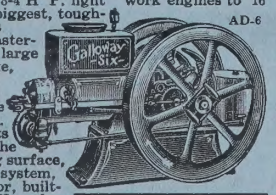
Over 25,000,000 rods Brown Fence already sold to 400,000 farmers. Factory Prices, Freight Prepaid. 150 styles, 13c per rod up. Gates and Steel Posts, too! Write postal.

THE BROWN FENCE & WIRE CO.
Dept. 105 • • • Cleveland, Ohio

PRICES DOWN

WAIT! Get my 1916 price! Don't buy an engine of any make or kind or price until you first get my low 1916 prices and easy buying plans, including terms.

I build these Masterpiece engines in my great chain of factories and sell them direct to farm and shop with only one small profit added to actual cost. My New 1916 250 Page Book illustrates and describes all sizes from 1 3-4 H. P. light work engines to 16 H. P. moguls for biggest, toughest, heaviest jobs. AD-6



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OUTSIDE, LOOKING IN

A great many Missouri farmers have been and are being benefited by the work of our Agricultural College and State Board of Agriculture. It is, however, the progressive farmers as a rule (the men best able to help themselves) that are being reached and helped. Of course these men are spreading the gospel of better farming throughout their respective communities and slowly overcoming the conservative opposition to progressive ideas. But it seems that some more direct and special effort should be made to reach the man on the outside looking in (and too often doesn't care to come in).

Why are so many of our farmers suspicious of our college and state board workers? One reason is because much of their work overshoots the mark (the average farmer). Too many of their ideas and suggestions apply only to the man in comfortable financial circumstances who needs only to be convinced in order that he may put them into practice. Too often the condition of the small land owner or renter is not reached (overshot) and to them these ideas are not practical. They feel that they are on the outside. That the information is not for them. Even if interested they can not see their way to try out the suggestions. Some naturally shy at the college men.

How to reach these non-progressives (who after all make up a very large per cent of the sum total of country life) is our problem.

I would suggest that one way of reaching this class of men is through a farm visitor. A practical farmer stockman, visiting farms in different parts of the state (and with especial attention given to the renters) studying conditions as they really are on the farm, would be in position to get down to bed rock conditions and difficulties. Where ever he found helpful practical working ideas he could pass them on to others through the press, lectures, bulletins, etc.

The field for usefulness is unlimited. I might mention as a field of endeavor, better schools, roads, churches, etc Co-operative feeding plans between landlord and renter and long term leases.

Always keeping in mind the common people who as Lincoln said, God must have loved for He made so many of them. Such a farm visitor I believe would be able to reach and benefit many farmers in our state, who are not now being reached by our workers. J. H. Smoot, Thompson, Mo.

Editorial Comment: Mr. Smoot raises a very important question and one the College of Agriculture and the State Board of Agriculture ought to seriously study. Much of the work done by the professional agriculturists "overshoots the mark" and these men are at a loss to know why they do? Conditions on the farm where men must sometimes work with little capital, or may be without capital at all, are quite different from the ideal conditions or at least what we might call the artificial conditions under which the college man is working.

Another point we think well taken by Mr. Smoot is the professional agriculturist is too fond of rubbing up against the successful man and is seemingly afraid of the poor man, or of the man who has failed. You know the Savior said it was not the well but the sick who needed a physician and we think this applies to this farm betterment proposition. It is, or ought to be, as much the duty of professional agriculturists to take the man whose agricultural practice is wrong, in other words, the man who has in some respect failed, and put him right, put him on the road to success as it is to try to help the already successful man. Talk to a professional agricultural worker and in nine times out of ten he will tell you what he has learned about some man's success and not once in ten can he tell you where he has helped the man up who was down and started him on the road to a more profitable farm practice. I am not objecting to the college man helping the man who asks it or needs it no matter how well-to-do he may be, but I think the whole attitude of professional agriculture ought to be changed so that the first duty will be towards the man who has failed to make good, but who is ready to try a better way if he is shown how. About a farm visitor that is a pretty big proposition because a man to be of any real service would have to spend considerable time on each farm. We may come to this some day but as we have from 2500 to 3500 farmers in a county you can readily see what a big proposition it is About all we can hope for along this line is to help farmers by clubs or groups with some individual help.

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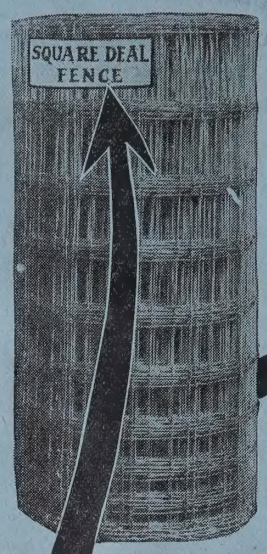

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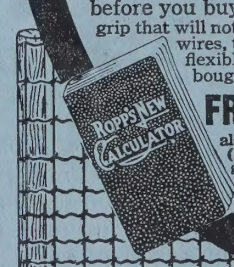

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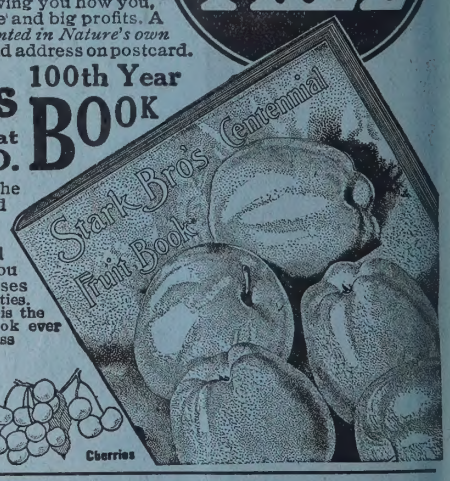

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The Missouri Farmer

VOLUME VIII | FEBRUARY 15, 1916 | NUMBER 4

The German Agricultural System

By William Hirth, Publisher

It is conceded upon every hand by en who have studied the question at the German system of Agricul- ire is better organized than is that any other nation—and to this is due no small degree the remarkable ility with which the Kaiser has et a shock of war which is shaking e World to its very foundations and hich, regardless of where one's per- nal sympathies may lie as to the erits of the conflict, is admired upon l hands.

How German Farmers Control Their Markets

For years the German farmers have een organized not only behind the Landschaften" system of Agricul- ral credits but long ago they took in and the marketing of their farm pro- ucts with the result that such mo- opolies as has existed in the United tates and which are levying a tribute at grows heavier and heavier each ear are impossible under the German ystem. In other words, the German armer saw to it years ago that he hould have the cheapest and longest me money that the money markets fforded and also that he should re- eive such a price for his crops and ive stock as an honest law of supply nd demand warranted—and hence erman Agriculture has flourished as as that of few other countries in the Vorld. The ground work of this sys- em rests upon an Agricultural soci- ty in the smallest political subdivis- ons corresponding to our township. rom the township it reaches up to he county and from the county up to he state and from the several states nto a great National farm organiza- ion which is presided over by a oard of 72 directors—and these men ot only in a general way direct the ourse of German Agriculture but no neasure is ever passed through the erman Reichstag (which corresponds to the American Congress) until it as received the approval of this owerful board which absolutely dom- nates the Agricultural destiny of the Empire. When a new tariff bill is nder discussion at Washington the nanufacturing interests are there in orce with an array of powerful law- ers and experts and the same is true where Organized Labor is concerned —but there is no organization which represents American Agriculture— which is empowered to speak authori- tatively and intelligently for the in- terests of the American farmer and hence it should cause little wonder that he gets the "hot end" of it in the passage of new tariff bills or other legislation vitally affecting his inter- ests.

Farmers Have the Power—Will They Use It?

Suppose the farmers of every great Agricultural state in the Union were represented by a standing committee of 30 high class farmers who had been carefully selected from the mass of the farmers of each state—and then suppose that these men could delegate such voice and power to a National Committee of 50 or 60 farmers representing all the states—don't you suppose these men would be listened to at the National capital as no set of men were ever listened to before?—and don't you think their every just demand would meet with an instantaneous response?

Suppose that the marketing of the farmers' grain and live stock could be taken in hand next week by powerful committees of this kind representing the farmers of Missouri, Illinois, Indiana, Iowa, Nebraska, Kansas and Oklahoma—don't you think they would soon be able to whip a program into shape which "would get somewhere" and in which the farmers of these states would have a degree of confidence necessary to success? Can't any thinking farmer see that farmers have the resources and power to rescue themselves from the pitiable plight which exists upon every hand today if they will only wake up and act together? Can there be a finer demonstration of what intelligent co-operation will do than is found in the German system? The reader will be able to judge how harmoniously this system works from the fact that in the autumn of 1914 every German farmer from the biggest to the smallest received a communication which told him how many acres of rye, wheat, potatoes, etc., to sow or plant to the end that there might be no underproduction or overproduction in any particular food stuff—thereby guaranteeing a stable price to the farmer and also stretching the resources of German Agriculture to the utmost and enabling the German people and her armies to live at a time when the great Armada of England has closed to her every port in the World. Whether we personally admire the Kaiser or not or whatever we may think of his fault or credit in the great red drama which is now in progress, we cannot help but applaud the splendid efficiency of German Agriculture in an emergency which is without precedent in history and which has meant prosperity to the German farmer for many years.

Missouri Farmers' Association

During the recent Farmers' Week in January a Farmers' Market Conference was held and attended in Columbia by hundreds of farmers from all over the state—and very shortly an Executive Committee will be announced and these men will constitute the future leaders of this great movement in Missouri but what they will be able to accomplish will of course depend upon the interest manifested by the great body of farmers throughout the state.

The temporary chairman is E. H. Bullock of Edina, while J. Kelly Wright of the State Board of Agriculture is Secretary. In a recent issue we published the appeal which was addressed to the farmers of Missouri by the above conference and our readers are therefore familiar with it—and it is to be most sincerely hoped that this temporary organization will soon be built into a great statewide force of farmers reaching into every county in the state.

I hope that the continued insistence of The Missouri Farmer on this score will not become tiresome to our readers—and we are doing it only because in the humble judgment of both the Managing Editor and myself we believe this to be the only remedy for existing conditions which are fast paralyzing American Agriculture and subjecting it to a decay which it cannot stand much longer—not only menacing the well-being of every individual farmer but gravely threatening the future economic stability of the Nation itself.

If the manufacturers, merchants or organized labor were confronted by such conditions as confront the farmer today, powerful and Nation-wide action would be set in motion within 30 days. Are we to be driven to confess that the farmer is inherently weaker and less able mentally to protect his just interests than these other classes? I am sure that such a suggestion would meet with the prompt indignation of thousands of stalwart Missouri farmers who read this paper —and yet, so long as we keep on dreaming and idly drifting with the current, does it not amount to the same thing? When men have the power to protect themselves but don't exercise it, are they not practically in the same boat with the fellow who can't?

In response to our appeals hundreds of farm clubs have been formed—and yet we have hardly scratched the surface—but if the farmers of every school district will arouse themselves, in a little while the movement will gather the force and enthusiasm necessary to success.

"The Farmers' Market Club"

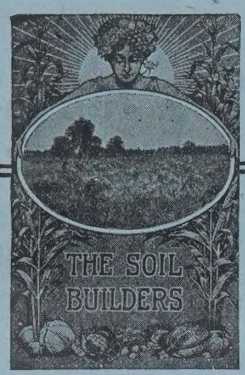
In our last issue we made an appeal for a "thousand fighting farmers" who would help organize a club of at least a dozen "Farmers' Market Club" members in every school district or neighborhood—thus enabling us to supply wholesale prices on carload shipments of bran, shipstuff, oats, hay, corn, fertilizer, and other similar commodities and I want to once more appeal to YOU to be one of these thousand men who will help put this plan into effect. What we can do for the farmers of the state in this matter depends upon the number of clubs which are organized —for our expense and trouble will be almost as heavy on extending this co-operation to 100 as 1000 such clubs. This, therefore, is a final appeal for every true friend of The Missouri Farmer to demonstrate his sincerity for this great movement by "doing something" in his neighborhood. Then, with the inspiration which we will receive from hundreds of these little "Market Clubs" we will be in position, when the rush of spring work is over, to rally around the men who will lead the Farm Association fight in Missouri —and by calling big county mass meetings of farmers, after the rush of harvest is over, will soon have the movement on such a stable basis that the farmers of this state will be able to present a solid front and speak with one voice to those who are today levying an impossible tribute upon the fruit of their sweat and toil. For further information write to us at once. The time is growing short for spring will soon be here.

In the plan of farm organization and better marketing urged by The Missouri Farmer and which has so far been endorsed by thousands of farmers throughout the state, the foundation rests upon the home club. Farmers must first learn to co-operate in the small affairs which affect the business of the community before they can hope to control those greater problems of marketing which are now in the hands of great business corporations backed by millions of capital.

This year, and every year, there will be thousands of dollars worth of field seeds—seed corn, oats, clover seed, timothy seed, cowpeas and soybeans—sold off the farms of Missouri and sold back to other farmers at big profit. Farmers should not complain of middle men so long as they remain content and do nothing to remove the cause for middle men.

It is often the case that a farmer will sell seeds, live stock or other products on the market when at the same time his neighbors are needing the same articles but for lack of any system of exchange they do not know where these things are to be had without going on the market to find them.

The remedy for all this loss in our system of marketing is through the organization of Farmers' Market Clubs—the small neighborhood club first through which the members can learn what articles are to be had at home, and second, by co-operative buying of such articles as feed, flour, coal, binding twin, etc., in large quantities the middle man's profit may be saved. The business may then be extended to the county and state, but the first step is in organization of the local club.



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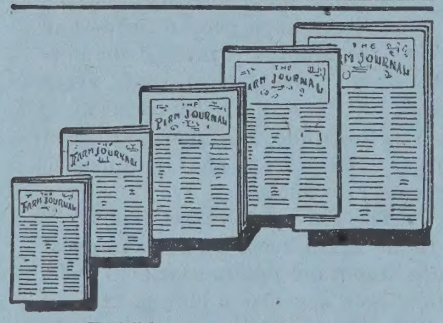

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WHY NOT GROW MORE CLOVER?

According to the best information we can get there is but one farmer growing clover to ten who are not growing it. This statement refers to growing clover alone. But if we count every man who grows clover with timothy we have only one out of four and again if we count only those who grow clover for seed we find only one out of forty-six. Surely to men who realize the value of clover as feed, pasturage or for soil improvement this is a sorry showing. Instead of clover showing an increase in acreage from decade to decade as it should do it is on the decline. Is this because clover is not profitable or is it because the farmers do not understand how to grow it? We think perhaps both causes are to be found and must be removed before we can expect an increase in the acreage of clover in Missouri, and this state is not materially different from the surrounding states.

The first handicap in growing clover is in getting a stand. During the dry years recently encountered hundreds of farmers tried seeding clover and failing to get a stand they then became discouraged and they have either gone back to straight timothy or have depended on the annual legumes, cowpeas and soybeans.

There are three different seasons when clover may be seeded with a reasonable degree of success if other conditions are all right. Clover may be sown in the summer on well prepared land either alone or with a crop of wheat or rye. The seeding must be done the last of July or during August in this latitude to give it time to get hardy enough to go through the winter. In exceptional seasons it might do to sow a little later but there is too much risk in doing so. The ground should be plowed early in July then worked into a fine and compacted seed bed and the seed sown and covered with a light harrow or sown with a drill. If rye or wheat is sown with this summer seeding the crop may be pastured when the ground is not wet and the next spring the crop should be cut for hay when the wheat or rye is in bloom.

Another date for seeding is February or early March. If seeded at this time it is best to sow on a nurse crop of wheat or rye for without the nurse crop the summer grasses will be hard to keep down and will probably smother the young plants before the middle of summer. However, where the land is fertile and clean of weeds and grasses the clover may be sown at this time without a nurse crop and at least one crop of hay taken off during the summer. The seed should be sown on frozen ground then the freezing and thawing will cover the seed and if it is well covered it may not germinate until the danger of frost is over. The great danger in February and early March seeding is that a warm spell after sowing will sprout the seed and then a freeze will kill the tender plants and all is lost. Were I practicing this method I should sow before the 20th of February because this early sowing will allow the seed to become covered deep enough that it is not so apt to grow in a few warm days and not so liable to be killed but there is considerable risk in the climate of Missouri in sowing at this time and do the best you can you will occasionally lose a seeding. If, however, it escapes the freeze it will get a good start and have root enough to endure the summer drouth.

The third season for sowing clover and by many farmers considered the safest, is after the danger of freezing is past, say usually in Central Missouri, the first week in April. I know a great many farmers who have adopted this time and the writer has practiced seeding the first week in April for more than twenty-five years with good success. If seeding on wheat we would cover with a harrow, unless seeding with a drill, to get the seed well covered. This working will do the wheat no harm unless possibly it is badly "heaved" by winter freezing and in that instance a good rolling might be better, but in this connection we might say that red clover is not a very safe crop on land that "heaves" very badly. Remember this, that where clover is seeded with a nurse crop the earlier that crop is taken off the better chance the clover will have and for that reason if the nurse crop is oats or rye we would never fail to cut these crops early for hay and even with wheat if the hay is needed on the farm it will be better four years out of five to cut it off before the wheat is ripe enough to thrash for grain. We have seen a great many good stands of clover killed after the grain was cut. This is more apt to be so if the weather is very dry about harvest time.

A good practice, but one not in general use for some reason, is to clip the clover two to four weeks after the nurse crop is cut off. This clipping has several advantages. It will hold back the weeds that are starting; it will give a mulch for the young clover by clipping about half the height of stubble and the weeds and this will be a decided help to the young plants if it is very dry; it gives a more stocky plant and sometimes a very thin looking stand, after clipping will thicken up and be all right.

Amount of Seed to Sow

There is a wide difference among farmers in the amount of seed sown on an acre. Where clover is sown alone the practice is to sow from 6 to 10 pounds per acre. That is a bushel of seed is sown on from 6 to 8 acres of land. On land that is not sour and which is in a good state of fertility and cultivation we consider the thinner seeding ample but where the soil is hard and poor from long time cropping and without manure or the turning under of green crops it will be safer to sow the greater amount. At present prices a difference of 4 pounds per acre makes a difference of about 80 cents an acre in the cost of clover seed and we wonder why it is farmers can not see that if that 80 cents were put into soil betterment they would get it back in bigger crops but if it is put in a larger quantity of seed it might be said to be entirely lost. Where clover is seeded with timothy a great many farmers sow the same amount of seed as where it is sown alone for they count on a full crop of clover the first year harvested, but where the timothy is seeded in the fall and promises a crop the first year one-half the amount of clover seed will be sufficient.

The two leading varieties of clover are the common red and the mammoth or sapling clover. The common red is the one more generally sown in Missouri. For seeding alone for hay and for seed crops we would prefer the common red, but for seeding with timothy or for pasturing we would take the mamomth. The mammoth is coarser, grows taller, is later maturing and seems to do better on poor land than the common red. Being later it ripens more nearly with timothy and will make a good quality of hay if cut in good time—when about one-fourth the heads are brown. For turning under for soil improvement the mammoth is considered best on account of its ranker growth. If those farmers who have been raising straight timothy will just try a timothy-clover mixture on a part of the field once and note the difference in the amount of hay and pasture they will be forever convinced of the value of clover. The mixture makes a better quality of hay, makes more hay per acre and the crop is much better for the land than where timothy alone is grown. The writer first had this called to his attention about thirty years ago when seeding down an old field. The land was carefully prepared and seeded to timothy with a nurse crop of flax and on a part of the field five pounds of clover seed was sown to the acre. The next year when the hay was cut the timothy with the clover, without any other difference of treatment, was on the average two inches taller than where timothy alone was grown and when the hay was raked into windrows there were four rows of hay on the clover side to three on the timothy side, and the difference was equally apparent the next year when the field was pastured with cattle. A pretty big profit on that much seed cost.

Alsike Clover for Wet Land

There is much flat and undrained prairie too wet for successful growing until it is drained and there is plenty of land in Missouri where clover has failed on account of too much acidity. The two things that will sweeten the soil are drainage and lime. However, before these are corrected it may be profitable to try growing alsike clover. This variety has a pink blossom, is apparently a cross between the common white clover and the red, has a more recumbent or vine-like stalk, grows very fine in stalk but does not make as much hay as the other varieties and does not make much second crop. But for pastures or for mixing with timothy on wet-like land it will pay to try. The seed looks very much like white clover seed and as the size is much smaller than red clover less than half the amount may be sown. Alsike is one of the finest honey producers we have.

Were we asked for the two principal causes of failure with clover aside from the slovenly methods of some farmers in seeding the crop we would say it was need of lime in the soil and need of humus or vegetable matter or in other words a lack of physical condition. An easy way and sure way to find out if the soil needs lime is to make a trial. This will cost but little then you will know and in no other way can you be very certain about it. It will cost very little to buy a ton of ground limestone or a barrel or two of air-slacked lime and that will tell the tale. Use a barrel of air-slacked lime on a plot 2x8 rods or say one-tenth of an acre. If ground limestone is used a ton should be put on half an acre. This will be enough to tell the lime story and will cost very little. It is best to put the lime on the wheat ground after it is plowed in the summer and the working the land will mix the lime with the soil. We would not apply lime to wheat land in the spring but where clover is sown with oats we would make a trial by spreading the lime on the oats ground and disking it in before sowing the clover. In our next article we will discuss the value of clover as a green manure crop and the need of humus in getting a stand and its value as a seed crop.

SCARED BEFORE HE IS HURT

ditor Missouri Farmer:

I have just received a Gardner Land ank petition accompanied with argu- ıents and much favorable comment ut I am not convinced. The amorti- ıtion plan is perfect, the rate of in- ›rest reasonable (it ought to be 3%) nd the long time payments all that ›uld be desired, forming a set of rinciples good enough to blind a lot f mighty good men to some things ot so good.

In the first place the whole thing is ›ecial class legislation which is either desirable nor necessary be- ıuse any business that can not stand n its own merits ought to perish. esides if it is established it will be sed as a gag on the farmers while ther interests steal the whole coun- ·y, farmer and all. Every proposition r measure has behind it some one ho is interested and I am sure there not a debt ridden farmer in all that nposing list of forty-nine state com- ıittee, and not more than half a dozen eal farmers. I do not question these ıen's motives, but it is contrary to ıe social and economic order of ıings for one class to lift another lass out of the mire, unless it is to et more out of them.

Now, let's see if we can find an in- entive. In Section VII we read as ›llows: "The state shall be divided ıto appraisement districts and the ıanager shall appoint, subject to the pproval of the board of governors, xpert appraisers in their districts. 'he salary of the appraisers shall be wo thousand ($2000.00) dollars and xpenses." There you have one in- entive. Why was this made $2,000 hen just as good service could have een secured for $900. Two thousand ollars is not too much for a man to eceive, but under present conditions t looks mighty big to a lot of farmers n Missouri who work all their lives or their board and clothes and don't ıave much of either. Again, how nany appraisers will it take? Frank- in County has 866 sections with from ›ne to six mortgages (death grips) to he section. With extreme distances ›ver forty miles, I don't see how a man could be an "Expert Appraiser" and tend to more than one county and probably that would be the rate. These appraisers are appointed by the Governor. One hundred and fourteen men with a salary of $2000.00 and an unlimited expense account all parti- sans of the Governor, will form one of the best partisan machines in the state. So. Mr. Farmer, desiring to se- cure a loan must be careful about being an offensive partisan and he may need to be careful what kind of religion he has because section seven lines eight, nine, ten and eleven reads: "He shall appraise the land at its cash value and make his report thereon under oath, without delay, giving al- in said report such information as he may have concerning the applicant and the land as to the desirability of the loan." The applicant must furnish an abstract of title which will cost him from $10 to $50 which directly or indirectly may compensate the prose- cuting attorney for a very large amount of examining and reporting for nothing.

Now, this measure may go through, not because thousands on top of thousands of worthy and industrious Missouri farmers sorely need a lower rate of interest with the amortization principle, but because scheming poli- ticians want more high salaried offices and the bankers and bondholders want more untaxed bonds and control most of the presses of the state.

F. W. Evins, Lonedell, Mo.

Editorial Comment: There are a number of contradictory statements or arguments in the above article that we can not harmonize after a careful reading, but we will attempt to show the error in our correspondent's rea- soning irrespective of these contradic- tions. In the first place the whole tone of Mr. Evins' article is to show that the farmer needs a lower rate of interest, longer time, etc., but he turns about and calls it all class legislation. If this law can be truthfully called class legislation then many of our laws long recognized as for the gen- eral good may be attacked on the same ground. Our banking laws enacted for the operation and regulation of banks might be called class legislation yet they were enacted and are en- forced for the general good. The same may be said of our transportation laws and many others we might mention. If a rural credit law will help any one it must help the man who culti- vates the soil—that is the aim of such a law in every country where it has been tried, and so far as we can find out it has done that very thing in every country operating under a gov- ernment controlled rural credit sys- tem. You may say the German farm- ers, the Irish farmers the French farmers and the farmers of all the other countries where rural credit legislation has been tried have been the beneficiaries of "class legislation," but what of it, if at the same time the whole country has been benefited by saving it from the direful effects of "Landlordism"? The man who shuts his eyes to history and follows only his blind prejudices may not see these things but they are there for his ben- efit if he will just look at them with an open and unprejudiced mind.

We think it is a wrong view to say the merchant, the banker or the law- yer should have nothing to say in the adoption of a rural credit system. Do not we farmers take a position and express our opinions on laws govern- ing other classes? Then why object to others exercising the same right when a law is proposed affecting us farmers? If the general prosperity and future stability of our country de- pend upon a proper distribution of the land then why deny any one the right to exercise his right of passing on the question?

Mr. Evins crosses several bridges before he gets to them by supposing impractical things that he is afraid will happen under the Gardner Land Bank Bill if it becomes a law. No political machine is going to be built up under this law. Who pays the ex- penses of these appraisers Mr. Evins is so much afraid of? The state? No, the expense is paid for by the bor- rower, and if Mr. Governor would try to build a machine by putting on 114 appraisers when only 5 or 10 were needed what would happen? Would not a protest go up from the several thousand borrowers who were paying the bills? When this law goes into effect there will be no stampede of borrowers to get into the Land Bank. But there will be only enough ap- praisers employed to handle the busi- ness and it matters not whether it takes one or a hundred, so they are efficiently employed. Does not the borrower pay the expense of appraise- ment under the present system? Cer- tainly he does. One of the big insur- ance companies which has approxi- mately $20,000,000 loaned in Missouri employs one appraiser and pays him a salary of $6000 a year. As this com- pany makes loans for 5 to 10 years their annual placement of new loans and renwals is more than $2,000,000 yet they get along with one man, but they don't think of getting him for $900 a year. It is preposterous to talk about getting a competent land ap- praiser for that salary. We are com- pelled to pay our stenographer more salary than that!

Just get it into your mind that all these expenses of appraisement, exam- ining titles, acknowledgements and everything else must be paid for by the borrower now and in the Gardner Land Bank plan we are finding a way to cut down these charges and make it easier on the borrower. Will you tell us what harm there is in that? The sole aim of this plan is to give the borrower lower interest and less expenses in getting a loan, but what- ever that expense is he must pay it— the state does not offer to do it for him.

Cowpeas and Soybeans Wanted

Our "Farmers' Market Club" is get- ting a lot of requests for Cowpea, Soy- bean, red and sweet clover and other farm seeds and if oyu have any good farm seeds to sell, please let us know at once. The Missouri Farmer.

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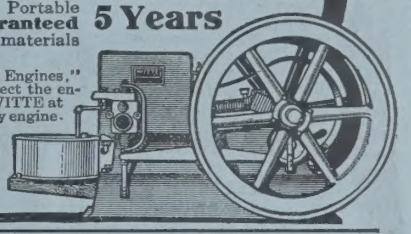

Three Hundred Million Bushel Crop in 1915

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Wheat averaged in 1915 over 25 bushels per acre
Oats averaged in 1915 over 45 bushels per acre
Barley averaged in 1915 over 40 bushels per acre

Prices are high, markets convenient, excellent land low in price either improved or otherwise, ranging from $12 to $30 per acre. Free homestead lands are plentiful and not far from railway lines and convenient to good schools and churches. The climate is healthful. **There is no war tax on land, nor is there any conscription.** For complete information as to best locations for settlement, reduced railroad rates and descriptive illustrated pamphlet, address

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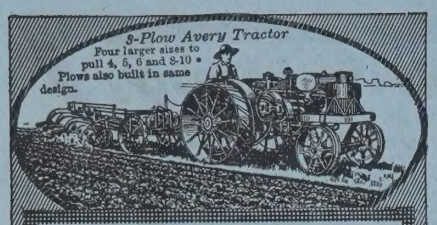

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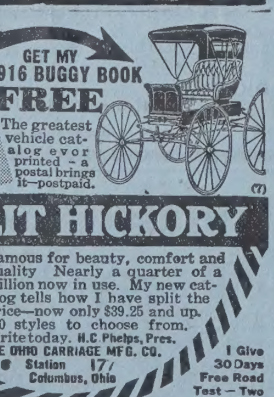

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A NATIONAL SYSTEM OF AGRICULTURAL EDUCATION

By H. J. Waters, President Kansas State Agricultural College.

[Copy of an address delivered before the recent Pan-American Scientific Congress, Washington, D. C. President Waters has a National reputation for being one of the ablest thinkers in this country and we are sure this address will be read with great interest and profit by our readers.—Editor The Missouri Farmer.]

(Continued from last issue)

City and Country Progress Together

The city children ought to understand that though the farmer has undertaken the most important task of any man, that of providing the world with its food, clothing, and the raw material for its industries, he never has had and probably never will have much to say regarding the conditions under which he will discharge that task and these children should understand that the way in which society determines these conditions will in turn determine the standing and progress of both city and country. City children should appreciate the limitations of farm production and realize that conditions which they impose that are not to the best interests of the country will not in the end be for their own best interests. They should early learn that no civilization has withstood the effect of the decay of its rural people.

Occasionally a nation may be so situated as to support itself with commercial and transportation enterprises alone, but the exceptions will always be few to the law that a people which forgets agriculture cannot long survive.

Agriculture in Every Course of Study

No system of agricultural education, therefore, can be broad enough to meet the needs of a modern civilization that does not recognize the principle that interest in agriculture is not limited to those who till the soil, but ought to be universal.

It must embrace research as well as instruction. It must reach as high in our colleges and universities as does any other kind of education, for how else may the dignity of agriculture be maintained? And it should extend as low as is required to meet the needs of the children of the grades and of the humblest farmer of the land. It must be national in its scope.

It is a narrow view which limits the scope of agricultural education to the field covered by the agricultural colleges of the country.

Only a small part of the people of any country ever attend institutions of college grade, and in the nature of the case only a part of these will study agriculture. Therefore, all the agricultural colleges which any country will find it profitable to support when working ever so diligently and efficiently, will not be able to train more than the leaders in agriculture.

The facilities of the high schools of the country must be employed and the United States at least needs more high schools, especially rural high schools. A good high school should be within easy reach of every boy and girl in the land.

But the problem is by no means solved when agriculture is successfully taught in all the high schools of a country, for comparatively few of those who are to farm will attend a high school. Indeed, from seventy-five to ninety per cent of the boys and girls of the United States leave school and enter life occupations before they are sixteen years of age and before they reach the high school.

Perhaps nine-tenths of our farmers have gone directly to their work from the rural school. To reach them with instruction that will make them better citizens and more successful husbandmen and business men, means that we must teach agriculture in this school.

Early Agricultural Instruction a Failure

Although agriculture was man's first organized occupation and has been his chief occupation in every age since, it has been the last subject to be introduced into the course of study of our schools.

The early attempts at teaching this subject in America were failures principally because the man on the farm knew more about farming than did the teacher. This quickly led to the establishment of agricultural experiment stations, research institutions in which the application of science to agriculture was studied, where the reasons for the most successful farm practices were discovered, and where new and improved practices were devised. Thus, for the first time in the history of education, a deliberate attempt was made, through a well coordinated system of scientific research, to create a body of knowledge in relation to a subject which it was deemed important to teach, but about which so little of a definite nature was known that it could not be taught successfully.

It is true that scientific research has been a part of the activity of most institutions of higher learning for a long time, but there had not been before an organized, co-ordinated, and compulsory system of research as a definite part of a great educational program.

Agricultural Research a Stimulus to Other Study

The success of the investigations in agriculture in this country has been a wonderful stimulus to the research activity in other lines. As might have been expected, the first result of this suddenly stimulated activity in research was the accumulation of knowledge more rapidly than it could be absorbed by the farmers and adapted into their practices. A way had to be devised by which to get the man on the soil, who is largely muscle-minded and eye-minded, to adopt these new methods. As a result, a system of extension teaching through farmers' institutes, press articles, and farm demonstrations, grew up. It is only within very recent years, indeed, since the passage of an Act of Congress, by which the Federal Government joined with the states through the agricultural colleges, that the effort to carry this knowledge to the people has become general and effective.

The School Trained Farmer a Success

Thus, new as is the system of agricultural instruction, and halting as was its progress in the beginning, it has already marked two distinct and important departures from educational traditions—one in the organized system of research through which a body of knowledge pertaining to the subject was created; the other in an organized system of extension or continuation teaching through which parents as well as pupils were reached with this new-found knowledge. Both of these departures have already exerted a large influence upon general educational thought and practice.

Agriculture is now successfully taught because there is something to teach and because teachers have been trained to teach it. Young men are as well prepared at college to engage in the practice of farming as they are at college to engage in the practice of

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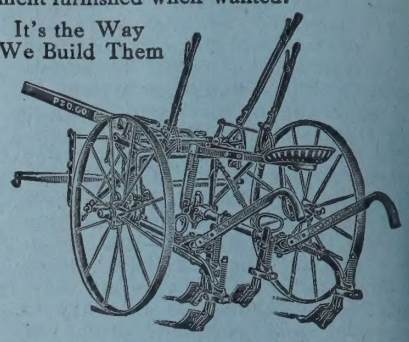

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law, or medicine, or journalism; and the farmer has as much respect for the the college trained farmer as he has for the college trained lawyer or doctor.

There is no reason why agriculture may not now become the most interesting, the most inspiring and the most educative subject in the school course—which means that it may be the most successfully taught subject in the school.

WILL YOU GROW OATS OR SMUT?

"Whatsoever a man soweth that shall he also reap" would not be a bad banner to hang up just over the oats bin and it would be well to have it printed in red or some other attractive color so that it would be read every time the farmer went into his barn.

There is a loss of thousands of dollars, yes, of millions, every year because we sow oats affected with smut. If we sow smutted seed oats we will get smut in proportion to what we sow and perhaps depending some on the character of the season. The amount of smut found in the average oat field will vary anywhere from two per cent up to twenty-five per cent.

If farmers are satisfied to take this loss and reap a crop of from one to ten bushels less per acre than they could get by treating their seed oats before sowing then there is no use of further argument, but I am convinced that farmers do not take this loss of crop because they really want it but I think it is because they think only a scientist or a seed doctor can treat the seed and prevent the loss.

Almost every year for the past six we have given a formula for treating seed oats and urged farmers to use it but have not heard from very many who have done so. Why is this?

Last year representatives of the Indiana Experiment Station planned a number of demonstrations with farmers to test the value of the formaldehyde treatment to prevent smut in oats and in the treated fields the smut at harvest time showed from nothing up to one per cent, an average of only one-half of one per cent while the untreated fields showed from 7 to 21 per cent of smut or an average of 13.8. These trials covered twelve counties and ten or more farms to the county. Is five bushels per acre an item worth while or does that look too small to you to bother with? Well, if your oats have been very badly infested with smut your loss may have been ten or fifteen bushels and surely that is enough to wake up most any farmer who knows the high feeding value of oats.

Now here is the treatment, so simple any man can use it and costing no more for treating enough seed for ten acres than a pound of tobacco or a dozen packages of chewing gum.

"Mix one pint of commercial formalin with 40 or 50 gallons of water in barrels or other convenient vessels. Formalin may be obtained from any drug store. Immerse the oats in this solution, stirring well so that all will be thoroughly soaked. Pour off the solution, dump the oats out and stir occasionally until dry. Another method employed is to sprinkle the oats with the solution until they are well soaked and then heap them up in a pile and cover with blankets or sacks. Leave them in this pile for five or six hours, or even over night, and then spread out to dry. Stir frequently until thoroughly dried, after which they may be sacked and set aside until seeding time.

"Machines for treating oats and wheat for smut are on the market. In these the grain is passed through a tank containing the formalin solution and then dumped out on the floor to dry. Such machines are not expensive and are very satisfactory.

"Formalin is poisonous, but in this weak solution it will not injure the hands and is perfectly safe to handle. Since the formalin volatilizes rapidly, oats thus treated that are not needed for seeding may after thorough drying and airing, be safely fed to stock."

A loose "gunny" sack or an open split feed basket can be used for dipping the oats in the solution but they must be stirred about so that the grains are all thoroughly wet. A pint of the formalin in 40 gallons of water will treat pretty thoroughly 40 bushels of oats and two men ought to do the work in half a day. But the man who thinks he hasn't time will raise smutted oats next year just as he has been ever since he began farming. We would like to hear from those farmers who have treated their seed oats and learn of their success and what they think about it?

WHAT TO FEED CALVES

A Boone County reader writes that he has a bunch of calves weighing about 600 pounds and wants to know what to feed them to make the cheapest gains. Corn is worth 65 cents a bushel, bran $1.20 a hundred, oil meal $40 a ton. He has on hand clover hay and corn fodder. Can get molasses feed for $31 a ton.

The above inquiry was referred to Professor H. O. Allison, Animal Husbandry Department, State University, who makes the following reply:

Judging from the tone of the inquiry it seems probable that your correspondent wishes to fatter the calves in question for market with the expectation of shipping them during the summer or early fall. A very satisfactory grain ration for this purpose consists of corn 6 pounds to 1 pound old process linseed oil meal. Bran is not ordinarily an economical feed for fattening cattle while some advantage may be gained by feeding it about weaning time there would be little advantage from feeding it throughout the feeding period. Calves of the sort mentioned should take from 1.75 to 2 pounds of grain per 100 pounds live weight when they are doing their best. If corn silage is fed they will take slightly less grain than where dry roughage is used. A combination of clover hay and corn fodder, permitting them to have access to it at will, should prove very satisfactory. The grain should not be discontinued at the time the calves are turned to pasture and every effort should be made to prevent any disturbance or check in the gains they make from the start to finish.

Let Us Stand Together.

I read The Missouri Farmer and think it the best paper circulated in Missouri. I have been talking to my neighbors about organizing a club and I think we can get together and organize if we can only get them to reading and thinking. Farmers, we have been asleep as to what has been going on in the markets in the way of price fixing, but I hope the day is beginning to dawn, so farmers will wake up! I hope in the very near future we will see farmers working together like brothers and stop this fault finding among ourselves while the packers and grain gambler pockets the profits of our hard labor.

Levi Pickard, Howard County.

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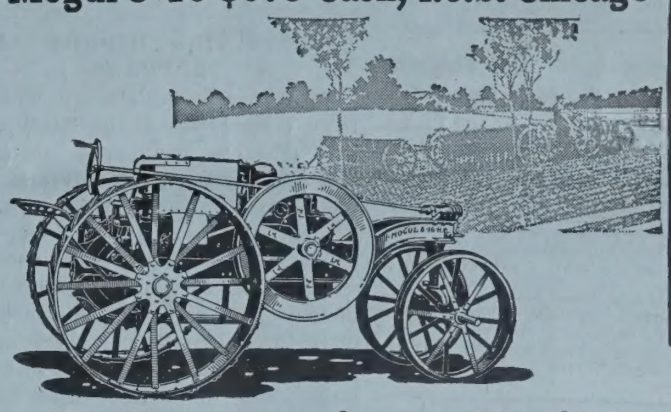

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ALL WORKING PARTS INCLOSED
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Write for Folder-Hanger. It tells all about Auto-Oiled Aermotors and Easy-To-Build-Up Towers.

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THE MISSOURI FARMER

Devoted to Better Farming, Better Farm Homes and Better Citizenship.

Vol. VIII February 15, 1916 No. 4

William Hirth - - - Publisher
Geo. B. Ellis - - Managing Editor

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Subscription Price 50 Cents a Year in Advance

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Agents Wanted. We want some one to represent us in every community and make up clubs for which we will pay liberal commissions. Write us for terms and sample copies.

We solicit communications from farmers and members of the family on timely and practical subjects. Photographs illustrating farm life or plans for buildings, live stock, etc., are appreciated.

To render service is our aim and we will endeavor to answer all pertinent questions or have them answered by competent authority. When answer is desired direct always inclose stamp.

Entered at the postoffice at Columbia, Missouri, as second-class mail matter.

WHERE IS THE REMEDY?

Suppose we represent all the cultivated crops raised in Missouri by a one-hundred-acre field. If this field was planted to the various crops in proportion to the crops grown in the entire state there would be each year 71 acres of grain, 26 acres of hay and forage, and three acres of the minor crops, including potatoes, cotton, tobacco, broom corn, etc. This does not have reference to pastures but includes only that part of the farm land that is plowed. That means that on the average farm the land is plowed and planted to grain three years for every year it is allowed to stay in meadow. This being true of the average farm it means on thousands of farms the land is plowed four, five or six years for every year it stands in meadow. The man who follows this practice need not wonder when he sees his hillside farm washing away or the soil getting so dry and "lifeless" that a three-weeks drouth will burn up the crops. These are the facts but what is the remedy?

The remedy lies in keeping more live stock, more careful saving of manure, turning under green crops to supply the humus needed in the soil, and a judicious use of other fertilizers than those grown on the farm. An acre of land plowed one year in two with double the yield will make more money than plowing every year and growing half a crop. The number of bushels or tons produced is a much more important factor than the number of acres farmed. Every year in the future it will be more and more necessary to make the acres produce more even if we have to farm fewer acres to do so. Except for truck growers and fruit growers we know of no other class of farmers who can profitably maintain the fertility of the land save the one class of live stock men.

There will always be a demand for meats, for butter and milk, for eggs and poultry, for leather and wool and poverty and ruin would stare this country in the face in a very short time if these necessities were not produced. The question then is shall farmers turn from live stock farming to other lines just because certain interests have got control of the markets and are stealing the producer's profits? Would it not be better for the farmers to act intelligently, to act all together and to save to themselves the waste and the exorbitant profits that are now going to those who have already grown fat on account of our indifference and independence? This is the big question for settlement before the farmers today.

PROTECTING WIDOWS AND ORPHANS

According to the Modern Woodman Head Consul, one of the "well known life insurance companies, through a recognized expert, has followed up all finds that after seven years, more than its death losses of $5,000 or over, and 90 per cent of the beneficiaries have spent or lost the entire amount left to them." It is said that this is practically the experience of every institution paying death losses and it is largely due to the fact that widows have had little or no training in the investment of large sums of money. We merely refer to this in order to call attention to a strong argument in favor of the Gardner Land Bank. If we adopt this system in Missouri and the Land Bank bonds are available in small denominations they will furnish a most excellent and safe investment for all money left to widows and orphans. There will be no question about the safety of these bonds secured as they will be by first mortgage on good farms appraised at twice the value of the bonds and secured also by the working capital and net reserve of the Missouri Land Bank.

Millions of dollars are lost every year not alone to the widows and orphans but to hundreds of persons of small means who have money to invest. Not only will this form of investment be a protection against loss but it will offer encouragement to tenants, to hired men on the farm, to country school teachers and to all other moderate wage earners to save their money and to invest it where it is absolutely safe and will draw a reasonable rate of interest. Just as the Postal Savings Bank has called into use several millions of dollars that was hiding in unsafe places so these bonds, when their safety is understood, will furnish a sound and safe investment for the man of small means who lacks the experience necessary for the safe handling of money.

NATIONAL AID FOR ROADS

For the third time the lower house of Congress has by a very large majority passed the Schackleford Road Bill giving aid to the states in road building. The Bill which passed the House a few days ago and which is now before the Senate is an entirely different measure from the one which passed last year. This Act provides for the "construction, improvement, and maintenance of roads which may be used in the transportation of interstate commerce, military supplies, or postal matter." The Act contemplates an appropriation of $25,000,000 but no appropriation is made in the measure as it passed and as there is now a very large deficiency in the national revenues, it is not very likely that any appropriation will be made at this time. The Act, however, is not a law as it has not yet been acted on in the Senate and as that body has failed to agree to the Bill in previous sessions it may refuse to agree this time.

The money, if appropriate, is to be apportioned to the states as follows: $65,000 to each state and one-half of the remainder in the ratio which the population of each state bears to the population of all of the states as shown by the last Federal census and the other half of such remainder in the ratio which the mileage of rural free delivery and star mail routes in such states bears to the mileage these roads bears to the total in all the states.

Under this apportionment four states would get over a million dollars and Missouri would get $974,114. Not more than one-half the cost of the roads is to be paid by the Government and so if the Act becomes a law and the appropriation is made Missouri will be required to put up not less than the above amount. The surveys and plans for the improvement are to be made by the State Highway Department and all work must be under their control.

Should this Act finally become a law the apportionment to different counties and the kind of road work to be done will necessarily have to be controlled by the Legislature when making a duplicate appropriation. The final approval, however, must rest with the United States Secretary of Agriculture who approves all plans for road improvement before the Government's share of the money is available.

WHOSE FAULT IS IT?

Whose fault is it that the farmer is not getting his full share of the dollar? I suppose not many farmers would admit they were themselves to blame for the present condition of things but if it could have been prevented by farmers and it has not been done, then really is it not their own fault? The trouble with us farmers is that we have never exercised the power we have to better our own condition. We have little power as individuals but we have all the power we ought to have in organization if we will only take advantage of it—then why not do it?

As an illustration of what organization does the wages of an ordinary printer working in a union shop in the town of Columbia has been for the past few years $17 a week—that has been the minimum wage any of these men received and some of them received more. Recently they have demanded a raise of a dollar a week and if the publishers don't agree to pay it they quit—they strike. The writer has made some observation of the general intelligence and ability of these men and as a class we do not hesitate to say that the hired men on the farms of any good agricultural community will rank just as high from any point of view of general intelligence as the printers do yet how many hired men on the best of farms are getting a salary of $17 a week? The farmer says at once he can't afford it—his profits will not allow such wages for his hired men and I know they will not. But if other lines of work pay better wages is it not inevitable that the best men will leave the farm and seek the other places? That is what they have been doing and is the reason why it is so hard to keep competent help on the farm.

Another instance: Just now four of the great railroad brotherhoods are voting on a proposition to demand of the railroads more pay and less hours. If the men should gain this point it will cost the railroads of this country according to their estimates $100,000,000 more than they are now paying. It is generally conceded by those well informed about wages that this class of railroad employes, the engineers, the firemen, the conductors and the trainmen are already the best paid of any class of men for like service and responsibility in this country. But if they should make this demand and the railroads refuse to grant it the result will be a great railroad strike and the loss of hundreds of thousands of dollars, yes, millions of dollars to the business interests of the country.

We are not citing these cases that we want to pass on their merits or to express an opinion on the justness of the demand of the printers or the railroad men for more wages, but to try to show the farmers of this state why it is necessary for them to use their power of organization and why it is going to be ruinous for them to continue as they have in an independent way.

Take the above case of the railroad men. Will it not affect the farmers interests? Railroads get the money to pay wages and for other operating expenses out of their earnings from freight and passenger service and if the present rates will not keep them out of bankruptcy the Interstate Commerce Commission will have no other alternative than to raise the rates. As it is now the farmer's voice amounts to nothing, not even in the fixing of the prices for the products he produces which of course govern the wages he gets for his labor, but if he was organized as the German farmer is organized he could make his wants known in an effective way. But we repeat, whose fault is it that conditions are not better for farmers?

WILL WEEVIL INJURE COWPEAS?

A reader from Caldwell County writes that he has some cowpea seed 1914 crop that is infested with weevil and he wants to know if it is safe to plant them and what time to plant.

In reply we would say that we would consider it safe to plant cowpea seed of the 1914 crop if they have been well cared for. Cowpea seed that were in good condition when thrashed and kept dry ought to germinate satisfactorily but sometimes on account of dampness the peas heat and the germination is injured. I have seen pretty badly weevil infested seed planted which grew fairly well but without seeing the seed could not express an opinion on any particular lot. The thing for our correspondent to do is to take half a pint or so of the seed, count them, then plant them in a box in the house and keep them warm until they germinate then if one-half or two-thirds grow he can plant enough more seed to make up for the loss.

Cowpeas can not be planted as early as corn for when the ground is cold and wet they will rot. They should not be planted until the ground is mellow and warm. They neither like cold or wet. The exact date will depend on the season but I should say the last week in May and first half of June would be a good time to plant in Caldwell County.

To get the ground in shape I would plow as early as the weeds are started good then cultivate a time or two to put the ground in good tilth and to kill the weeds. A cultivation just as the weeds start to grow and before planting will be much better than to try to kill the weeds after the peas are up. Weeds, grass and too much rain we have found the worst hindrances in growing cowpeas.

Pull Out the Stumps

Elsewhere in this issue the reader will find the advertisement of the Hercules Co. of Centerville, Iowa, which puts out the best stump puller on the market and every farmer who has stump land which ought to be raising good crops should drop the company a line and ask them for full information. With this simple device you can pull the biggest stump that grows and you can pull them without the loss of a lot of time. If you have stump land, why not at least investigate.

FEED THE BROOD SOW WELL

There are three things which should be looked after carefully in caring for the brood sow—feed, shelter and exercise. If a man is to succeed he must not neglect any one of these things.

It is entirely too common a practice in the corn belt to feed brood sows only straight corn. This is a practice which should not be followed for several reasons. In the first place, the sow should have more protein or muscle building nutrients in her feed than corn supplies. This is necessary to supply her own body needs, and especially for the litter of pigs which she is going to produce. She must also have a feed which is less constipating in its nature than is corn.

One of the things which must be guarded against, if strong litters are to be produced, is constipation in the brood sow. . The things which commonly cause constipation in the brood sow are too much corn and too little water and exercise. A sow should also have more bulk and more mineral matter in her ration. Corn, when fed alone, is too fattening and the fat is added internally which is injurious to the development of the unborn pigs.

Corn is all right if fed with judgment. In the Corn Belt it naturally makes up a large part of our swine rations. When fed to sows, however, it should be supplemented with some feed like linseed oil meal or tankage, shorts and perhaps a little bran. Another good feed to use is alfalfa hay or alfalfa meal. Clover or cowpea hay, if not too coarse, also supplies bulk, protein, and the laxative effect desired. Every hog man will want to plan a special ration using the feeds which he has at hand that will give the best results; but a few good ones for the brood sow will be suggested, taking the following as a basis:

Corn, 50 parts by weight; Shorts, 25 parts; Alfalfa hay or bran, 15 parts; Linseed oil meal, 10 parts.

Of course the feeder will want to use alfalfa hay and other home grown feeds so far as possible, but if they are not available, bran or similar feeds should be purchased to go with the corn. If tankage is used instead of oil meal, only half as much of it need be fed. L. A. Weaver,

Missouri College of Agriculture.

WHAT AILS THE HORSES

At this time of year when many horses are idle and perhaps running in dry stalk fields, around straw or hay stacks and getting little grain, there is apt to be serious trouble and many horses die under these conditions and the cause is charged up to "corn stalk disease" and as no one not even veterinarians understand exactly what that means and as no certain remedy has been found for it the farmer just charges his loss up to "bad luck" and let's it go at that. At this time of year horses are very apt to be neglected about watering and as they must get their drink from icy ponds or ice covered troughs they do not drink as much water as they ought to have and the result is that with the digestive tract filled with this dry innutritious feed the consequence is impaction and very probably death.

We would not advise keeping idle work horses in the barn and feeding heavily on grain, but if they have a good open shed to go under at will, where they can have a dry bed and then if they are fed plenty of bright hay and corn fodder they will not need much grain until a short time before spring work, but they should have enough laxative feed to keep their bowels in good condition. If the hay is bright and there is some clover, cowpea or alfalfa hay there will be little danger but where the hay is mouldy or even where it consists only of prairie or timothy, a lttle bran, oats or oil meal fed once a day will be a lot cheaper than to lose a good horse or two as is often the case.

Oats straw is a very good laxative feed if bright and cut early but of course it will not take the place of grain. The laxative effect of these feeds as well as their nutritive benefit will keep the horses in so much better condtion than those fed roughage only that it wlll take much less time and feed to get them ready for work in the spring.

CLEAN YOUR SEED GRAIN

Clean your seed grain now. It will pay to do it well. The average mill of farm size will clean about 320 bushels in a day. If you take out only 10 per cent for seed grain, you will get 32 bushels a day at a cost of from 5 to 10 cents a bushel for cleaning and grading. Experiment station records show that grain so graded will increase the yield from 10 to 25 per cent under normal condtions. It does not take much figuring, therefore, to see that time spent in doing a thorough job of grading and cleanng seed grain may be among the most profitable days of the farm year. The increase in yield is practically all net profit. Seed grain that is well selected and graded from year to year wll not run out, but should improve, if properly handled.

Before seeding, treat the seed grain for smut. One pound of formalin mixed with 40 gallons of water will treat about 40 bushels of grain. The loose smut of oats and the kernel smut of wheat causes the loss of millions of dollars every year. Few untreated fields escape.

Thorough fannning and grading of seed grain and treating for smut are some of the simplest yet most effective things that can be done to turn the trick of increased yields.—P .E. Miller, West Central School of Agriculture, Morris, Minn.

WOOD ASHES FOR CORN

The Missouri Farmer:

Would you please tell me what you think of mixing wood ashes with fertilizer to be put on corn 60 to 75 lbs. to the acre in the hill. I thought of using it for the potash. How much could be used with safety?

R. P. Horning, Barry County.

The above inquiry was referred to Professor M. F. Miller, department of soils State University who makes the following reply:

Wood ashes are so variable in composition, depending upon the way they have been kept that it is impossible to state with very great accuracy the results from their application to corn. The best grades of hard wood ashes which have been kept in the dry will contain from 5 to 7 per cent of potash and from 2½ to 4 per cent of phosphoric acid. If they have been allowed to leach by the rain the content of potash may be reduced to as low as 1 per cent at times, with a slight reduction only in the phosphoric acid. Average wood ashes as they occur with only a medium amount of leaching will contain from 2 to 4 per cent of potash. Such ashes contain enough potash for a corn fertilizer on most soils but not enough phosphoric acid. If one would mix 100 pounds of 14 per cent acid phosphate and 100 pounds of such wood ashes, thoroughly sifted so that the cinders were all removed, this would give a fair fertilizer for corn to be applied in the hill at the rate of 100 pounds per acre. This would not be a high grade fertilizer by any means,but would give fair returns. If one wished to expend a little more money and had steamed bone meal available, and if he would mix 100 pounds of steamed bone meal and 100 pounds of the wood ashes and use 100 pounds per acre in the hill, he would have a little more satisfactory form of fertilizer for corn. Of course, on many lands the application of wood ashes alone will materially benefit the corn crop, but these had best be applied broadcast at the rate of 500 to 600 pounds per acre and thoroughly worked into the soil before planting the corn. So very much depends on the amount of leaching which has taken place in the wood ashes that 200 pounds of high grade wood ashes might equal 800 pounds of leached wood ashes.

Steel Fence Posts

The Janesville Barb Wire Co. is advertising a new steel fence post which should interest many of our readers. Look up the advertisement and ask the company to give you full information. Please mention The Missouri Farmer.

An outward indication of inner quality

RED SIDE WALL AND BLACK TREAD

THE TRADEMARK OF

Firestone NON-SKID TIRES

REID'S YELLOW DENT SEED CORN Champion at Missouri State Show. Indiana type. The kind that has a deep, meaty grain; small cob; large ears; and yielded this year as high as 115½ bushels to the acre. $2.50 to $3.00 shelled; $3.50 to $4.00 crated in ear. F. O. B. Germination guaranteed. H. G. WINDSOR, Benvenue Farms, Boonville, Mo.

Closing Out Sale of Poland Chinas and Holsteins

HERD BOAR, MASTER'S BEST 222445. He and his litter brother won 1st and 2nd in 1914 Futurity and at the Missouri State Fair, under six months. Also 10 registered Poland China brood sows, choice of my herd, some good enough to go into any breeder's herd. As I have sold my farm will sell at public auction Tuesday, February 29, 1916. Also my milk herd of 20 high grade Holsteins. Come or send bids.

G. M. HOADLEY, Sedalia, Mo.

SPREADING NOW

MY NEW SPREADER BOOK FREE This 250 page four-color process printed book is more than a catalog. It tells the story of what proper manure spreading will do in dollars and cents. Just drop me a postal to the address below and I will send this book to you at once. I want you to know all about the value of the manure crop. The big book will tell you in detail about new styles and sizes of spreaders and spreader boxes we build, and give you in addition a complete list of our

NEW 1916 LOW PRICES

and selling plans and long terms. **Special proposition** from **now** until **seeding** time. Also, no money-down and a-year-to-pay terms. Five other selling plans. These spreaders, built in our own factory by the thousands and sold direct, have enabled us to steadily lower spreader prices to these unparalled figures.

All Steel Beater and V-Rake

FEATURES Eleven Patents S-15

Light draft, two horses handle it; low down, double chain drive, cut under front wheels, channel steel frame, trussed like a steel bridge, steel tongue, endless apron, force feed; top of box only 42 inches high, with our improved Model V-rake and all steel beater, which makes a finer and wider spreading machine than ever. Shiped from Waterloo, Kansas City, St. Paul, Council Bluffs and Chicago. My new, 1916 easy selling plans, cash or time, are fully described in my book, which is mailed for the asking. Write today.

Wm. Galloway Co. Box 599 Waterloo, Iowa

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Note—Don't forget to drop in and see us when in Kansas City. Offices and showrooms across street from Stockyards Exchange. Wm. Galloway Co.

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Ornamentals, Evergreens, Shade Trees, Tested Seed, Vines, Berry Bushes, Everblooming Roses, Cannas and gorgeous bedding plants. Hardy Perennials that last for years—all offered direct to you from America's largest growers. Select, robust stock; over 1200 acres along Lake Erie, 7 kinds of soil, 48 greenhouses. Up to 450 carloads sold yearly. No risk. Safe arrival and satisfaction guaranteed.

Photo-Catalog FREE!

Tells all about planting and care. Prices and accurate descriptions of thousands of choice varieties. Special offers on high grade collections. Seed, Plant, Rose, Fruit and Ornamental Tree Catalog, 192 pages fully illustrated, sent FREE! Write today.

The Storrs & Harrison Co.
Dept. 255 Painesville, O.

The Chinese Woolflower

introduced by us last year has proved a great success everywhere and a most wonderful floral novelty. It is a Celosia of new form and easy growth Plants throw out scores of branches bearing balls of crimson wool nearly a foot thick. Also many laterals with smaller heads, and fresh green foliage. Flowers form in June but none fade before frost, continuing to expand and glow with its wonderful crimson-scarlet color, very showy and succeeds anywhere.

Seed per pkt. 10c., 3 for 25c., together with new TRAILING PETUNIA AND ANNUAL SWEET WILLIAM (fine novelties) free.

Our Big Catalog of Flower and Veg. Seeds, Bulbs, Plants and rare new Fruits free. Write for it.
JOHN LEWIS CHILDS, Inc., Floral Park, N. Y.

CLOVER CHEAP Now Is the Time to Buy Crop very short. Buy before advance and save money Get our special low prices and free samples of our pure Iowa Grown, New Crop Recleaned Tested Clover and Timothy Seed. Also Alfalfa, Alsike, Sweet Clover. All kinds grass seed. 100-page catalog free, quoting all field seeds. Save money by writing now.
A.A. Berry Seed Co. Box 180 Clarinda, Ia.

Spare All Corn Roots

"These Corn Roots Five Inches of Surface."

FARMER Be Not DECEIVED

The Tower System is Proved

by practical experience adapted to wet seasons as well as dry. Scores of the most expert seed growers and many thousand farmers testify that it is **adapted to both wet and dry weather.** We furnish our inquirers with unquestioned testimonies of these facts. The Tower System **enlarges the crop yield** because it spares all the corn roots. It pays for itself in one season. Avoid imitations; see that your cultivator has the name "TOWER" on the tongue. Write a postal for our free booklet on "Corn Culture."

THE J. D. TOWER & SONS CO.
11th Avenue Mendota, Illinois
(Original Manufacturers of Surface Cultivators)

BARNYARD GOSSIP

For want of space and for other reasons not necessary to mention the paragraphs under the above head have been omitted but from now on we will endeavor to have them appear in every issue. We appreciate the several complimentary things some of our readers have expressed concerning the sentiments contained in many of these notes and in resuming this column we hope that, now and then, something may be said that will arouse our readers to greater effort not alone in their own behalf but that they will take a more active interest in the affairs of the community, the state and the Nation. People in the ordinary walks of life and particularly farmers do not realize the power they could have in directing the affairs of this country and they will not find it out until they assert their rights and make their views known to those clothed with official power.

* * *

This is a very grave period in the world's history and in the minds of some of our ablest writers there is a fear that civilization and Christianity will have retrograded several centuries when this awful European war is ended and peace restored among the present belligerent nations. Even in this country, separated from the battlefields by thousands of miles of ocean it will take at least a generation to wipe out the feelings of jealousy and hatred between people of opposite sympathies for the different countries engaged in war. Between the people engaged on the two sides of this great war in Europe the feeling of hatred will not be forgotten in a hundred years and where there is hatred in the heart there is no progress in Christianity. It has now been more than fifty years (54 years to be specific) since the writer as a boy was permitted to visit his father in a military prison during the Civil War and do you know that with all that has been said and done for peace in this country the horors and misery of that old prison come back to me at times in spite of all I have done to try to obliterate it from my memory. Any one not altogether ignorant of human nature knows that these dim meomries of the imperfect human mind are like the near-dead embers of the smothered fire and they need only the fanning of the breeze to cause a new conflagration. And just so it will be after this war and after all other wars, no matter how much we may strive and how much we may pray to efface its memory. Who is it that is not willing to make sacrifices for peace?

Speaking before the military committees of the National Congress a few days ago one speaker said what has so often been said and never substantially refuted, that the clamor for preparedness came largely from those who were making immense profits selling ammunition and who at the close of the European war will want a large army and navy to enforce the collection of the money owed them by the bankrupt nations. "The working people will not consent to fight such a war. Instead of spending more money I think Congress ought to investigate the money already spent. The people have been told we were prepared. We were told we were the greatest power on earth. Now suddenly we are told our battleships are old tubs, our army helpless. There were no rumors of war two years ago when European countries were in the best condition of their history. Why be afraid now when those countries have about exhausted their credit, have lost millions of their best men and have had billions of their resources sfallowed up in the present conflict. We of the working classes want to know the truth about the danger we are in, if in fact we are in any danger. It is the working peopl,e the farmers, the artisans of the country who will be called upon to do the fighting and they have a right to know why this great alarm of danger that the president seems so scared about. The working men will refuse to be cannon fodder for the wars and then be called upon to pay the bills too. If it is right to take the working man's life to protect the rich man's property it is certainly right to take the rich man's fortune to pay the toll of war." But this is exactly what they are not going to do. If this preparedness scheme goes through it will be the man from the ordinary walks of life who fills the ranks and we suppose they will tax the poor man on his notes, his deeds, his medicine, his gasoline, his sugar and other necessities to pay the bill, just as they are now doing.

* * *

In speaking before the House Naval Committee February 8, Rear Admiral Blue, chief of the Bureau of Navigation, declared that the American navy was now ready to meet any enemy it might be called upon to encounter in the Pacific Ocean. If Rear Admiral Blue knows what he is taking about —and who knows any better than he does?—then why all this scare about Japan swooping down upon us over night and capturing our whole Pacific coast? Oh, it is only another of those war lies we have heard so often!

* * *

Every man and woman in this land no matter how humble a position they fill has an influence that will count if used as well as a duty to their country in this hour of peril. Those who would alarm the country from the President down have had their say and now it is the duty of the common people—the people who always fight the battles of a country engaged in war—to make themselves heard. How can you do it? If every man and woman who wants peace and who believes that this country can maintain its honor and peace by attending strictly to its own business without the burden of maintaining the greatest standing army and the greatest navy of the world—I say if every such person will write three letters it will stop this military spirit which is getting such a start in the United States. You need say no more than that you are opposed to this military policy and send a letter to the President, one to your Congressman and to one or both of the Senators from this state. These men may not read your letters but their secretaries will and they will know what you think about it. The other side has already been heard and if you want to be heard before this war burden is fastened upon you, your children and your great grandchildren you had better do your duty now.

* * *

Do not think for one moment that the wealth of this country and the industries which have grown unprecedently because of the war will pay the debt. Did the President propose to tax war munitions and automobiles sent abroad, the bonds which have been sold at great profit to furnish belligerents money to continue the war? Thousands of people have grown immensely rich since the European war began, but they propose to taxe the poor man to pay for preparedness just as they have always done. Tax on gasoline, on notes, on the poor mans' medicines—these are some of the things that the President has said should pay the bill. Just write him and tell him what you think about it. Write today.

Got Any Stump Land?

If you have any stump land you ought to ask the Hercules Mfg. Co. at 191 24th Street, Centerville, Iowa, to send you their catalogue describing their wonderful Stump Puller which will enable you to easily clear an acre of land per day—and it doesn't matter how big the stumps are, it pulls them out roots and all. The Missouri Farmer recommends this concern without hesitation. Why not make your stump land produce a bumper crop of corn?

Hundreds of farmers have sent us a dollar during the last ten days saying, "I like your paper better than any other I have ever read. I didn't subscribe for it in the first place but that makes no difference. I am with you." How about you friend? We are fighting your battle.

PRIZE WINNERS

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Glencarnock, the famous steer, which won 1st prize at the last International, was fed a balanced ration to secure quick growth, depth of fleshing, finish, and good gains. J. A. Stainbrook, Franklin, Ind., whose bushel of corn won the grand championship at the last National Corn Show, fed his crop with a balanced plant-food ration (fertilizer) to secure quick growth, early maturity, solid ears, and a good crop of well ripened corn.

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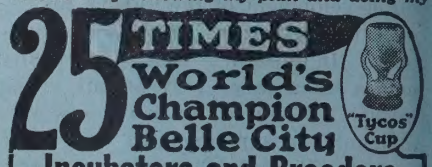
Every Week on Chicks. *Write me for details showing how beginners with Belle City outfits make $10 to $25 a week on day-old chicks. Get the facts! Any man, woman, boy or girl can do it by following my plan and using my*

25 TIMES World's Champion Belle City Incubators and Brooders



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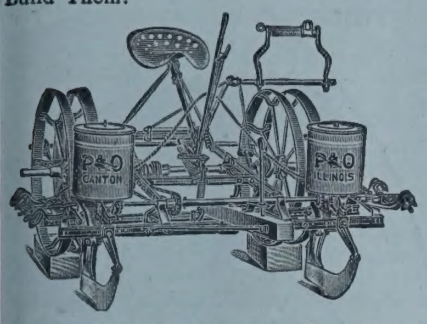
Successfullly plants cotton (or corn) in checked rows, permitting cross cultivation and placing the plants far enough apart to let the sun get to the roots and destroy the boll weevils, which thrive only in dark and sheltered places. "It's the Way We Build Them."



The use of the P & O Check Row Cotton Planter also saves chopping, the chopping being done when the seed is planted because it is planted in hills. And it saves fully one-half the amount of seed required by other methods. Built in two styles, one with narrow set-over wheels and shovel coverers, the other with wide open center or concave tire wheels which cover the seed. Seed drops directly into bottom of the shank; no chance to clog. Sight feed. Removable hoppers. One piece agitator and gear. Reverse feed wheel. Adjustable in width. Side reel. Runner or disc furrow openers. Can be equipped with Fertilizer Attachment. Can be furnished for check row planting or drilling.

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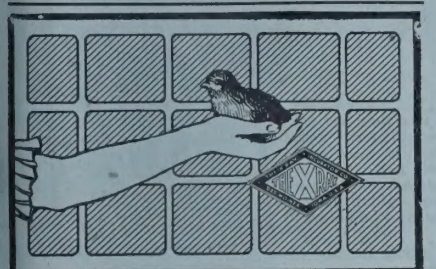

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POINTERS FOR POULTRY RAISERS

Already some of us have begun to "count the chicks before they hatch and now the thing to do is to be able to count the same numbers after they hatch. A little later on there may be a difference, a somewhat different count; on which side of the ledger are you planning to do your figuring? Now is the time to make your start and to start right then later on you will not have occasion to say to yourself, "If I had only done so and so I might have had better luck. Do not blame your luck if you suffer losses, blame your non-use or lack of common sense and good judgment. Luck may be a very important factor but luck generally comes to the one who does things right.

To hatch strong healthy chicks you must start with strong healthy eggs. Common sense tells us that we cannot get more out on egg than there is in it. Take for example an egg that has been laid by a poor undeveloped pullet, is it natural to expect that the chick hatched from this egg is going to be a strong and vigorous youngster? The chances are that you are not going to be very proud of that chick. You may be at the beginning but you are doomed to disappointment later. Suppose you hatch eggs laid by mature hens, hens that are suffering from an internal disease such as white diarrhea, bacillary form (this disease is known to be hereditary transmitted from the parent stock to the chick through the yolk of the egg) have you even the faintest idea how many of the little chicks you are going to lose by death or the health of those that remain alive. How many will be disease carriers for future losses? To hatch strong healthy chicks you must hatch from strong healthy stock.

Did you ever stop to try to estimate the numbers of little chicks that die, those that are needlessly slaughtered each year? Of course you have no way to estimate the total losses nor to even attempt to make a guess as to the numbers but we do know however, that the losses are something enormous. To check this awful mortality there are certain fundamental principles that we must follow, certain duties that we must perform in order to raise the delicate chicks. Countless numbers of the little chicks are lost by any one of the following causes:

(1) Low constitutional vigor and vitality of the breeding stock.
(2) Improper incubation.
(3) Faulty brooding.
(4) Chilling.
(5) Over-heating.
(6) Over-crowding.
(7) Filth.
(8) Poor food.
(9) Poor ventilation.
(10) Disease germs (Pathogenic Bacteria).

Too much emphasis cannot be laid upon the disinfection, care, and operation of the incubator regardless of the make used. All of the parts of the incubator that come in direct contact with the little chicks should be thoroughly cleaned and disinfected each time before use. How many of us know what disinfection, thorough disinfection, means? Disinfection means to purify, in other words to get rid of the disease germs, to make pure. When the time comes to disinfect thoroughly how are you to proceed? First scrape all the droppings, accumulated filth and dirt out of the incubator and then wash with good hot soap suds and water. After washing apply the disinfectant using at least a five per cent. solution, five parts of the disinfectant to ninety-five parts of water. In the purchase of the disinfectant be sure to purchase a disinfectant that will disinfect, that will purify, not one that has a strong odor. You cannot tell the strength of a disinfectant simply smelling it, so for that reason it is advisable to know its strength. The U. S. Government spent considerable time and money working out the strength of disinfectants and a report of their experiments is issued as Hygenic Laboratory Bulletin No. 82. In reading this bulletin one may learn how the strengths of the various commercial disinfectants vary, some are strng, others weak. By the strength of the disinfectant is meant its power to destroy disease germs not its power to burn the flesh nor to poison people or animals. The strengths of the disinfectants were determined by comparing the action (germicidal) of known volumes of each disinfectant with known volumes of pure carbolic acid (phenol) upon certain disease germs. From these tests it was observed that some of the disinfectants were twice, and even five and six times as strong as pure carbolic acid (phenol) itself. The strength of the disinfectant as compared to the strength of pure carbolic acid (phenol) is known as the "phenol coefficient." If the phenol coefficient of a disinfectant say is five (5) we are to understand by that, that the disinfectant is five times stronger than pure carbolic acid (phenol) and where it takes five parts of pure carbolic acid to kill the germs it will take only one-fifth as much of the disinfectant to do the same amount of work. In purchasing disinfectants be sure that you look for the words "Hygenic Laboratory phenol coefficient" on label of the container.

After applying the disinfectant to the incubator it is best to place the incubator in the sunlight, allowing it to bathe in the sun for several hours. It is then ready to be started or tested out before use.

If you have thoroughly disinfetced the incubator, started with normal healthy eggs and given the little details your strict undivided attention you may rest assured that there will not be any regrets later.

Geo. D. Horton,
Mountain Grove, Mo.

SUGGESTIONS ON ARTIFICIAL INCUBATION OF HEN'S EGGS

The season for hatching eggs is approaching and many farmers will be interested in the following notes on the use of incubators. They are taken from Farmers' Bulletin No. 585, U. S. Department of Agriculture, "Natural and Artificial Incubation of Hen's Eggs." The bulletin may be obtained from the department at Washington.

Follow the manufacturer's directions in setting up and operating an incubator.

See that the incubator is running steadily at the desired temperature before filling with eggs. Do not add fresh eggs to a tray containing eggs which are undergoing incubation.

Turn the eggs twice daily after the second and until the nineteenth day. Cool the eggs once daily, according to the weather, from the seventh to the nineteenth day.

Turn the eggs before caring for the lamps.

Attend to the machine carefully at regular hours.

Keep the lamp and wick clean.

Test the eggs on the seventh and fourteenth days.

Do not open the machine after the eighteenth day until the chickens are hatched.

Chicken Mites

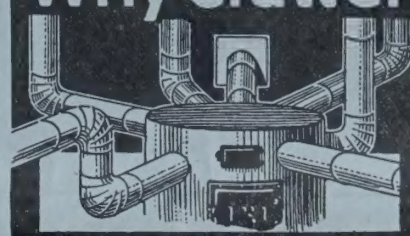
The red mite is one of the greatest enemies of the poultry raiser. This is a spider-like insect and is very common. Its habits are entirely different from those of lice with which it is often confused. Mites hide in the dark damp places in the poultry house, and can be found in the cracks and under the roosts. At night they crawl upon the bird and gorge themselves with blood.

The Missouri Agricultural Experiment Station gives the following treatment for the extermination of mites. The treatment must be applied not to the bird but to the roosting quarters. The interior of the house should be sprayed thoroughly with one of the coal tar disinfectants, kerosene emulsion, or lime sulphur spray, such as is used in spraying trees. The roosts should be painted with the above remedies. The roosting places should be light, dry and well ventilated, as mites do not breed under these conditions. Thorough treatment is necessary to successfully combat this costly pest.

Indications of Tender Poultry

Smooth skin and scales, soft cartilage at the end of the breast or keel bone, and tender skin under the wings, which is easily torn by bending back the wings, indicate tenderness in poultry, according to the Nebraska College of Agriculture. The flesh should give easily and gently when pressed with the finger. Long hairs, long thin necks, loose skin, long spurs, and feet with sharp scales indicate aged and, therefore, tough poultry.

Why Clutter



Your House

With pipes and flues? They cost money for labor and material, mar your house and waste fuel. Heating pipes are needless. The Caloric Pipeless Furnace heats the entire house with just one register. You get the greatest amount of heat with the least fuel consumption and the heat is uniform throughout the house. The

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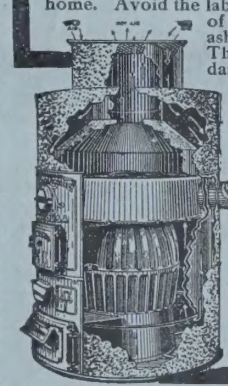

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90 bu. per acre from stump land!

When David Bennison of Iowa bought a sixty acre tract of Cypress covered land near New Madrid, in

Southeast Missouri
along the Cotton Belt Route

the neighbors laughed at him. But Bennison knew good corn land. He cleared that tract, planted corn, and the first yield—grown among stumps—brought 90 bu. per acre. The wonderful depth and fertility of soil there is amazing. 90 bu. per acre there is better than average but not uncommon. Mr. Mahoney of Dexter, Mo. says "Last year our corn yielde1 75 bu. per acre. We have made 90 bu. and it will run above 60 bu. an acre year in and year out". Mr. Hunter of New Madrid says many of his fields of corn average 80, 90 and 100 bu. per acre. There isn't a richer soil in America than that in Southeast Missouri.

There isn't a section anywhere where you can buy rich land so cheap that the first staple, field crop will pay for its cost and clearing (if you buy unimproved). And that rich soil makes wonderful yields of anything. C. D. DeField of East Prairie says "We cut our alfalfa every 28 days; five times a season. It averages a ton per cutting. Clover does well; in fact any kind of feed or pasture. I raised 40 mules last year without doing any winter feeding at all. Cattle and hogs go through winter here without feeding." 90 bu. per acre corn land at $35 will go quick; act!

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A farmer wrote it; and he knows what you want to know about a section new to you. Tells about character and cost of lands, climate, crops raised, etc., and about schools, churches, towns, social conditions. Brimful of actual photograph pictures "taken on the ground." Send today and get this free book.

COTTON BELT ROUTE

E. W. LaBeaume, G. P. A.
1803 Railway Exchange Bldg., St. Louis, Mo.

The Plunderer

By ROY NORTON

Author of "The Garden of Fate"

(Continued from last issue)

The daylight came, and with it the boom of the night shift setting off its morning blasts, and clearing the way for the day shift that would follow in sinking the hole that must inevitably betray the dishonesty of the stern mine master at the foot of the hill. Dick had not slept, and turned to see a shadow in the door.

"Don't you get up, Dick," Bill said. "Just try to rest. I heard you tumblin' around all the night. You don't get anywhere by doin' that. A man has to take himself in hand more than ever when there's big things at stake. Then's when he needs his head. You just try to get some rest. I'll keep things goin' ahead all right, and there ain't no call to do nothin' for a week or ten days—till we get our feet on the ground. After that we'll find a trail. Don't worry."

Through the kindly tones there ran confidence, and, entirely exhausted, Dick turned over and tried to sleep. It came to him at last, heavy and dreamless, the sleep that comes beneficently to those who suffer. The sun, creeping westward, threw a beam across his face, and he turned restlessly, like a fever-stricken convalescent, and rolled farther over in the bed.

The beam pursued him, until at last there was no further refuge, and he sat up, dazed and bewildered, and hoping that all had been a nightmare, and that he should hear the cheery note of the whistle telling him that it was day again, and calling the men of the Croix d'Or to work.

It was monstrous, impossible, that all should have changed. It was but yesterday that he had returned to the mine with finances assured, confidence restored, and the certainty that Joan Presby loved him, and could come to his side when his work was accomplished.

He looked at his watch and the bar of sunlight. It was four o'clock, and the day was gone. Everything was real. Everything was horrible. He crawled stiffly from his bed, thrust his head into the cold water of the basin, and, unshaven, stepped out to the porch and down the trail.

The plumes of smoke still wreathed upward from two stacks. Bill was still driving downward unceasingly. The mellow clang of the smith's hammer, sharpening drills, smote his ears, and the rumble of the cars. The cook, in a high, thin tenor, sang the songs with which he habitually whiled away his work. Everything was the same, save him! And his air castles had been blown away as by the wind.

In a fever of uncertainty, he stood on the hillside and thought of what he should do. He believed that it was his duty to be the one to break the harsh news to Joan, and wondered whether or not she might be found at the tryst. He remembered that, once before when he had not appeared, she had ridden over there in the afternoon. Perhaps, expecting him, and being disappointed, she might be there again.

He hurried down the slope, and back up across the divide and along the trail, his hopes and uncertainties alone rendering him certain that she must be there, and paused when the long, black line shone dully outlined in its course around the swelling base of the hill. He experienced a thrill of disappointment when he saw that she was not waiting, and again consulting his watch feverishly, tramped backward and forward along the confines of the hallowed place.

At last, certain from the fresh hoof marks on the yielding slope, that she had come and gone, he turned, and went slowly back to the mine. He had a longing to see his partner, and learn whether or not Mathews, with that strange, resourceful logic of his, had evolved some way out of the predicament. But Bill was nowhere in sight. He was not in the office, and the mill door was locked. The cook had not seen him; and the blacksmith, busy, stopped only long enough to say that he thought he had seen the superintendedt going toward the hoisting house.

"Have you seen Bill?" Dick asked of the engineer, who stood at his levers, and waited for a signal.

"He's below," the engineer answered, throwing over an arm, and watching the cage ascend with a car of ore.

It trundled away, and Dick stepped into the cage. The man appeared irresolute, and embarrassed.

"He'll be up pretty soon, I think," he ventured.

"Well, I'll not wait for him," Dick said. "Lower away."

The man still stood, irresolute.

"Let her go, I said," Dick called sharply, his usual patience of temper having gone.

"But—but——" halted the engineer. "Bill said to me, when he went down, says he: 'You don't let any one come below. Understand? I don't care if it's Townsend himself. Nobody comes down. You hold the cage, because I'll send the shift up, and 'tend to the firing myself.'"

For an instant Dick was enraged by this stubborness, and turned with a threat, and said: "Who's running this mine? I don't care what he said. You haven't understood him. Lower away there, I say, and be quick about it!"

The rails and engine room slid away from him. The cage slipped downward on its oiled bearings, as if reluctant, and the light above faded away to a small pin-point below, and then died in obscurity, as if the world had been blotted out. Only the sense of falling told him that he was going down, down, to the seven-hundred-foot level, and then he remembered that he had no candle. The cage came to a halt, and he fumbled for the guard bar, lifted it, and stepped out.

Straight ahead of him he saw a dim glow of light. With one hand on the wall he started toward it, approached it, and then, in the hollow of illumination saw something that struck him like a blow in the face. The hard, resounding clash of his heels on the rock underfoot stopped. His hands fell to his sides, as if fixed in an attitude of astonishment. Standing in the light beyond him stood Joan, with her hands raised, palms outward.

"Stop!" she commanded. "Stop! Stay where you are a moment!"*

Amazed and bewildered, he obeyed mechanically, and comprehended rather than saw that, crouched on the floor of the drift beyond, his partner knelt with a match in his hand, and in a listening attitude. Suddenly, as if all had been waiting for this moment, a dull tremor ran through the depths of the Croix d'Or. A muffled, beating, rending sound seemed to tear its way, vibrant, through the solid ledge. He leaped forward, understanding all at once, as if in a flash of illumination, what the woman he loved and his partner had been waiting for. It was the sound of the five-o'clock blasts from the Rattler, as it stole the ore from beneath their feet. It was the audible proof of Bully Presby's theft.

"Joan! My Joan!" he said, leaping forward. "I should have spared you this!"

But she did not answer. She was leaning back against the wall of the tunnel, her hands out-stretched in semblance of that cross whose name was the name of the mine—as if crucified on its cross of gold. The flaring lights of the candles in the sticks, thrust into the crevices around, lighted her pale, haggard face, and her white hands that clenched themselves in distress. She looked down at the giant who was slowly lifting himself from his knees, with his clear-cut face upturned; and the hollows, vibrant with silence, caught her whispered words and multiplied the sound to a sibilant wail.

"It's true!" she said. "It's true! You didn't lie! You told the truth! My father—my father is a thief, and may God help him and me!"

CHAPTER XVIII

THE BULLY MEETS HIS MASTER

The ache and pain in her whole being was no greater than the colossal desire Dick had to comfort and shield her. He rushed toward her with his arms reached out to infold, but she pushed him back, and said horasely: "No! No! I sha'n't let you! It would be an insult now!"

Her eyes were filled with a light he had never seen in them before, a commanding flame that held him in check and stupefied him, as he tried to reason why his love at that moment would be an insult. It did not dawn on him that he was putting himself in the position of one who was proffering silence for affection. All he knew was that everything in the world seemed against him, and, overstrained to the breaking point, he was a mere madman.

"You brought her here?" he hoarsely questioned Bill.

"I did."

"And told her that her father was under us?"

"Yes."

"And that I was to be kept above ground?"

"Of course, and I had a reason, because—"

He did not finish the sentence. The younger man shouted a furious curse, and lunged forward and struck at the same time. His feet, turning under a fragment of rock, twisted the directness of his blow so that it lost force; but its heavy spat on the patient face before him was like the crack of a pistol in that underground chamber.

Bill's hands lifted impulsively, and then dropped back to his sides, hanging widely open. The flickering candlelight showed a slow red stream emerging slowly from one of his nostrils, and running down across the firm chin, and the pain-distorted lips. In his eyes was a hurt agony of reproach, as if the knife of a friend had been unexpectedly thrust into his heart. Dick's arm, tensed by the insane anger of his mind, was drawn back to deal another blow, and seemed to stop half-way, impotent to strike that defenseless face before him.

"Why don't you hit again, boy? I'll not strike back! I have loved you too much for that!"

There was a world of misery and reproach in the quiet voice of the giant, whose tremendous physical power was such that he could have caught the younger man's arm, and with one wrench twisted it to splintered bone. Before its echoes had died away another voice broke in, suffused with anguish, the shadows waving on the walls of gray rock twisted, and Joan's hands were on his arm.

"Dick Dick! Are you mad? Do you know what you are doing?"

He shook her hands from his arm, reeled against the wall, and raised his forearm across his eyes, and brushed it across, as if dazed and blinded by a rush of blood which he would sweep away. He had not noticed that in that staggering progress he had fallen full against a candlestick, and that it fell to the floor and lay there between them, with its flame slowly increasing as it formed a pool of grease. For the first time since he had spoken, the huge miner hoved. He stepped for-

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puffs its kindly way right into your good will because it is so friendly and cool and fragrant. You may smoke it as long and as hard as you like and it will not bite or parch or tire your taste! The patented process by which Prince Albert is made *fixes that!*

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On the reverse side of this tidy red tin you will read: "Process Patented July 30th, 1907," which has made *three* men smoke pipes where *one* smoked before!

R. J. REYNOLDS TOBACCO COMPANY, Winston-Salem, N. C.

ward, and ground the flame underfoot.

"There might be a stray cap around here soemwhere," he said.

His voice appeared to rouse the younger man, and bring him to himself. He stepped forward, with his hands behind him and his face still set, wild and drawn, and said brokenly: "Bill! Bill! Strike back! Do something! Old friend!"

"I cain't," came the reply, in a helpless monotone. "You know if it were any other man I'd kill him! But you don't understand yet, and—"

"I made him bring me here," Joan said, coming closer, until the shadows of the three were almost together. Her voice had a strange hopelessness in it, and yet a calm firmness. "He came to talk it over with me, on your account. Pleading your cause—begging me that, no matter what happened, I should not change my attitude toward you. Toward you, I say! He said your sense of honesty and loyalty to Sloan would drive you to demanding restitution even though it broke your heart. He said he loved you more than anything on earth, and begged me to help him find some way to spare—not me, or my father—but you!"

Dick tried to speak, but his throat restricted until he clutched it with his fingers, and his lips were white and hard.

"I did not believe that what he said was true," the voice went on, coming as from depths of desolation and misery, and with dead levels dulled by grief beyond emotion. "I have believed in my father! I thought there must be some mistake. I demanded of your partner that he lay off his own shift, and bring me here where we might listen. Oh, it was true—it was true!"

She suddenly turned and caught the steel handle of a candlestick in her hand, and tore its long steel point from the crevice.

"But I've found the way," she said. "I've found the way. You must come with me—now! Right now, I say. We shall have this over with, and then—and then—I shall go away from here; for always!"

"Not that," Dick said, holding his hands toward her. "Not that, Joan! What are you going to do?"

"I'm going to my father. He, too, must be spared. He must give it back. It must never be known. I must save him disgrace. It must be done tonight—now!"

She started down the drift toward the cage, walking determinedly, and Dick's lips opened again to beg her to come back; but Bill's hand was on his shoulder, and his grave and kindly voice in his ear.

"Go with her, boy. She's right. It's the only way. Have it over with tonight. If you dont' you'll break her heart, as well as your own."

They followed her to the cage, and the big miner gave the hoisting bell. The cage floated upward, and into the pale twilight. Heedless of anything around, they walked across the yard, and turned into the roadway leading down the gulch.

"Will you come?" she asked, turning toward Bill.

"No," he said slowly. "I'm not needed. Besides, I couldn't stand another blow today!"

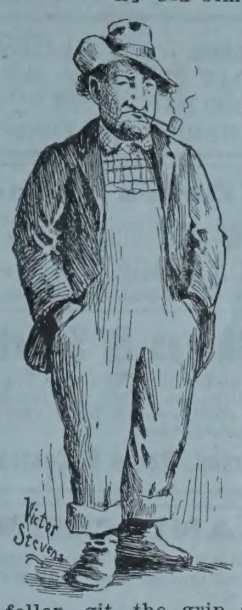
It was the only reference he ever made to it, but it went through Dick with more pain than he had administered. Almost sullenly he followed her down the road, wordless, bewildered, and despairing. Unable to spare her, unable to shield her, unable to comfort her, and unable to be other than true to his benefactor, he plodded after her into the deeper shadows of the lower gulch, across the log bridge spanning the brawling mountain stream, and up into the Rattler camp. Her steps never faltered as she advanced sraight to the office door, and stepped inside.

The bookkeepers were gone, and the inner door ajar. She threw it open, walked in, and closed it after Dick, who sustained a deadly anger against the man who sat at his desk, and as they entered looked up with a sharp stare of surprise.

(Continued in next issue)

It is going to take some time to get a state-wide organization of farmers strong enough to do much but we now offer you a good start if you will join the Farmers' Market Club. It will help you in both buying and selling.

By Old Jim Riley



If the army ain't strong enough to lick the "greasers" the President might call in the Anti-Horse Thief Association. The only other feller besides the farmer that never organized was the American Indian and as a result the only thing he ever made a howlin' success of was dyin'. I understand the drug store has got in a new supply of Old Crow, so I wouldn't be surprised to see that Professer feller git the grip agin.

BUCKSHOT BY THE PROFESSOR

A pile of farmers are studying the "Balkan situation" while they ought to be testing their seed corn.

When a man's wife and children think he's the best man in the World you are mighty near certain to hear his neighbors speak well of him.

Have you sent in your dollar to the paper yet? Don't put it off any longer—because after awhile you'll forget it altogether.

I know an old skeezicks who is so all fired stingy that he took some dope to make him bald-headed so he wouldn't have to spend a quarter to get a hair cut.

Look over the advertisements in this paper and then drop a postal card for further information to those that interest you. They contain a lot of valuable information.

I was glad to get rid of the "Hez" Brown crowd because I really didn't have room for them. But some of those old hayseeds are pretty fair chaps after all and it will be worth your while to watch for the "Possum Holler Doins."

The day's happiness depends a lot on how we start in in the morning. If you begin by being cross and surly to Mother and the kids and kick the dog around a few times you are pretty certain to have a headache by noon—and may be something worse by night.

Some fellows think the Hessian fly is going to give us a lot of trouble again this spring—but though they do their worst, they won't be in it with the pestiferous swarm of political candidates who will soon be sitting on the fence waiting for us to "finish the round."

No doubt, gentle reader, you noticed the slander pronounced against me in the last issue by that Jim Riley person. But I refuse to stultify myself by replying to his villainous accusation. On the contrary I shall treat him with silent contempt and stand on my character in the hands of my friends.

They turned some blood hounds loose to trail a bank robber over in Kansas the other day—and as soon as they were unleashed they took after the sheriff and made him climb a tree. Of course the sheriff didn't rob that particular bank—but may be the dogs thought he ought to be run in on general principles.

Don't you think it would be a splendid idea for you and your neighbors to form a "Farmers' Market Club" of a dozen members so you can get wholesale prices on carload shipments of bran, shipstuff, oats, flour, fertilizer, etc.? Wouldn't such a little organization save you hundreds of dollars? All it needs in any neighborhood is a leader. Won't you start the ball rolling?

'POSSUM HOLLER DOINS

Most of the bunch turned up at "Hez" Brown's store the other afternoon and somebody laughed about the way old "Josh" Simpson came near choking to death on dried apples the other day when old "Hez" broke in and said: "Well, it ain't no laffin matter to me cause dried apples cost money and if that old varmint don't quit sneakin' 'em thars goin' to be trubble." At this, old "Chouce" Baker got "sore" and said real mean like, "'Hez,' your so durn stingy that if old Saint Peter told you it cost a quarter to git into heaven you'd ask him to let you examine the other place fust." At this stage of the proceedings Judge Haskins dropped in for a sack of flour and a quarter's worth of "smokin." Now there is no man in Possum Holler who is looked up to more than the Judge who served two terms on the County Court Bench and who also owns one of the best farms in the "Holler." The Judge had hardly "lit" when "Jep" Thompson said, "Jedge, what do you think uv the President's speeches and western trip?" He had hardly gotten the words out of his mouth when old "Chouce" growled, "Why don't you ask him what he thinks about them pink tea notes too?" "Jep" glowered at him in scornful silence and presently the Judge said: "Well now seriously speakin' I think the President made a good impression judgin' by the crowds and the eddytorials in nearly all newspapers—irrespectve of politics. Of course Woodrow has kinda gone back on his former believes but the best uv us have to do that once in a while. Fact is I am kinda switchin myself. I don't want this to become a country where we pay more attention to learin' how to fight than we do to learin' how to grow more corn to the acre and how to put more fat on a steer's back at less cost—but just the same we'v got to have a navy big enuf to protect our commerce on the high seas and to hold our own agin anybody that might want to monkey with the Monroe Doctrine. I don't know what there is to this Japanese stuff but if them scamps are lookin' for trouble I want us to be prepared fur 'em—and then, too, I'd like to make England let our cotton alone. Altogether I am stronger fur a big Navy than I am fur a big Army cause it strikes me that if we have the fust we won't need the second"—and this seemed to be the general consensus of opinion and if there was anybody present who disagreed wth the Judge he kept his mouth shut.

Don't forget to renew your subscription now. A dollar pays for three years.

Special Sale during January and February

Buggies and Engines

We are making special inducements to early buyers during January and February that will enable you to make a bigger saving in the purchase of an American Beauty Buggy or an Economy Engine than you can make at any other time of the year.

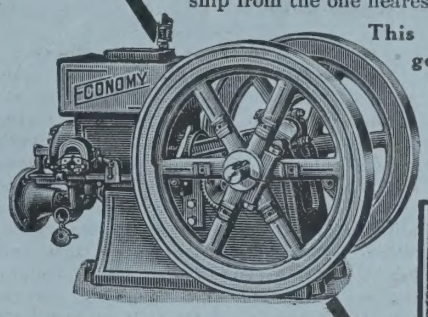
Don't buy a buggy or engine until you have seen this special proposition, as it means a big saving to you.

If you are interested in a Gasoline Engine, write for our special January and February Engine Proposition No. 88M80.

If you are interested in Buggies, write for our special January and February offer on American Beauty Buggies No. 88M80.

Shipped From a City Near You.

We carry six styles of American Beauty Buggies and a full line of Engines, Trucks, Saw Rigs, Grinders and Pumping Outfits in fifteen different cities and we ship from the one nearest you.



This special proposition good during January and February only. Write for it today.

Sears, Roebuck and Co. Chicago, Ill.

SEED CORN $8.55 A BUSHEL

The Carroll County Missouri Farm Bureau held its first annual seed corn sale in the courthouse at Carrollton. Saturday, January 29. The day proved a very bad one and the roads were practically impassable, but in spite of this the courthouse was filled with people and great interest was taken in the sale. Mr. Sam Jordan, of the State Board of Agriculture, a corn expert of national reputation, gave an address preceding the sale, which was very much appreciated by the farmers present.

Immediately following Mr. Jordan's address the sale was held in the basement of the courthouse and the average price paid was $8.55 per bushel. The highest price paid for a single bushel was $125. This was a bushel of Reid's Yellow Dent exhibited by Horace G. Windsor, who is president of the State Corn Breeders Association. A sample of ten ears by the same exhibtor sold for $26, all going to the same party. Another half bushel lot sold for twenty-six dollars. The discrimination by the farmers was very pronounced when three bushel of ordinary crib selected corn sold for only eighty cents per bushel. The corn was all purchased by Carroll County farmers. Plans have already been started for growing a large acreage of corn this year in co-operation with the Farm Bureau for the purpose of establishing a few varieties of corn best suited to Carroll County conditions. Contributor.

A Handy Little Book

Elsewhere in this issue the Keystone Wire Co. is offering to send free a little booklet called Ropp's New Calculator. It contains a lot of valuable farm information and is free.

Overland Aluminum Shoes

The world's great farm and creamery shoe. Water-proof, rust-proof, light and durable. Warm in winter, cool in summer. Best by test, and you pay less. A postal brings free catalog.

OVERLAND SHOE CO.
Box 79 Racine, Wis.

$210 GIVEN AWAY Send us this ad for full particulars and free catalog.

Moberly Commercial College, Moberly, Mo.

Live Stock Notes

R. P. ROYCE, Fieldman

COMING SALES

POLAND CHINAS

Will G. Lockridge, Fayette, Mo., Feb. 17.
Bennett Bros. and Belcher, Lee's Summit, Mo., February 19.
W. I. Britt, Rush Hill, Mo., March 9.

SADDLE HORSES

E. D. Moore, Columbia, Mo., March 10.

SHORTHORN CATTLE

W. C. Prewitt & Sons, Clarksville, Mo., April 27.

JACKS

C. H. Early & Sons, Centralia, Mo., February 18.

Early's Jack Sale

Our readers are reminded that C. H. Early and Son, will sell 18 head of mammoth black jacks at their farm adjoining Centralia, Friday, February 18th. This sale will afford a splendid opportunity for our readers to secure good values. Messrs. Early are recognized stockmen and the quality of their stock has long been conceded. Other business matters necessitates the closing out of their live stock and this sale is an absolute dispersion—everything goes for what it will bring. Every one of the jacks offered is a good proposition. They will run in age from four to seven years old, stand 14.2 to 15.3 and will weigh from 900 to 1100. All are jet black with mealy markings and are the heavy-boned good kind. Messrs. Early will also sell about 35 head of horses and mules and around 25 head of high grade Shorthorn cattle.

Smith Bros. Durocs

In a recent letter from Smith Bros., Thompson, Mo., who advertise Durocs in this paper, they have the following to say in regard to the stuff now offered for sale:

"In regard to our Durocs will say we are offering one yearling by Beauty's Model, which is good, and a string of spring gilts by our first prize boars, Col. Bob and Beauty's Model, and the grand champions S. & C's Valley Chief and Instructor. These gilts are all growthy with quality and are of the big type. These sows and gilts are all bred to Pal's Fancy Advancer, one of the most aristocratic bred boars in the West. Since we have been breding Durocs we have shown three senior yearling boars and all of them have won first at a state show, and we think Pal's Fancy Advancer a better boar than any of them and we are building our hopes on him winning next year as he will be weighing around the 1000 pound mark with as much quality as any of the big ones.

"We are now prepared to sell the best lot of fall pigs we ever offered. They are sired by Beauty's Model and out of sows by Col. Bob. They are the big boned, stretchy kind, deep, broad backed and heavy hams. There is one out of Crimson Lucy by Col. Bob, second dam by Crimson Wonder 3rd, that is a strong herd boar prospect, in fact, he is the best pig we ever owned at the age. When one considers that we raised Beauty's Model and his record this means something."

Write Messrs. Smith for prices, mentioning this paper.

Need a Hereford Bull?

If so, we would suggest that you write Rutter Bros. R 2, Madison, Mo. Their advertisement appears elsewhere in this paper.

Brown's Angus Bargains

K. H. Brown, Bolivar, Mo., in sending in copy for change of add, says:

"I have sold all my Angus bulls except one calf. Also am sold out of Poland Chinas. I now offer a few very fine yearling heifers that I have priced to sell."

Mr. Brown is producing a useful type of cattle and that he pleases his customers is proven by the many letters he receives from those he sells to. Mention this paper.

Linhardt's Polands

Notice the change in the advertisement of H. O. Linhardt, Lohman, Mo., who advertises Poland Chinas. Mr. Linhardt is now offering some splendid values in bred gilts and fall boars—all of the most approved lines of breeding. Mr. Linhardt has shipped his hogs to 26 states and numbers every customer as a satisfied buyer. We know of no better values being offered by any breeder. When writing please mention this paper.

Adenhill Durocs

R. L. Hill, Columbia, Mo., writes as follows concerning the Durocs gilts he now offers:

"I have now four big yearling gilts to offer, all sired by Columbus, he by Waveland Col., by High Chief by Ohio Chief. Three of these gilts were farrowed on September 1, 1914, and are out of a sow by Golden Rule, and the other gilt is out of a sow by Red Royal, he by Helen's Chief and he by Ohio Chief. Red Royal is a full brother to Edna Browning. This latter gilt was bred to Col. Wonder II on December 10th. The other three were bred to a son of Commander Chief on Oct. 26th and Dec. 7th, and one to Col. Wonder II on Dec. 10th. All are showing safe in pig, and should go to good hands. They are priced decidedly low and will prove a profitable investment to anybody. At the price at which they are being quoted they will prove profitable to use their offspring as stock hogs. We also have a good lot of spring gilts bred for spring farrow and their quality, breeding, price, etc., are attractive. We have fall pigs both boars and gilts. This is the season to buy a fall boar, for at this time he can be bought cheapest, and shipping expense is the least. These boars will be ready to use on sows and gilts for fall litters."

When you write Mr. Hill please mention this paper.

Taylor's Sale Great for the Buyer

The second annual sale of Duroc sows and gilts held by Chas. L. Taylor, at his farm near Olean, Mo., Friday, January 21, proved to be a bonanza for the buyers who attended. The average of $42 does not in any way indicate the quality of the offering, indeed, an average of $75 or $80 would have been nearer the real value. When a breeder demonstrates time and again that the type of hogs he is producing are the right kind by going out on the show circuit meeting all comers and taking their measure, it would seem that his efforts should be appreciated. Another thing we want to say here concerns the support, or rather the lack of support, Missouri breeders are giving each other. Just so long as they continue to stay away—or if they do go to a sale it is usually one outside the state, just so long as they continue to do this, they can look for low averages on the Missouri sales. What is it that makes it possible for Iowa breeders to get more money for their hogs? Usually it is because Missouri men have passed up good sales in their own state to attend these Northern sales and thereby raise the average.

We will be glad when Missouri hog men come to realize that Missouri hogs are as good as can be found. Mr. Taylor is to be admired for his nerve and gameness and we trust that in the future when he gets together as high class offering as he had this year that it will be appreciated. The buyers were:

No. 2, R. L. Hurst, Bolckow, Mo.	$95.00
No. 3, W. H. and Geo. E. Thomson, Columbia, Mo.	$45.00
No. 4, B. F. Heinleden, Jamestown, Mo.	52.50
No. 5, Earl Filler, Mt. Vernon, Mo.	70.00
No. 6, Sikes Bros., Sikeston, Mo.	75.00
No. 7, Walnut Hill Farm, Independence, Mo.	79.00
No. 8, Same	70.00
No. 9, R. L. Hill, Columbia	38.00
No. 10, W. H. Dunlap, Shepley, Ga.	
No. 11, S. D. Robertson, Republic, Mo.	51.00
No. 13, Chas. Kratzer, Jamestown, Mo.	31.00
No. 14, Al Kendrick, Lakenan, Mo.	40.00
No. 15, Walnut Hill Farm	49.00
No. 16, J. B. Bear, Olean, Mo.	37.00
No. 17, D. A. Kerckner, Olean	35.00
No. 18, Fred Hader, Olean	31.00
No. 19, R. L. Hill	48.00
No. 20, D. B. Calhoun	40.00
No. 21, R. G. King, Hopkins, Mo.	45.00
No. 22, D. B. Calhoun	38.00
No. 23, S. E. Dunham	64.00
No. 24, W. F. Youngmeyer, Jamestown	28.00
No. 25, E. E. Heinleden	45.00
No. 26, Walnut Hill Farm	30.00
No. 27, John Heinrich, Jamestown	39.00
No. 28, S. E. Dunham, Olean	30.00
No. 28½, Fred Hader	31.00
No. 29, Frank Holtsinger, Moberly	72.50
No. 30, B. F. Heinlenden	30.00
No. 31, Walnut Hill Farm	30.00
No. 32, R. W. Taylor, Olean	26.00
No. 33, L. E. Rhodes, Bonne Terre	34.00
No. 34, S. E. Dunham	35.00
No. 35, Norman J. Porter, Bowling Green, Mo.	42.00

POLAND CHINAS

Smooth Columbus
THE BOAR THAT PUT MISSOURI ON THE MAP.
HEADS OUR HERD

"LEST YOU FORGET" Our bred sow sale featuring Smooth Columbus. See ad in this issue and send for catalogue.
BENNETT BROS. R. 5, LEE'S SUMMIT, MO

Spring Boars by the Grand Champion
A desirable lot of early spring boars by The Giant, acknowledged to be one of the greatest young Poland China boars of the breed. Prices within reach of all.
WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

Poland Chinas & Shorthorns
Bred sows and gilts. The real big kind with bone and quality. A few serviceable boars. Several extra good young bulls and heifers. Satisfaction guaranteed.
H. S. Williamson, Route 6 Centralia, Mo.

POLAND CHINA BARGAINS
I have some good Big Type Poland China hogs; some tried sows, one aged boar, some spring gilts and spring boars. Registered stuff. Cholera immune. Come and see them or write me. LOU LE FEVRE, Collins, Mo.

BALDWIN HEIGHTS POLAND BOARS $25
Choice spring boars sired by King Jumbo by King of All, and out of sows bred in the purple. Your choice for $25. Satisfaction guaranteed.
R. F. BALDWIN, Rt 1, ROCHEPORT, MO.

MEGOWN'S SPOTTED POLANDS
No matured stock for sale but booking orders for pigs to be shipped later. Have length, bone, size and big spots. Sired by two of the biggest boars in the State for their age.
B. B. MEGOWN, - - - - - - NEW LONDON, MISSOURI

BAKER'S REAL BIG-TYPE POLANDS
We have a number of extra good spring boars sired by Big Look that we are offering worth the money. Need the room and must sell. Remember our February 18th sale.
W. A. BAKER & SONS, BUTLER, MO.

Linhardt's Polands
Sold out of serviceable boars. Now offer extra values in bred gilts and fall pigs. Priced to sell to farmers.
H. O. LINHARDT, LOHMAN, MO.

DOOLEY'S SPOTTED POLANDS
Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pair and trios no relation. Also registry furnished. Send check with first letter.
EDGAR DOOLEY. - Etterville, Mo

BIG TYPE BOARS FOR SALE
Hear we are with the good big type sping boars by SOOTH COLUMBUS and SPOTTED MONSTER out of WONDER and LEADER sows. Crated and on the car at Rocheport, for $25.
HALL & RAPP, ROCHEPORT, MO.

DUROC JERSEYS

COL. WONDER DUROC BOARS $25
At recent Missouri State Fair my herd won 35 ribbons—3 championships, 15 firsts. Col. Wonder sires my champions—he will sire them for you. Choice bred gilts. Spring boars by Col. Wonder $25 each. Send check in first letter. Nothing but the best sent on mail orders.
CHAS. L. TAYLOR - - - - - - Olean, Mo.

BIG TYPE DUROC GILTS
We offer a choice lot of spring gilts bred for early farrow. Big type, big bone, big breeding and big quality. Also a few yearling sows. Priced to sell and satisfaction guaranteed.
W. H. & GEO. E. THOMSON - - - - - - Columbia, Missouri

Durocs With Size and Bone
I am offering a choice lot of early spring pigs with unusual size, bone and quality. Bred right and priced right. Visitors welcome.
A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

BRED SOWS
Yearlings sired by Crimson Wonder Again, Crimson Col. I Am and others including some show sows.

Durocs bred to **SELECT COL. II** or the outstanding **MO COL.**

BRED GILTS
Weighing 200 to 300 lbs. due to farrow in March or April. Good individuals.

A. WHITE JR., Box 422 PALMYRA, MO.

BIG TYPE DUROCS
We are offering choice sows and gilts of the best breeding, bred to PAL'S FANCY ADVANCER, one of the biggest of the big type. Also a number of extra fine fall boars.
W. O. & B. A. SMITH, - - - THOMPSON, MO.

DUROC GILTS--BRED
A few extra good gilts, some a year old, sired by prize-winning boars and bred to Merry Chief, a prize-winner at Sedalia. Bred to farrow early next spring. Prices right.
R. L. HILL - - Columbia, Mo.

If You Could Buy Duroc Gilts

bred deep in the blood of champions, well grown, of the right type, and bred for early spring farrow, for $30 to $35—and guaranteed, would you be interested? If you are we would be glad to hear from you. Correspondence invited.

ROCKWOOD FARM, IBERIA, MO.

DUROC JERSEYS

Hazelwood Durocs

Seventy choice spring boars and gilts sired by HAZELWOOD CHIEF, by CRIMSON COL., and out of OHIO CHIEF bred sows. Get our prices.

E. P. POWELL & SON, Maryville, Mo.

75 Duroc Spring Boars and Gilts

Seventy-five (75) good boars and gilts. Rich breeding, and plenty of size and bone. Pairs, trios or more. Priced to sell.

J. C. Garrard & Son, McBaine, Mo.

Duroc Gilts---Bred for Spring

I now offer a choice lot of big February and March gilts sired by GOLDEN TA and bred to a grandson of COL. WONDER. Priced to sell. Extra size and bone.

J. E. McPherson, Columbia, Mo.

DUROCS PRICED TO SELL

Five extra good service boars, $25 each; 20 choice gilts bred for March and April farrow, $25 each. They carry the blood of champions and will please you. All hogs guaranteed to be as represented.

BUCKEYE STOCK FARM, OLEAN, MO.

ANGUS CATTLE

ChoiceAberdeen-Angus

Established 30 years. 100 head in herd. We are offering good useful Bulls and Heifers of excellent individual merit and breeding. Price reasonable. Our customers make them popular.

D. L. Sutherland & Sons, Windsor, Mo.

Aberdeen-Angus

I am offering a number of young bul,sl cows and heifers — good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.

J. D. Blackwell - Fayette, Mo.

Brown's Aberdeen Angus

Five heifers and one bull, born April, 1915. Breeding and quality the very best. All registered.

K. H. BROWN, BOLIVAR, MO.

ANGUS CATTLE

HERD FOUNDED 1904

Seven early calves — 3 BULLS and 4 HEIFERS, sired by Dean's Eric 139686. Every one the right kind, and priced to sell.

V. E. LAWRENCE, SALISBURY, MO.

Angus Bargains

Registered bulls and heifers. The market topping kind. Leading families represented. Priced worth the money and satisfaction guaranteed.

Also Poland China Hogs.

J. M. JONES, R. F. D. 3, EVERTON, MO.

HEREFORD CATTLE

HEREFORD BULL

For sale, a registered Hereford bull, two years old. A good individual and priced right for a quick sale.

Hugh Whiteford - - Gullford, Mo.

HEREFORD BULL!

We offer for sale one extra good reg. Hereford bull. Splendid sire. Priced to sell.

RUTTER BROS., MADISON, MO.

RED POLLED

RED POLLED CATTLE

HERD ESTABLISHED 16 YEARS

Young stock for sale at all times. Young bulls sired by Logan 13500. The dual purpose kind. Also Spotted Poland China spring boars and gilts.

M. L. SNYDER, - POLO, MO.

AUCTIONEERS

THOMAS E. DEEM

AUCTIONEER

Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased.

Dependable service at a reasonable charge. Address, Cameron, Mo.

No. 36, J. W. Burch, Brookfield, Mo. 26.00
No. 37, R. L. Hill..... 31.00
No. 38, J. J. Schwamb, Jamestown 29.00
No. 39, S. D. Robertson..... 34.00
No. 40, Sikes Bros. 35.00
No. 41, J. G. Berger, Jamestown.... 30.00
No. 42, Same 35.00
No. 43, J. W. Burch 35.00
No. 44, Same 29.00
No. 45, Walnut Hill Farm..... 32.00
No. 46, Chas. Katzer 29.00
No. 47, J. A. Kirckner 29.00
No. 48, Walnut Hill Farm..... 27.00
No. 49, J. B. Bear..... 35.00
No. 50, Walnut Hill Farm..... 35.00

Unsell's Duroc Sale a Success

Dr. J. B. Unsell's first public sale of Durocs from his Clover Leaf herd, Wednesday, January 19th resulted in a very satisfactory average of $42.25.

Dr. Unsell was particularly fortunate in the active support given the offering by his neighbors, who at all times were persistent bidders. The top price of the sale was $108, that price being paid by E. E. De Leishmett, Monroe City, Mo., for the good sow Wilda Duchess Forrest. W. G. Tinsley, Louisiana, paid $100 for J. B.'s Model Queen.

Much interest was manifested among the visitors about the boar, World's Fair Col., recently added to the herd at a long price. This boar will be featured in the herd from now on and next fall the public will be given an opportunity to buy his get. Col. Iglehart had charge of the sale and much credit is due him for the success of the sale. The list of buyers follows:

No. 1, E. E. DeLeishmett, Monroe City, Mo. $108.00
No. 2, Wm. Waddel, Frankford..... 35.00
No. 3, A. J. Garry, Frankford..... 33.00
No. 4, Malcom Carroll..... 46.00
No. 5, Kelly Roddell, Frankford.... 47.50
No. 6, E. E. DeLeishmett..... 32.00
No. 7, John D. Carroll..... 32.00
No. 8, W. G. Tinsley, Louisiana....100.00
No. 9, S. P. Marion, Rockport, Ill... 45.00
No. 10, W. H. Cavelry, Frankford.. 40.00
No. 11, S. P. Marion 44.00
No. 12, Lem Butts, Louisiana..... 42.00
No. 13, F. J. Dain, O'Fallon, Mo.... 38.00
No. 14, H. D. Carroll, Louisiana.... 50.00
No. 15, S. C. Pritchett, Frankford.. 39.00
No. 16, Fay Bass, Louisiana..... 31.00
No. 17, J. L. Butts, Louisiana..... 45.00
No. 18, Dr. Unsell..... 35.00
No. 19, Fay Bass..... 36.00. 36.00
No. 20, Jerry Adams..... 30.00
No. 21, E. M. Scott, Louisiana..... 37.00
No. 22, Haden McIlroy, Clarksville. 31.00
No. 23, W. S. Tinsley..... 40.00
No. 24, E. E. DeLeishmett..... 24.00
No. 25, G. M. Scott..... 30.00
No. 26, Jerry Adams..... 26.00
No. 27, Dr. C. E. Still, Kirksville... 32.00
No. 28, A. E. Knight, Whitehall, Ill. 28.00
No. 29, H. D. Dean, Rockport, Ill... 59.00
No. 30, Darrel Johnson, Frankford.. 61.00

Bridges Bros. Polands Average $62.25.

The first public sale of Poland chinas held by Bridges Bros., Slater, Mo., February 11th, resulted in the splendid average of $62.25 on the 38 head sold.

It has been a long time since a more representative crowd of breeders and farmers attended a Missouri sale. The Bridges herd has been watched closely because of the extreme care used in founding it—breeders knew that this firm should have a very superior offering, and they were in no way disappointed. Extreme size and quality were the contributing factors that made this sale one of the snappiest and most satisfactory of the present season. When Col. R. L. Harriman opened the sale and called for the first bid no less than a dozen bidders responded and from them on the bids came thick and fast. The top of the sale was set at $170 when Walter W. Head, of St. Joseph, Mo., secured the splendid yearling daughter of Wedd's Long King. Fred B. Caldwell, Howard, Kan., was one of the strongest bidders on the better sorts and secured the second high priced lot by paying $150 for the March 21st daughter of Big Bob, No. 34. The same buyer also paid $147.50 for the spring gilt No. 22. Bennett Bros., Lee's Summit, Mo., got an outstanding spring gilt in No. 26, a daughter of Big Bob Wonder, for which they paid $107.50. G. E. Petty, Versailles, Mo., paid $100 for a yearling gilt by Sterling Prince. M. H. Hibbard, Aullville, Mo., got the good yearling gilt by Long King's Model for $105. S. L. Leonard, St. Joseph, Mo., paid $90 for a spring gilt by Longview's Master Orphan. U. S. Byrne, Saxon, Mo., got splendid value at $98 in a yearling by King John.

Messrs. Bridges are to be congratulated upon the splendid offering they prepared for sale and the satisfactory average of $62.25 is evidence of the high regard their fellow breeders entertain for them. The list of buyers follow:

No. 0, Walter W. Head, St. Joseph, Mo. $170.00
No. 2, C. L. Conway, Nelson, Mo... 50.00
No. 3, Same 41.00
No. 4, Wm. Hickman, Slater, Mo.. 42.00
No. 6, U. S. Byrne, Saxton, Mo.... 98.00
No. 7, K. C. Patton, Clarksville, Mo. 73.00
No. 8, L. M. Ordway, Slater..... 43.00
No. 9, M. H. Hibbard, Aullville, Mo. 105.00
No. 10, W.W. Croslin, Brownington, Mo. 47.50
No. 11, Horace Mundy, Mexico, Mo. 47.50
No. 12, E. E. Marlow, Wellsville, Mo. 85.00
No. 13, Tom Baker, Slater, Mo..... 40.00
No. 14, Stephen Craig, Arrow Rock, Mo. 40.00
No. 16, Ralph Barksdell, Slater.... 38.00
No. 17, Lee Cannon, Gilliam, Mo.. 40.00
No. 18, G. E. Petty, Versailles, Mo. 100.00
No. 19, Stephen Craig 44.00
No. 20, L. M. Ordway 50.00
No. 21, Leonard McMullen, Sikeston, Mo. 40.00
No. 22, Fred B. Caldwell, Howard, Kansas 147.50
No. 23, W. H. Charters, Butler, Mo. 41.00
No. 24, Leonard & Russell, St. Joseph, Mo. 90.00
No. 25, L. R. Marshall & Sons, Glasgow, Mo 50.00
No. 26, Bennett Bros., Lee's Summit, Mo. 107.50
No. 27, Stephen Craig 49.00
No. 29, W. G. Lockridge, Fayette.. 60.00
No. 30, Horace Mundy, Mexico..... 50.00
No. 32, Stephen Craig 51.00
No. 33, Wm. Fox, Slater..... 39.00
No. 34, Fred B. Caldwell.....150.00
No. 35, W. G. Lockridge 52.00
No. 36, G. S. Chrisman, Slater..... 43.00
No. 37, Robert Fields, Slater..... 40.00
No. 38, Stephen Craig..... 43.00
No. 39, W. H. Charters..... 50.00
No. 40, W. H. Charters..... 50.00
No. 41, H. B. Walter, Effingham, Kansas 50.00
No. 42, H. S. Williamson, Centralia, Mo. 32.00

Baldwin Offers Good Poland China Bargains

R. F. Baldwin, Rocheport, Mo., offers the readers of this paper a desirable lot of bred sows and gilts of strictly big type Poland China breeding. Mr. Baldwin has exercised care in establishing and maintaining his herd and the stock he now offers is such as will appeal to our readers who are in the market for good useful Polands that are capable of going out on the farms of Missouri and making good. The prices asked are extremely reasonable and we would suggest that those interested write Mr. Baldwin without delay. Mention this paper.

Smith's Jerseys

J. B. Smith, Platte City, Mo., who advertises Jersey cattle in this paper is prepared to take care of the wants of any of our readers who are planning to buy a bull or cows or heifers. Mr. Smith has been before the public in the capacity of a breeder for years and has an established reputation for quality of his herd.

Classified Advertising

WANTED to hear from owner of good farm for sale. Send cash price and description. D. F. Bush, Minneapolis, Minn.

FOR SALE—Barred Rock Cockerels. High class fellows with great size. $2 to $5 each. Obadiah Prettyman, Fairfax, Mo.

EGGS—Pure S. C. Buff Orpington Eggs from vigorous, extra heavy stock, $1.50 per setting of 15. Pure S. C. Ancona Eggs from Mountain Grove trap nested birds. $1.50 for setting of 15. F. A. Henninger, Columbia, Mo.

BULBS—50 high grade flowering bulbs, glaxinias, begonias, oxalis, gladiolus and other kinds, also asparagus fern; all postpaid, 25c. Pine Tree Nursery, Pemaquid, Maine.

EGGS—Thompson strain Barred Rocks. Eggs from pens, $3 for 15; farm range, $1 for 15; $5 per 100. Mrs. L. H. Elly, Columbia, Mo. Rt 2. Phone 36-B.

BARRED PLYMOUTH ROCK EGGS for hatching, from extra choice, large farm raised stock. Deep clear barring, and free from smutty or brassy color. Big yellow legs and proper shape. Price of eggs, $1 per 15; $2.50 per 45; $5 per 100. M. D. PORTER, VANDALIA, MO.

SEED CORN

Johnson County White, the best I ever grew and all in crib by Nov. 1. Price low this year, $2.25 single bushel, $4 for two bushel bag shelled. Crated $3 a bushel, extra selected ears. Order early.

C. D. Lyon, R. 1 Georgetown, Ohio

JERSEY CATTLE

JERSEY CATTLE

Bulls ready for service. They are sired by the Owl's Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

Jersey Cows

I want to sell 20 head of registered cows and heifers that are either fresh or soon will be. Also four young bulls.

J. B. SMITH Platte City, Mo.

SUNSET JERSEYS--TRIO

Two fancy heifers (both bred) and a fine bull, all of the famous Blue Belle—Golden Rosebay breeding. I will sell this trio for $250. This price cannot be equalled anywhere for such stock. Send for circular, description of herd, production etc.

The ENNIS STOCK AND DAIRY FARM, Horine Station, Mo. (Just south of St. Louis)

For Sale

A few choice Jersey bull calves sired by Kinloch Granville Lad 91520 (grandson of "Golden Fern's Lad"), and out of cows producing over 40 pounds of milk per day. While they last at $20 each.

D. V. VANDIVER, COLUMBIA, MO.

HOLSTEIN CATTLE

Dutchland Sir Hengerveld Rag Apple 99771

A few choice bull calves out of heavy producing dams sired by the above famous bull for sale.

BLACK AND WHITE FARM
Baden Station, Mo.
Tel. Colfax 1812 R. R. 30

IN MISSOURI

Eight bulls, 2 to 8 months, $100 to $175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.

S. W. COOKE & SON, MAYSVILLE, MO.

HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndyke Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

M. E. MOORE & CO., Cameron, Mo.

HOLSTEINS

Bought for you on small commission. What do you want? Price low. Feed short.

H. T. Hook, Janesville, Wis.
(Formerly of Columbia, Mo.)

HAMPSHIRES

BROOKVIEW HAMPSHIRES

Herd headed by GEN. TIPTON and SIR BROOKVIEW, both grand champions. Spring boars and gilts of choice breeding and individuality. Prices reasonable.

ISOM J. MARTIN, R 5 Lancaster, Mo.

BERKSHIRE HOGS

Big Type Berkshires

Choice Berkshire breeding stock sired by grand champion boars of Illinois and Missouri state fairs. Also S. C. Black Minorca chickens. Prices reasonable.

J. V. FISH, Route 7 BOLIVAR, MO.

FINE SEED CORN

Yellow Corn: Reid's Yellow Dent, Shenandoah and Gold Mine crossed, Berry's Perfection, Funk's 90-Day Yellow. 90-day White Cap Dent. White Corn: Boone County White, Johnson County White, St. Charles White, Iowa Silver Mine. Prices per bushel, F. O. B. Skidmore. Butted and tipped by hand, graded and tested, $2.50; over ten bushels $2.40; 20 bushel lots $2.30. Sacks free. Crated ear corn, $5 per bu.; 5 bushels or more $4 per bu.

Winnings: 1904, First on best six varieties in entire show at World's Fair held at St. Louis in 1904. Prize gold medal. 1913, First on 10 ears yellow at Maryville, State Show; grand shampion ten ears in young men's class. 1915, First and second a Missouri State Corn Show.

A. F. Howden, Skidmore, Mo.

MOLASSES Richest Feed Lowest Cost
St. Louis Molasses Co., Dept. MF., 400 S. Broadway, St. Louis

I'LL PUT YOUR STOCK

in a thriving condition, make the ailing ones healthy and expel the worms.

DR. GILBERT HESS
Doctor of Veterinary Science
Doctor of Medicine

If you have a sick or injured animal write me at once, giving symptoms, and I will send you prescription and letter of advice free of charge. Send 2c stamp for reply.

Why Pay the Peddler Twice My Price?

I urge every farmer to see to it right now that his work horses are put in condition for the hard work of spring and summer, so that when the sun shines your horses will be rid of their old coats, full of stamina and ready for business.

And don't overlook the spring pig crop—the mortgage lifters. Start them off free from disease—free from worms.

Be sure, also, that your milk cows are thoroughly conditioned for the long, heavy milking season, and that those with calf are vigorous and fit.

Remember, your stock have been cooped up for the last few months and have been on dry feed. As corn or oats, hay and fodder do not contain the laxatives and tonics so abundantly supplied in grass, your stock are pretty apt to be out of fix. Some of your animals are liable to be constipated, rough in hair, their legs may have become stocked, or they have dropsical swellings, but the most common disease of all, especially among hogs, is worms—worms.

DR. HESS STOCK TONIC

25-lb. Pail, $1.60. 100-lb. Sack, $5.00

Highly Concentrated, as the Small Dose Quantity Proves

Now, as a worm expeller, I will go the limit in guaranteeing my Stock Tonic. To clean out your hogs, put in the swill one tablespoonful of my Tonic to every two hogs twice a day and you'll make short work of the worms. Dr. Hess Stock Tonic is

A Sure Worm Expeller
A SPLENDID TONIC

This preparation of mine is 24 years old, farmers everywhere have tested it. I feed it to my own stock, for I know that it contains the necessary ingredients for enriching the blood, improving the digestion and assimilation, keeping the entire animal system clean and well regulated.

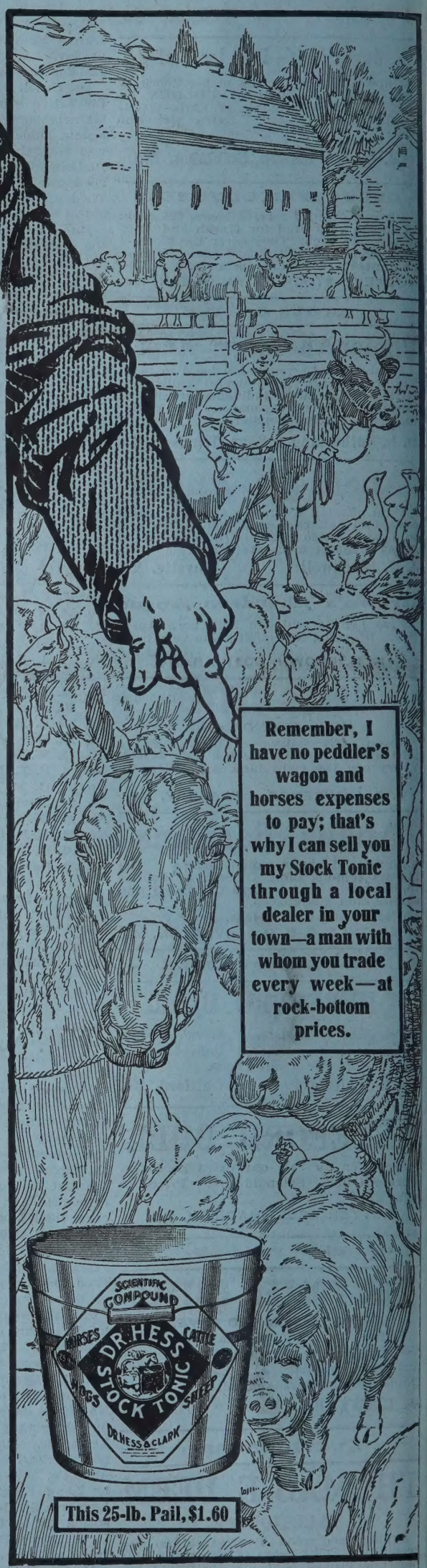
Now here is my guarantee to you—a guarantee that my dealer in your town will back up in letter and spirit; it must surely convince you of the undoubted faith I have in this preparation—read it very carefully:

So sure am I that Dr. Hess Stock Tonic will put your animals in a thriving condition, make the ailing ones healthy and expel the worms, that I have authorized my dealer in your town to supply you with enough for your stock, and if it does not do as I claim, return the empty packages and my dealer will refund your money.

And here are my prices—just half what the peddler charges: 25-lb. pail, $1.60; 100-lb. sack, $5.00. Smaller packages as low as 50c (except in Canada and the far West and the South). Sold only by dependable dealers who are known for square dealing.

I have a book about Dr. Hess Stock Tonic that you may have for the asking.

DR. HESS & CLARK, Ashland, Ohio



Remember, I have no peddler's wagon and horses expenses to pay; that's why I can sell you my Stock Tonic through a local dealer in your town—a man with whom you trade every week—at rock-bottom prices.

This 25-lb. Pail, $1.60

Dr. Hess Poultry Pan-a-ce-a

This is just the time you should be giving your poultry this splendid tonic. It will put them in fine condition, make your hens lay, ensure fertile hatching eggs and strong, vigorous chicks. Very economical—a penny's worth is enough for 30 fowl per day. Sold only by reliable dealers—1½ lbs. 25c; 5 lbs. 60c; 25-lb. pail, $2.50 (except in Canada and the far West). Guaranteed.

Dr. Hess Instant Louse Killer

Kills lice on poultry and all farm stock. Dust the hens and chicks with it, sprinkle it on the roosts, in the cracks, or, if kept in the dust bath, the hens will distribute it. Also destroys bugs on cucumber, squash and melon vines, cabbage worms, etc., slugs on rose bushes, etc. Comes in handy, sifting-top cans. 1 lb. 25c; 3 lbs. 60c (except in Canada and the far West). I guarantee it.

Those finding it necessary to buy implements and other articles advertised in THE MISSOURI FARMER will find it profitable to write for descriptive matter so that the comparative merits of the different articles may be studied. These articles are usually found in the stores of the best dealers but if you are posted you can use your own judgment in making your selection. We carry advertisements from none but what we believe to be reliable and trustworthy firms who will deal honorably with our readers.

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE MISSOURI FARMER

COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE AND THE MISSOURI EXPERIMENTAL STATION

The "Old Man"

Somehow I have never been able to listen to the doggerel sentiment of the song, "Everybody Works but Father," without feeling a degree of resentment against the levity which brought it into being. I know one should not take such things too seriously and yet just the same there is in it the encouragement of a disrespect which is a full grown brother to that other disrespect which, even on the lips of youths, refers to the chief burden bearer of the family as the "Old Man," etc. Thanks to that splendid sense of chivalry which has marked the manhood of our country from its very beginning, the public would not for one moment tolerate such a song directed against our mothers, sisters or sweethearts—but because the shoulders of Father are broad and because he goes on his way uncomplainingly we pelt him with song and jest, and good old soldier that he is, he smiles and apparently never minds. And yet, after all, he is but human—and who shall say that there are not moments when his heart cries out against the cruelty of it all?

I think God made the cliffs and the oak and man at about the same time—and to each he gave the strength to contend against the storm. When there is a wilderness to conquer or wild beasts to slay it is the man's task. When a Nation is in danger or when a great human principle is involved he drops his axe or unhitches from his plow and without a word of protest lays down his life upon a red field of battle in order that the little ones back home and the mothers of the present and future may reap the greater security which his valor buys. As the great wounded Titanic listed on the black sea that night several years ago, men rich in this world's goods stood with bared heads and went to their watery graves with a smile in order that the peasant women and their little children from the steerage might pass on to safety in the life boats—and so, though on occasion he may swear and fight and brawl and be encumbered with a thousand faults, the fact remains that men live and toil and die in order that the "tender ones" may be sheltered as much as possible against the world's harshness.

And, even so, though his path may lie along the peaceful lanes of life, nevertheless he is a brother to the ox and often, long before he has reached his alloted three score and ten, his shoulders stoop under the heavy burdens which time and fate have placed upon them. As I write these words there comes to my mind the picture of thousands of farm homes in which The Missouri Farmer is a constant visitor. I see the father come in from a hard day's work and sit down with his little family to the evening meal—tired and yet cheerful. After the supper dishes have been cleared away I hear him laugh and jest with the little ones or perhaps help them in preparing the next day's lessons—and, finally, when they come to him in their little "nighties," I see him kiss them goodnight and then urge the tired mother to go to bed also—and when all is still and hushed I see him sitting there alone in the old rocking chair pondering over and over again in his weary mind just how he will meet the next interest period or how to solve some other vexing problem—keeping these burdens to himself in order to shield his helpmate, who, the good Lord knows, has troubles enough of her own. From the time he dressed in the skins of wild beasts and lived in a cave down to this hour man has been willing to give up his life for his loved ones—and so, without treason to woman, without whose love, smiles, tears and kisses the world would be as dreary as the desert, I utter this mild protest on behalf of the "Old Man"—for he is God's master slave—a tamer of the wilderness—a conqueror who fears neither the mountains nor the mad seas—a magician who plays with the lightning—who breathes beauty and poetry into stone and bronze—who says and writes immortal things and who makes of himself and of his kind the cobblestones over which the crunching engines of civilization take their way.

—By the Author of After Thoughts.

Be sure to read "It's Up to You," on Page 6

GEO. B. ELLIS
MANAGING EDITOR

VOL. VIII MARCH 1, 1916 NO. 5

WILLIAM HIRTH
PUBLISHER

Saves Time and Hard Work

IN Apex Fence, the "swinging joint" allows the line wires free play—prevents binding or buckling. Easier to put up—lasts longer and holds its shape better than any other good fence that we know of. Fence your farm the "Apex Way" and have the best looking fence that any man could own. Uphill and down dale, the fence fits the land smoothly—every line wire tight—every stay wire standing erect. Made of best grade, open hearth steel wire—full gauge, thoroughly galvanized.

APEX Steel Drive Posts

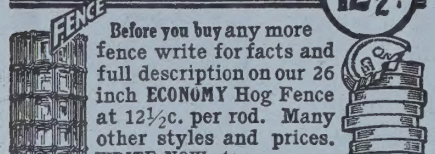
Save Post Hole Digging—Add Years of Life to Your Fence

Made of elastic, carbon angle steel—the strongest and toughest post material known. Drive right into any soil, gravel or soft shale. Think of the work saved in a busy season. Burn fence rows clean—ground the lightning and protect your stock.

Write for the Free Books and read how you can save money, time and hard work.

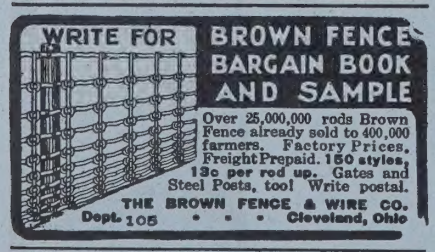
Janesville Barb Wire Co.
619 S. Franklin St., Janesville, Wis.

ECONOMY 12½¢



Before you buy any more fence write for facts and full description on our 26 inch ECONOMY Hog Fence at 12½c. per rod. Many other styles and prices. WRITE NOW, to

Keystone Steel & Wire Co.,
7878 Industrial St., Peoria, Ill.



WRITE FOR BROWN FENCE BARGAIN BOOK AND SAMPLE

Over 25,000,000 rods Brown Fence already sold to 400,000 farmers. Factory Prices, Freight Prepaid. 150 styles, 13c per rod up. Gates and Steel Posts, too! Write postal.

THE BROWN FENCE & WIRE CO.
Dept. 105 • • • Cleveland, Ohio

How To Paint and Save Money

Write for our big Paint Book with color sheets. It's FREE. The COVERALL way insures satisfaction at low cost. The quality, the shades, the prices and suggestions you want.

Montgomery Ward & Co. Dept. B 16
New York City Chicago Kansas City
Ft. Worth Portland
Write house most convenient.

To get rid of rats get

RID-OF-RATS

Non-Poisonous. Guaranteed to destroy the rat and mouse pest from corncribs, bins, poultry houses, stables, etc. No results, no pay. Box 10c; Doz. boxes $1 east of Miss.; $1.20 west of Miss. If your dealer can't supply you order direct. *Write for catalog, it tells the story.*
Berg & Beard Mfg. Co. 61 Fleet Pl., B'klyn., N.Y.

A MISSOURIAN IN TEXAS

To The Missouri Farmer:

I am always pleased with most things I see in The Missouri Farmer. I am especially pleased with your efforts to get our people to work together—to do team work. I don't suppose I have to tell you that your article "Wanted—A Thousand Fighting Farmers", appeals to me immensely. I am with you heart and soul. I believe you are right when you say that organization is our only hope. I hope you will get many organizations formed and so trained that they will stick.

I wish The Missouri Farmer could be in the home of every farmer in the state, I have little hopes of that being so this year but I have longed to see what effect it would have upon a neighborhood if they all took The Missouri Farmer and so I am enclosing $10 and request that you send the paper for one year to the enclosed list of names.

If any of those are now getting the paper let me know and I will substitute other names. I wish you would keep track of this list and let me know how many of them renew at the end of their year.

I wish for you a prosperous year and that The Missouri Farmer may lead the farmers of that good old state to cooperation and success.

A Missourian in Texas.

Now friends isn't that fine? That is loyalty to the cause that makes us feel good under many difficulties. Just think what it would mean, not to us as individuals, but to the cause of "better farming, better farm homes, better citizenship" if we had ten thousand loyal friends like "A Missourian in Texas," who would each send in ten new subscribers we would have including our present list more than one-half of all the farmers in the state and what a power they would be joined in one great cooperative body. While we appreciate the liberality—yes the magnaminity of A Missourian's kindness we think it would give us a better fighting organization if our readers would urge their neighbors to subscribe for The Missouri Farmer themselves and get them to see that every progressive, intelligent farmer has an interest in the fight we are and have been making.

It would be just as plausible to talk about winning the great battles of the European war without good generalship as it is to expect the farmers to hold their own and get what is justly theirs without having a thoroughly sound, honest and able publication to defend their cause.

Again farmers should be able to see the difference between a paper published solely in the farmer's interest, devoted entirely to his welfare and those publications distributed for no higher purpose than the dollars gained. We surely are more than thankful to those who have seen this difference.

KEEP THE WORK MOVING

The Missouri Farmer:

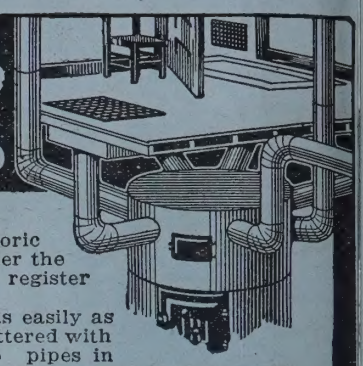
I have just finished reading the issue of February 1 of The Missouri Farmer and I want to say 'you hit the mark." You actually knocked center. I have read your paper for several years and let me say sincerely that I think you have done and are doing more for the farmers of Missouri than any other paper printed. In your splendid articles on "Farm Clubs" you have often said, "this means you" and I would say in my own mind "Yes this means me" and at last when my guilty conscience could not stand it any longer I braced up and went to work and in a few weeks had helped to organize two farm clubs in my section, one with twenty members and the other with twenty-six. I think we will soon have three or four more in the county within a few days.

The fire is spreading and I think I can safely say that Washington County will be ready for a County Farmers' Association within a few months. I am also doing all I can for the Market Club. Now, don't slow up on the farm club enthusiasm for it is essential to keep that moving. Really the best time for farmers to get out is during the Spring and Summer months as the weather and roads are then more favorable. I think surely farmers can afford to quit work a little early one day in the week in order to go to their farm club and have a little social enjoyment with their neighbors as well as to consult about business matters of mutual benefit. Now, as I am only a farmer of moderate ability and influence I am sure most any other reader of The Missouri Farmer can do as much as I have done if he will only get busy. If you will wake up and get to work there is no telling what you can do. Keep the organization of Farm Clubs moving for this is the only practicable plan that has ever been offered for a successful farmers' organization.

Get the farmers into clubs first then we will have no trouble to organize a State Association and find a place for "Headquarters."

A T. Dickey, Peoria. Mo.

Heating Pipes Are Needless



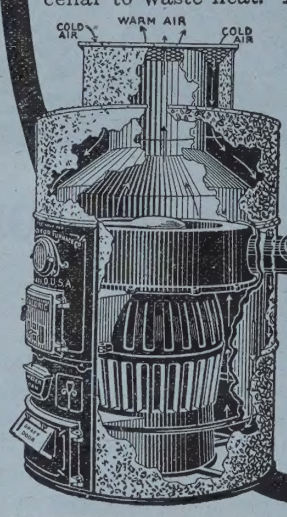
(Copyright 1915 by The Monitor Stove & Range Co.)

When you fit your house with the Caloric pipeless Furnace. It fits immediately under the floor and the warmed air from its single register circulates through the entire house.

You can install this furnace almost as easily as a stove and you do not have your cellar littered with a labyrinth of pipes. There being no pipes in the cellar this is the one furnace that will not spoil produce. The

(Patented) PIPELESS CALORIC FURNACE (Patented)

is designed on new principles and has desirable features that cannot be found elsewhere. It is guaranteed to save 35 per cent of your fuel. This great saving is effected by means of our ribbed firepot, and the fact that there are no pipes running through the house and cellar to waste heat. The ribs admit free air circulation which causes the coal to burn thoroughly. No clinkers to lose you money. These ribs prevent ashes from forming on the firepot and retarding heat radiation. The Caloric firepot has 600 square inches greater radiation than the average firepot.



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The Monitor Stove & Range Co.,
306 West St., Cincinnati, O.

Looks To The Missouri Farmer For Help

To The Missouri Farmer:

Find enclosed a dollar for my subscription to The Missouri Farmer and I wish to express my appreciation of what you are doing to make the paper a source of real valuable information and benefit to farmers. I am sure we all need a great deal of light and help as well as encouragement to get out of the beaten path so long followed.

I endorse the stand you have taken on the Gardner Land Bank and also your efforts to get the farmers working together in cooperation in buying and selling for there is certainly a crying need for getting the producer and consumer closer together and I hope and believe The Missouri Farmer will be the medium through which this will be brought about.

D. W. Scott, Rosedale, Kan.

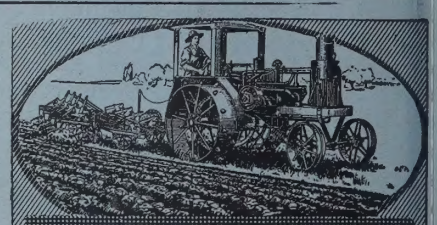
Says "We're On The Right Track."

To The Missouri Farmer:

I see by the credit on the address tag on my paper that I am behind on subscription. Please pardon me for delay for I should have been very sorry if you had stopped the paper as I do not want to miss an issue.

You are surely on the right track in working for the cooperation of farmers as that is surely the only way for us to get our rights and to maintain them. Enclose find the dollar for proper credit.

W. D. Walkup, Green Ridge, Mo.



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The Missouri Farmer

'OLUME VIII MARCH 1, 1916 NUMBER 5

What We Have At Stake

By William Hirth, Publisher

That we are standing upon the thres-ld of the greatest awakening among rmers the country has ever known, becoming more apparent every day. the National Live Stock Growers ss'n Convention which met at ElPaso, xas several weeks ago, ranchmen and eeders present from all sections of the est pledged themselves to a "war nd" of $250,000 with which to con-ct an investigation of present live ock market conditons—and before e convention adjourned, $56,000 was ised in cash as a "starter". That is looks like business requires no mment. A movement to build a ten illion dollar co-operative packing ant at Ft. Worth, Texas—an enter-ise to be financed by the Texas cattle-en—is also under serious considera-n at this time and from present pros-cts will be definitely launched in the ar future. The recent convention the Kansas Live Stock Ass'n at ichita was attended by nearly 2000 eders and was full of fight from the ment the gavel fell until it ad-rned. In Missouri the aggressive ht conducted by The Missouri Farm- has led to the formation of hun-eds of farm clubs and the movement s only gotten fairly well started. It uld fill this issue from cover to cov- if we were to print all the enthus-tic letters we have received from e President and Secretaries of these w organizations during the last 30 ys—and every mail brings word from w clubs which have just been nched. Of course this work is new farmers and it will take some time to t these clubs on a substantial basis— t a little patience and perseverance ll win out and from the present out-k the time is not far off when the gressive, thinking farmers of Mis-uri will be banded together as never fore and that far reaching results ll follow there is little question.

Organization The Only Hope

We believe we speak for the high nded farmers of this state when we y that back of the present movement merely a wholesome demand for a quare deal"—for a change in condi-ns which are becoming more and ore unbearable and which are strik-g a deadly paralysis into farm life om one end of the country to the her. The prosperity of the Nation is unded upon Agriculture an a state of fairs which robs the farmer of the st fruits of his toil cannot fail to ally undermine all our other indus-es. Society has no more right to k a farmer who employs modern ethods in his farmng operations to ll his products at a loss than it has to k a manufacturer of shoes or farm plements to sell those things at a loss and because for years the farmer has en compelled to do this is the answer the rapid increase in farm mort-ges and land tenancy. That in the ac-mplishment of these ends we must ake ourselves loose from the grip of monopoly and that we must greatly shorten the route from producer to consumer—this is the task before us in a nut shell and only through powerful statewide and finally Nation-wide organization can we expect to accomplish this end.

The Issues Involved

In former articles we have said that the freedom of American Agriculture and the well-being of the farmer's children in the years to come are involved in this issue—and this is true. A "square deal" for the farm also means that thousands of intelligent hard working farmers who now view the future with a sinking heart will be able to once more see daylight ahead—that they will once more have the assurance that intelligent and thrifty effort will enable them to lift the mortgage which now hangs like a dark pall over their homes. We say "intelligent and thrifty effort" because we want to make a sharp distinction between the real thinking farmer who applies the best thought to his work and the shiftless one who trusts everything to luck and merely drifts with the current. Such a farmer is not entitled to anything better than his present lot nor should it be the object of any system of farm organization to help the fellow who isn't trying to help himself— for that would mean placing a premium upon incompetency.

But there are other great and vital things involved in the present struggle. The farmer is being continually scolded because he has not built better public highways—and we freely confess that the average country road is a disgrace to its community, a tax upon efficient Agriculture and a thing which contributes tremendously to the isolation of thousands of country homes in that it bars them from active contact with the outer world during a great portion of the average year. But, after all, it takes money to build good roads and when the average farmer realizes that he is playing a losing game—when frequently he is unable to pay the interest on his mortgage—under such circumstances can you blame him so very much when he doesn't enthuse over an issue of road bonds? A few days ago the Supreme Court of the U. S. upheld the legality of the Special Benefit District road law which in our judgment is the best law of the kind ever passed in this or any other state—and yet splendid as it is, the farmer who has recently lost $90 on a bunch of hogs or $200 or $300 on fat cattle doesn't view any expenditure, however, much needed, through the eyes of an optimist. Put the farms of this state upon a prosperous basis and our farmers will vote good roads bonds by the million nor will they need to be prodded by a sharp stick from other quarters.

Better Rural Schools

Likewise, we are told that the present rural school falls far short from fulfilling its true mission and again we grant that the criticism is generously deserved. No other American institution has progressed less during the last 25 years than has the rural school. In fact, when the immaturity of hundreds of rural teachers and the poor school equipment is considered it is an open question as to whether we have not gone backward rather than forward. That the fundamentals of Agriculture should not long since have been taught in our country schools and that the facilities for the ordinary high school courses should not have been placed within the reach of country boys and girls as well as those who live in town—all these things are self evident to any thinking farmer. And yet, mature teachers cannot be hired for $40 or $50 per month for eight months in the year and it costs money to consolidate districts and build rural high schools. So we again say if you will put our farms upon a money making basis these ends, so much to be desired for the future of the country boy and girl will be vastly easier of accomplishment. In short the future welfare not only of the individual farmer but of rural life itself depends upon rescuing our farms from those influences which have been sapping out their very life blood during recent years. A man may start into any undertaking a pronounced optimist, but if he is compelled to keep on playing a losing game it is only a matter of time until he will come to view things through smoked glasses. So it may be said in truth that the success of this great new movement among farmers will mean the dawn of a new life upon the farm—a new era in which we will be able to solve without hardship the many serious problems which confront us at this time.

What Can We Do?

Almost the first question which the Secretary of every new farm club asks us is, "What can our club do, now that we have organized?"—and while we have tried to point out these things in a half dozen articles during the present winter, yet we will once more set them forth in brief form in order that this article may serve as an answer for sometime to come to this question. In the first place the only way farmers can hope to throw off the yoke which galls them at this time is through organization. So long as each farmer acts for himself things are certain to go from bad to worse. The first thing is to perfect a school district farm club and when 15 or 20 of such clubs have been formed you will be in position to perfect a county association with a President, Secretary and a strong board of directors reaching into every part of the county. This accomplished, the work of organizing the unorganized districts can be taken in hand. When 25 or 30 counties have organized in this way, we will be in position to form a state organization—and then we will be able for the first time to take in hand the solution of the larger problems which concern us. But the beginning point must be in the school district. It is a problem which can only be solved by beginning at the bottom and so long therefore as you and your neighbors remain indifferent you are blocking the success of the movement so far as your community is concerned—and the sooner this fact is realized—the sooner it dawns upon every farmer that he has a positive part to play, the sooner we will begin getting somewhere. If we fail in the great work we have undertaken it will not be because we lack the power to break the chains that bind us. On the contrary, the only thing which can defeat us is the indifferent, "I don't believe it can be done" attitude of farmers themselves.

As to Immediate Results

While we should never lose sight of the larger things we have in view, yet there are a lot of things which your school district farm club can take in hand which will mean the saving of hundreds of dollars to your members during the year. Through our Farmers Market Club, as was pointed out in a recent issue, we will be able to

PAYING THE FIDDLER

During the last few weeks, wheat has been taking one tumble after another—the present price being far below that of a year ago and yet, despite the slightly larger yield of last year, Europe is still in the thick of its great tragedy and unquestionably the demand from that quarter is as great as ever. Surely there is no justification of the prices of today as against those of a year ago—and thus, what the floods didn't destroy the market manipulators are now buying at their own price.

How much longer will the farmers of the United States stand for these impossible conditions? Does any sane man believe for one moment that foreign governments are buying American wheat on the basis of what the American farmer is compelled to accept for it? How much longer will we permit a group of speculators to dominate our grain markets? What's the use of toiling the whole year round and then permitting a few men to say what they are willing to pay for the fruits of our labor? Do you think the grain gamblers could keep on doing this if the farmers of the United States were organized?

procure for your members wholesale prices on car load shipments of bran, shipstuff, oats, hay, coal, fertilizers and other like commodities direct from the big mills, wholesale feed concerns and mines. Just think of what a saving wholesale feed prices would have affected to the farmers in the average neighborhood during the drouth years of 1913-1914? And who knows when the same conditions may prevail again? Orders for binding twine should be made up as early as possible in order that the twine plant at Jefferson City may know what the demand will be—and twine bought at the Penitentiary will affect quite a saving for your members. While the saving on car load shipments of fertilizers is not as large as we think it should be, yet it will mean the saving of the agents commissions—and this is worth while. We are at the present time trying to perfect arrangements with several wholesale wool concerns to buy wool direct from farm clubs and hope to be able to announce an arrangement in the near future which will mean much better prices than those paid by the small local dealers. That the above things alone fully justify the existence of your school district farm club should be apparent.

Better Farming Questions

Then there is the fight for the Land Bank Bill which should be organized in every school district in the state—for without this kind of effort it will be lost. We recently prepared a club discussion on this question which is free for the asking and which will make its provisions plain to all your members. Again, there are the great problems of better farming which should play a big part in your meetings from time to time—for we must never forget that upon the methods employed depends much of the success of every farmer. Once every month the women should be invited in and a social session should be held for if they are given an opportunity they will contribute much toward the success of your organization. As soon as four or five good farm clubs have been organized in your township, a big township mass meeting and picnic should be planned after the rush of spring work is over and the Agricultural College and State Board of Agriculture should be asked to send one or more good speakers. Surely these things furnish ample answer to the question "What can we do?"—and we hope you will get busy and that your Secretary will get in touch with us as soon as your club has held its first meeting. In conclusion, exercise a little patience in the beginning. Rome wasn't built in a day nor can the grave problems we have in hand be solved overnight.

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Many thousands of farmers of the country use the "Tower" exclusively. Nearly every grower of Seed Corn uses the Tower System because it is proved the best known.

Reader, be sure your Cultivator this season has the name **"TOWER"** on the tongue. Write us for **free** literature.

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OPPORTUNITIES IN LIVE STOCK FARMING

The young farmer who will give close attention to the production of most any class of live stock and stay with whatever line of stock raising he may take up until he becomes reasonably proficient in it will stand a much better chance of success than the one who shifts around with the "ups and downs" of the various lines of farming.

It matters not whether a man engages in breeding purebred stock, or in the growing of the ordinary market classes or in the breeding and finishing of animals—in whichever line he may engage he will find his prospects sometimes up and sometimes down but if he stays with one line of work he will know so much more about it that if any one can get a profit out of it he will be the man.

The man who succeeds in any avocation is the one devoted to his work and who has a fixed purpose in what he is endeavoring to do. In choosing a line to follow it is then of great importance to the young man to first study himself. If he has a natural fondness for beef cattle for instance he will find it an uphill fight for him to take up dairying. And if he is a great lover of horses he may find it impossible, or at least difficult, to train himself to give the close attention necessary to raising and fattening hogs. Then we would say to the young man, or anyone thinking of taking up any special line of live stock production, let your own likes and dislikes be a large factor in deciding what to do. I do not mean by this that a man can not by cultivation change his own tastes but simply that for nine men out of ten it is a hard thing for them to do and they will more likely reach success if they chooose something they can put their whole heart into.

In the section of the United States of which Missouri is representative if we take a survey of all farmers we will find that of those men who have made an average success or better, that about four out of five of them have made most of their money out of some branch of live stock production. We think in the next fifty years this will be true even to a greater extent than in the past because of the fact that most of our farms are much worn and the improvement of fertility while cultivating the land is a much harder proposition than farming out the natural plant food which was stored up by the ages before we began to plow the land.

About the first thing a young farmer should do then when selecting a line of live stock farming to follow, after he has studied his own aptitudes, is to study the practices of the men who have succeeded in that particular line. Most any successful man will be generous enough to advise any young man who shows a disposition to want to learn. Briefly we will mention some of the lines that offer enough promise for any farmer in this state who is not already established in a system that is profitable, to take up with good assurance of success. On the farm well adapted to corn growing and alfalfa or red clover there is a good chance to make swine raising the leading business. One favorable feature of choosing the swine industry is that it can be started with small capital. It may be more attractive to ambitious young men to start with good equipment and a considerable herd but if we take the men who have succeeded in the past, will find about nine out of ten who have prospered, had to start in a small way and grow into the business, learning by the hard rule of experience, step by step as they made progress. All over this state may be found men who are making a living and paying for a farm by producing pure bred hogs for sale as breeders. That there is yet room for more men to enter this field is evidenced by the fact that thousands of scrub hogs find the way to our markets every year and so long as tha is true there will be room for th breeder who will adopt intelligen methods of advertising to sell what h raises.

On most farms where hogs ar raised for market the hogs are con sidered as a side line to cattle feedin or dairying but when our Missou farmers come to practicing more high ly specialized methods and learn t grow hogs with less grain and mor forage there is splendid opportunit for "hog farms" to be developed a over this state that will make a profi able business for the owners.

Sheep husbandry is not so promi ing as the principle business on ou higher priced lands but on the cheape lands and on those hill farms now we worn, sheep offer a good chance fo profit. The first great hindrance sheep raising is the menace from dog and from our past experience in tr ing to abate this nuisance by an e fective dog law we think it will be long time before the dog population much reduced. But with woven wi fencing at a reasonable price the do is no longer an insurmountable dif culty. Ohio with higher priced lar than Missouri and only about tw thirds as large has two and a ha times as many sheep as we have ar taken as a whole Ohio agriculture one of the most successful among th best states of the Union. Missou could easily increase the number sheep by ten fold without crowdin and under present conditions ar those likely to continue long after th European war the markets will tak care of all the wool and mutton w can produce at remunerative prices.

Among all the various lines of li stock production we think none offe a better field for a young man at th time than cattle raising. The her of Europe have been greatly deva tated and it is a matter of record th we are short on meat producing an mals in this county, so what is there prevent a reasonable demand for be butter, leather and other cattle pr ducts? One cause of failure on th average farm with cattle raising h been the unnecessary waste allow to go on. It may take more intel gence to raise a good calf with sk mlk than where the calf is permitt to run with the cow but for that ext thought the farmer puts into his bu ness the monthly cream check, whi will afford mighty good pay.

In future articles in The Missou Farmer we will discuss various sp ialized lines of stock raising and e invite articles from any of our read who have made a success or faile trying any particular branch of e industry.

The above cut shows very strikingly what a good brood mare will do in the way of making the farmer money and earning her board. The mare which stands at the left of the picture is an unregistered Percheron, purchased by Mr. L. Hendricks, of Boone County, in 1910. This mare and her mate cost $450, and while doing a good share of the farm work she has produced a colt each year. Mr. Hendricks values the progeny now at $1000. Yet some men say brood mares **don't pay.**

LOOK OUT FOR YOUR SEED CO

It is now but a short time until e music of the corn-planter will e heard in many thousand fields but e can not think there is really mu music from the "click" of the plan r to the man who is just a little t doubtful about the vitality of his sed corn. The man who is ninety-n e per cent sure that his corn will gr when he sees the kernels fall into e furrow of the planter can sleep a t sounder than the fellow who is jus a little bit doubtful as to the kind f seed he is planting.

If there is one thing a man sho d be dead certain about it is that ev y seed he plants will grow if giv n normal heat and moisture. It sho s a loose joint in a man's system f farming for him to prepare his la d well, fertilize it liberally and to exp t

good crop without knowing to a certainty that his seed will grow.

Last fall when the corn was ripening there was a lot of rain and before lot of the corn was thoroughly dry here was a freeze and we hear that a ot of corn that is apparently all right s low in vitality and that means trouble for many farmers unless they take he care to test the seed corn. A few ours work testing seed may save a lot f worry and work replanting as well s make you a bigger crop at gathering time.

VHY NOT GROW MORE CLOVER?

PART II

In our first article on this subject e said we thought possibly the two hief reasons why farmers did not row more clover was because it was ot profitable and because farmers did ot understand how to grow it. That tatement was not exactly what we eant to say. Rather we would say lover growing is not profitable beause farmers do not know enough bout growing it. We also stated in ur previous article that the two rincipal causes for clover failure were our soil and lack of vegetable matter n the soil. As we have already said t will cost very little to find out by rial if your soil needs lime to sweeten and the man who has not had good uccess with clover should not fail to ake this test but he had better not top there for the chances are that is soil if it has been farmed in the sual way for many years will not row clover very successfully without ore vegetable matter in it even hough he should supply the lime with ut supplying the vegetable matter. very man knows the very great difference there is between a soil full of rass roots and plowed-under vegetaion or coarse manure and the wornut, run-together soil found on thouands of our old farms. This wornut land must be put in that new-like ondition before we can be very sure f a stand of clover or before it will o well when a stand is obtained. If hen your soil has been cropped eavily and you have been having rouble in getting a stand of clover ou had better change to one of the nnual legumes, cowpeas, or soybeans, ot permanently, but long enough to et your land in shape to grow clover gain. But whatever your plan is you nust either put on plenty of coarse nanure or plow under vegetation to estore the good physical condition he soil had when new, in fact both of hese will have to be resorted to on nost farms. Any grass, weeds, stubble or corn stalks turned under will elp the land but to get quick returns t is best to turn under crops when reen because of the quicker decay f the stuff plowed down. To do this, owever, and not lose the use of the and for a year is important with nost men who must have some return very year to pay interest and other xpenses and have something left for he family. First by carefully saving he manure, using all the straw and ther waste feed for bedding, and applying the manure to the best advantage with a manure spreader and reinforcing the manure with commercial fertilizer we can get back to clover growing. By applying the manure lightly and using whatever amount of fertilizer may be necessary say 100 to 200 pounds per acre with wheat we will perhaps find little trouble in getting a stand of clover.

By sowing rye in corn in August or September it can be plowed under the next spring in time to plant another crop. In that way considerable green stuff can be put under by the 15th or 20th of May and in plenty of time to grow a crop of cowpeas or soybeans. After these are taken off wheat may be sown and a good fertilizer applied at the rate of 150 to 200 pounds per acre and then clover sown on the wheat in the spring. With a normal season this plan should give a good growth of young clover in the fall after the wheat is harvested and this may be pastured lightly or clipped oncce or twice and let remain on the ground.

Except in very wet seasons when a heavy growth of summer grasses come on with the clover we would not mow and take off the land. Even when a good heavy growth of clover and summer grass is had a good plan is to plow it under in the fall for the green manure but under normal conditions when we were on this building up process we would rather let the clover stand for a second year's growth to get a deeper root growth which is quite valuable. If the land is not in pretty good condition we would turn under one of the crops the second year. If the first crop is needed for hay it may be cut off and then plow under the second. Another plan is to drag down the first crop and cut the second for seed, cutting high enough to leave most of the stalks on the ground to turn under. Every man must work out, first, what plan he will use to suit his own system but the thing to bear in mind is to have something growing all the time which will leave a good stubble and root growth or that will make a good top growth to turn under. If this can be done and at the same time get at least one crop to harvest a year expenses can be met which is important to look after always. I can not understand why more men do not grow clover for the seed crop. A good stand in a normal year should make from 2 to 4 bushels per acre but occasionally a crop will make 6 to 8 bushels and sometimes of course very little is obtained. When the first cutting is taken off early it will often increase the yield of seed to clip the field ten days or two weeks after the first crop is harvested. This of course will depend on getting a normal rainfall through the summer for if the season is very dry more seed will be harvested not to clip it. Seasons that are abnormally wet and produce a very heavy crop do not usually make a good yield of seed.

The harvesting of clover is a very simple matter, the best machine being the old style self-rake reaper. The clover buncher attached to the cutterbar of the mower is also very satisfactory. Sometimes the crop is mown and raked like hay, but this is a rather wasteful method unless the crop is heavy enough to rake clean off the ground.

The seed crop should be cut as soon as the heads are all brown and it may be hulled directly from the field after it has dried ten days or more or it may be stacked and thrashed after cold weather, but great care should be taken in stacking for it is easy to take water unless well covered. The expense of handling a seed crop is not great except the thrashing bill which is usually about one dollar a bushel and when clover sells for $8 or $10 a bushel there is a good profit in it when all other advantages of the crop are considered. Just at this time clover seed is retailing around $12 a bushel and at that price the farmer who has a few bushels to sell feels pretty good over it while the fellow who must buy is apt to neglect to sow it at all. Fortunately for Missouri farmers they can grow a number of legumes profitably, such as clover, alfalfa, cowpeas, soybeans, and vetch, but on most farms and for all purposes we would place red clover at the head of the list.

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AITCHANDEE

Shock Absorbers

New price $10.00. Formerly $15.00. This reduction is made because of enlarged volume. Yet the quality remains the same. There are numerous improvements in our new model. Over 50,000 farmers have put Aitchandee Shock Absorbers on their Fords—which proves how well men like our invention.

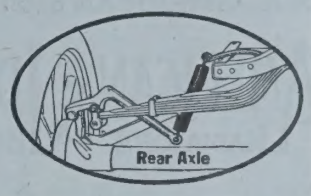
Aitchandee is the original shock absorber using the cantilever principle which gives the long-sought-for, different tension on the downward and upward thrusts.

JOY FOR FORD OWNERS

Aitchandee Shock Absorbers are easily attached. Then begins complete satisfaction. Our cantilever principle removes those side slaps and thrusts when steering over rough roads or at high speed.

"For the life of your car" is our guarantee. Ask your dealer today. Or sent direct on receipt of price on a money-back basis.

Aitchandee Shock Absorbers are the cheapest good *shock* absorbers you can buy. Don't wait any longer.



The H. & D. Company, Inc.
94 Marion Street, Goodland, Indiana

COMFORT FOR $10

Per Set of Four

Plenty Of Water For Your Dairy

Supply an abundance of fresh water for your dairy and milk house. More milk and healthier stock. Makes the dairy pay. Our experts will help you select the right pump from among our 300 styles. All rigidly tested and guaranteed by the largest manufacturer of pumps in the world. Backed by 65 years' pump-making experience. They are strong, durable and reliable.

GOULDS PUMPS
FOR EVERY SERVICE

will furnish you plenty of water under pressure for fire protection. Get our freebook, "Water Supply for the Country Home." Plan now for sanitary plumbing in bathroom, kitchen and laundry. Write today. Address Dept.

The Goulds Mfg. Co.
Main Office and Works:
Seneca Falls, N. Y.
Branches:
Chicago Philadelphia
Boston New York
Pittsburgh
Houston
Atlanta

Write for this Book.

Have You a Spraying Outfit?

Why not spray your orchard this time and raise a crop of apples that will command the best price next fall? You couldn't possibly make a better investment and if you will write the Hays Pump & Planter Co., at Galva, Ills., they will send you complete information and prices. Mention this paper.

Manure Spreaders Pay

Look up the manure spreader adds in this issue for this is an implement which should be found on every good farm and one which will pay for itself the first season. Write for complete information. A postal card will bri it and it may tell you some things you don't know. Please mention this paper.

Why Pay War Prices for Nitrate of Soda Fertilizer? Legume Crops Inoculated with

THE STANDARD INOCULATION

FARMOGERM

High Bred Nitrogen-Gathering Bacteria for Clover, Alfalfa, Beans and Other Legumes will add the free Nitrogen in the air to your soil at the rate of $40 per acre at a cost of only $2.

Nitrate of Soda is now $80 a ton, a prohibitive price for the farmer.

You can inoculate 5 acres of Peas, Beans, or other legumes with FARMOGERM for $6. That means 5,000 lbs. of Nitrate Nitrogen going to enrich your soil. Bought as Nitrate of Soda it would cost $200.

And in addition to all this FARMOGERM produces best and biggest crops of Peas, Beans, Alfalfa, Clover and all legumes, at lowest cost.

100 acres (in 5 acre size bottles).. 100
50 acres (in 5 acre size bottles)..$ 55

Write today for "Legume Grower" our free book on growing more profitable crops and building up soils.

Earp-Thomas Farmogerm Co.

Dept. 60 BLOOMFIELD, N. J.

Warm the house —make a home!

Women like radiator heating—it puts June in every room

All mothers wish for homes that are evenly warmed all over to cheer and comfort husband and little folks; and to make the home a cozy, genial center for the gatherings of good friends.

All mothers now-a-days deserve to be freed forever from the back-breaking labor of "tending stoves," that heat only "in spots," and spout ash-dust and coal-gases. The only sure way to fill a house with mild, delightful warmth and make it a home is with an IDEAL-AMERICAN outfit.

AMERICAN RADIATORS & IDEAL BOILERS

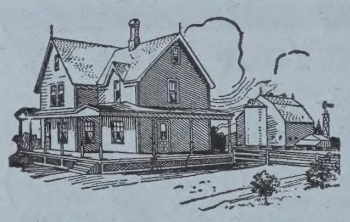
They increase the value of your property by more than their cost. They are noiseless, absolutely safe (a child can run them), and can at any time be put in new or *old* houses without disturbing anything or tearing out walls or partitions.

***They protect against fire risk* and run independently of the water works supply, as same water is used over and over again for years.**

They pay for themselves in savings

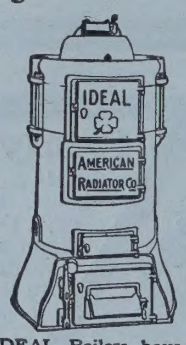
The IDEAL Boiler may be put in cellar, side-room or "lean-to" and will burn any local fuel—wood, oil, gas, lignite, hard or soft coal, (even cheap grades of pea coal, slack, run-of-mine, screenings, etc.) Bankers and real estate men will back our statement that it is a paying and permanent investment and not an expense.

IDEAL-AMERICAN outfits heat the whole house, with one fire—no more care-taking than to run one stove for one room. The yearly fuel savings soon pay the first cost of the outfit.



A No. 020 IDEAL Boiler and 262 ft. of 38-in. AMERICAN Radiators, costing the owner $185 were used to heat this farm house, at which price the goods can be bought of any reputable, competent Fitter. This did not include cost of labor, pipe, valves, freight, etc., which vary according to climatic and other conditions. The IDEAL outfit is the *only* feature of the house which is never worth *less* than you paid for it.

Let us tell you all about it and give you special information so you can judge for yourself. Write today—now—for free booklet: "Ideal Heating." You will not be asked to to promise or obligate yourself in any way, but send for it at once.



IDEAL Boilers have large fuel pots in which the air and coal gases thoroughly mix as in a modern gas or oil mantle or burner, thus extracting every bit of the heat from the fuel. Easier to run than a stove.

Sold by all dealers. No exclusive agents. AMERICAN RADIATOR COMPANY Write to Dept. F32 Chicago

Bigger Crops Better Farms

Ditching and Terracing

MADE EASY. Bigger crops, better farms and better roads assured if you use the

Martin FARM DITCHER AND ROAD GRADER

10 days' trial

Money-back guarantee Thousands in use

All Steel Lasts a Lifetime

Cuts V-shaped ditch to 4 feet deep. Builds levees; grades roads; cleans out old ditches and laterals. Cuts and works out dirt at same time. SIMPLE—PRACTICAL. No wheels or levers. Adjustable and reversible. Does work of big machines. Write for free book and introductory proposition.

OWENSBORO DITCHER & GRADER CO., Inc., Box 837, Owensboro, Kentucky

Save 20% Buy the Famous Riverside Tires

Guaranteed 5000 MILES Ford Size 4000 All Others

GET our 1916 prices before you buy tires. We save you one dollar out of every five, of others prices. And we *unconditionally guarantee the mileage.* Famous racers have broken all records on Riverside Tires.

SEND FOR AUTO BOOK

Showing Riverside construction—wrapped tread—one cure—toughest fabric, with pure Upper River Para Rubber, extra thick tread. Book shows similar saving on *all automobile accessories.* Sent free on request. Write today

Montgomery Ward & Co. Dept. C16

New York Chicago Kansas City Ft. Worth Portland

Write to the house most convenient to you

It's Up to You!

On several occasions during the last two years I have been approached by big publishers and asked whether I would consent to sell The Missouri Farmer—but up to this time I have turned a deaf ear to all such proposals. The time has finally arrived however when either I must have better support from the readers of the paper or consent to let its ownership pass into hands more financially able than myself to assume the heavy burden. All my friends know that I am many thousands of dollars on the wrong side of the ledger at this time—and I feel that the time has come when it is my duty to make a frank statement to the 50,000 farmers who read the paper and who have some degree of interest in the situation. I would rather be the owner and publisher of a great farm paper in this great state than to do anything else in the world. I was raised on a Missouri farm and my heart is in this work. I believe that the future of our great Country depends more upon a "square deal" for the farmer than upon all other things combined and hence, although I have thus far made tremendous sacrifices it has nevertheless been a labor of love and should I have to part with the ownership of the paper it will leave a wound in my heart which time with all its healing powers will never be able to efface.

I think I can truthfully say that no other farm paper in the country has made a more fearless fight for the best interests of the farmers of this state than has The Missouri Farmer—and if all those who read it think enough of it to send us a dollar on subscription it will enable me to continue the fight and also to make the paper much stronger and better than ever before. With 50,000 stalwart Missouri farmers back of me, The Missouri Farmer can be made the greatest power for good the state has ever known. By this I do not mean that the paper is without thousands of powerful friends at this time. On the contrary, it has more fine, progressive Missouri farmers on its list than any other farm paper ever had in the history of the state—but these men cannot be asked to carry the burden of many others whose support I must have if I am to make a real success of this splendid enterprise. How many other farm papers which come to your table have made as aggressive a fight for farmer organization as has The Missouri Farmer? And is there any other hope for deliverance from the wrongs which surround us at this time? I have said repeatedly during the last few months that the farm is facing the greatest crisis in its history and there isn't a thinking farmer in the country who doesn't realize this fact. But I cannot keep up the fight without the active and hearty support of the farmers of this state—and if the things for which Mr. Ellis and myself are struggling are right, then we are entitled to that support. If, on the other hand, farmers are content with conditions as they are, then the sooner we find it out the better for all concerned.

Many farm papers are run merely fo the money there is in them and not because the owners are vitally interested in the farmers welfare and this is why they drift with the current rather than criticise any interest which may lessen their advertising patronage. If the farm papers of the country had done their duty by the farmers during the last ten years we would not find the pitiful conditions which abound upon every hand today—and the time has come when farmers must choose between farm papers which are not afraid to champion their cause and those which pursue a "speak easy" policy because that policy brings in the most money.

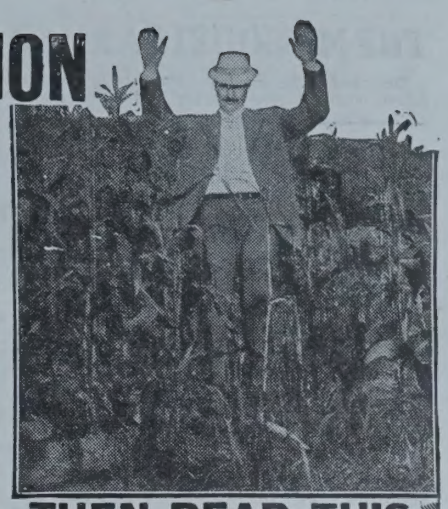
So, whether I shall be able to continue this great fight or not is up to you and your neighbors my friend—and I propose to put the matter to a final test by means of this appeal. To this end, I am going to ask those who have not yet sent us a dollar for three years renewal to do so without further delay. If your dollar reaches us promptly we will cancel all back subscription and date you three years ahead. But this is the last time this offer will be made. Then I am going to ask you to help me make March 20th a "Red Letter" day in the history of The Missouri Farmer. Between now and that day I am going to ask every **real friend** of the paper to see how big a club of subscriptions he can raise among his neighbors—and I hope the result of this appeal may bring to my desk the biggest pile of subscriptions in the history of the paper. If, on March 20th I receive a response which will mean that The Missouri Farmer is not for sale, I can assure you I will be the happiest man in the state.

A dozen members for the "Farmers Market Club" at $1.50 each will enable us to furnish you wholesale prices on car load shipments of bran, ship stuff, oats, coal, flour and fertilizers and save your neighbors hundreds of dollars. Surely there isn't a wide-awake farmer in your school district who will not gladly join in this fine plan with you if you explain it to him? Keep 25c out of each subscription to cover cost of raising the club, etc. You may also retain 25c out of each dollar subscription for three years. If this matter is brought up in the hundreds of farm clubs which have been recently formed I am sure few farmers will refuse to turn in their subscriptions. To the farm club which raises the largest number I will present a handsome American flag with my compliments. But whatever the size of the club you can raise—even though it be only two or three—it will help out tremendously—so I ask you to simply do the best you can and if you need sample copies we will be glad to send them.

But if you don't care to make up a club, **at least send us your own dollar on renewal** for there are enough unpaid subscriptions on our list to put The Missouri Farmer on a financial basis so sound that we will soon be able to give you a publication of which every farmer in the state will have just cause to feel proud. Surely when scores of farmers who have caught the spirit of the fight which The Missuri Farmer is making go down into their pockets for $5 and $10 at a time and offer to pay for the subscriptions of their neighbors while others make up clubs and refuse to keep a single penny for themselves—surely if there are farmers who are willing to do this, every thinking farmer should at least be willing to pay the small pittance of 33⅓ cents per year on his own account for the next three years? Especially do I direct this appeal to our readers in such splendid counties as Nodaway, Saline, Carroll, Ray, Jack-

AN EXTRA SPECIAL PROPOSITION

ON 10,000 NEW GALLOWAY No. 8 SPREADERS FROM *NOW* TILL SEEDING TIME



This extra **offer** is made with the idea of getting **ten or more Genuine Galloway Spreaders** in every township in the **next few weeks!** One Galloway No. 8 always sells from one to a dozen more! I make this new special offer to get **10,000 advertising spreaders distributed quickly,** which will build up an **enormous** amount of summer and fall sales.
I sell on terms **to suit you. Six** different selling plans, including **one year** to pay **installment** plan, **note** settlement, **half cash, half note, bank deposit** or cash, at prices so **low** you cannot afford to do without a manure spreader. **We sell direct,** at **less** than **wholesale,** from **factory to farm** at the **actual** cost of labor, **actual** cost of material and only **one** small profit, based on **tremendous output.**

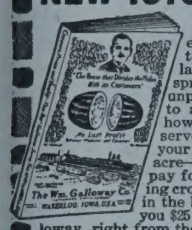
PRICES LOWER ON SPREADERS NOW

Get in on this **special distribution advertising offer** from **now** until seeding time. At the end of twelve months, if the Galloway Spreader **has not paid for itself,** if you have hauled out a **hundred loads** of manure or more, and it has not proven everything I say for it, I agree to take it back, pay freight both ways and **return your money,** no matter on which plan you buy. Could I make this offer if I was not sure of my ground? Every sale backed by a **$25,000 bank bond**—an **additional guarantee** to you!

FIRST READ THIS

MANURED! I wish you could have seen this field year before last and the poor crop on it! Here is an actual photograph of a corn crop grown in the fall of 1915 after an experiment by using an application of manure. The other photograph shows part of the identical field taken the same day, but that part of the field was **not manured.** The increased crop of corn from this field amounted to over $17 per acre where manured! Figure it out on 20 or 40 acres or **on your own field**

NEW 1916 BOOK FREE



Get this big, new catalog A postal gets it. 250 pages. Printed in four colors. It tells how to handle manure with the least labor—how Galloway made spreaders famous—how a run-out, unproductive farm was turned into a "gold mine" crop producer—how to build a manure pit to preserve fertility—how to increase your corn crop from $10 to $15 per acre—how a Galloway spreader will pay for itself in one year by increasing crop profits and leave money to put in the bank in the fall—how we save you $25 to $45 on a spreader—how Galloway, right from the farm, a few years ago started and built up a $2,000,000 industry by selling direct from factory to farm—how with a 20-lb. steel and malleable feed mechanism we accomplish the same results as others do with 400 pounds of brittle gray iron---how a Galloway spreader handles easier with two horses than other spreaders with three and often four.

New steel beater and wide spreading V-rake pulverizes and tears manure to shreds. Worth $15.00 on any spreader; costs you nothing extra on Galloway. Over 50,000 in use. Invincible, Irresistible patented roller feed. This great exclusive feature on the Galloway Spreader is what makes it superior to all others. It's a secret of our light draft, because the perfect mechanical principle used here is exactly the same principle as moving a house on rollers. This feature alone is worth $25 on any spreader. Exclusive on the Galloway, but costs you nothing extra. Don't buy a spreader of any make or kind until you have tried a genuine Galloway at our risk without obligating yourself before trying.

Patented automatic stop, uniform **clean-out push-board.** Worth $10 on any spreader. Exclusive but costs you nothing extra on the Galloway. Spreaders shipped from Waterloo, Kansas City, Council Bluffs, St. Paul and Chicago.

New everlasting, pressed steel unbreakable tongue, worth $5 more on any spreader. No extra charge on the Galloway.

S-18

30 DAYS FIELD TRIAL AND RETURNABLE TO US WITHIN ONE YEAR IF NOT PERFECTLY SATISFIED

THEN READ THIS

NOT MANURED! This picture was made on the same day as the opposite photograph. It is in the same field but not manured. It had been cropped to death! This field was in exactly the same condition as the other field, planted the same day, cultivated the same way, grown from the same seed, by the same man, but was **not manured.** A Galloway manure spreader will positively pay for itself in one year if you have a hundred loads or more to haul—and leave you money besides! Read our special 1916 proposition in this ad, and the complete story of this experiment in the new 1916 big catalog.

OTHER 1916 FEATURES—IMPROVEMENTS

In addition to our exclusive patented roller feed, automatic stop, uniform clean-out, push-board, the everlasting beater and V-Rake, we have many other valuable features, including pressed steel tongue; double chain direct drive from rear wheels; endless apron with force feed; frame work of channel steel, trussed like a steel bridge; cut under front wheels, short turning; extra light draft; two horses will do with this spreader what it takes three or four to do with other spreaders; seat folds forward out of the way when loading; 60 to 70 bushels capacity but so constructed that manure can be piled 18 to 20 inches above the top of the box and the spreader will successfully handle it.

Remember we manufacture this spreader in **our own factories** and sell it **direct** to you from **factory to farm.** This spreader should **not** be compared or confused with other low-priced spreaders that **do not have** the special exclusive patented features and genuine merit (backed up by tens of thousands of **Galloway** spreader users) that is found in the **Galloway. Beware** of cheap, absolutely worthless imitations of the **genuine Galloway. Beware** of imitations at any price. Get a **genuine Galloway** and you will be **safe.**

WM. GALLOWAY, PRESIDENT, THE WM. GALLOWAY CO.
Manure Spreader Manufacturing Specialists.
GALLOWAY STATION, WATERLOO, IOWA

son, Cooper, Macon, Adair, Shelby, Marion, Monroe, Boone, Audrain, Montgomery, Randolph, Sullivan, Grundy, Caldwell, Howard, Pettis, Henry, Vernon, Cass, Johnson, Jasper, Greene, Dade and the counties in southeast Missouri where we have thousands of readers. What difference does it make whether a bank or group of banks or a Commercial Club originally sent you the paper when we offer to cancel your back subscription and date you three years ahead? The question is whether you are with us in the fight we are making for a "square deal" for the farmer. That is the whole thing in a nut shell.

If 50,000 out of the 275,000 farmers in the state should send me a dollar each it would amount to $50,000—and do you know what I would do with that money? First, I would pay every dollar of debt which now hangs over The Missouri Farmer. Then I would hire at my own expense a half dozen of the best farm club organizers I could find and send them into every county in the state—keeping them going until every county was organized from end to end. Then I would put a capable man at the head of the "Farmers Market Club" work and not only would we help the members of every farm club to buy their feed, coal, flour, fertilizers, etc., at cost but we would also find the best possible market for their grain, hay, apples, wool and other farm products. Then I would hire some man like W. D. McKee whose heart is in his work and let him put in his whole time visiting farmers in different parts of the state and in each issue of the paper I would want him to write an article about the new things he found out—a sort of traveling Agricultural investigator who would keep us in vital touch with what farmers are doing and saying. Then I would try to get hold of a bright, mature woman in sympathy with farm life and let her spend her time among the farm women of the state—helping them solve the many difficult problems with which they are confronted—planning new farm home conveniences, etc., keeping the readers in touch with their work and wouldn't such a farm paper be **worth while?** But maybe it will never be more than a dream—for many splendid things which would make the world a better place to live in are never permitted to become living realities.

In any event, should I be compelled to step aside, I trust that Mr. Ellis, who I consider the soundest Agricultural thinker and counselor in the Corn Belt, and whose labors the farmers of this state will never be able to amply reward may continue as Managing Editor. But whether myself, the author of "After-Thoughts," the "Professor" and "Old Jim Riley" shall continue to play our humble parts in the columns of The Missouri Farmer—this is for you my friends and your neighbors to determine during the next two or three weeks. If we are compelled to go—rest assured it will be with heartfelt reluctance. **The matter is up to you—and the days which pass between now and March 20th will decide it.—William Hirth.**

RYE MORE PROFITABLE THAN OATS

One of our readers W. W. Braden of Audrain County writes as follows:

On my visit to Indiana last fall I visited in Brown, Jackson and Bartholomew counties that state and during my stay I did not see a single stack of oats straw. In that section they rotate their ground with corn and rye instead of corn and oats as so many farmers do here and from what I could learn they make farming pay better than we do and they have fewer failures. Their crops of rye average from 16 to 24 bushels an acre and the price around 95 cents at thrashing time. Rye is a good crop to clear foul ground of weeds and put it in good shape for a corn crop to follow.

The aim of most farmers here in east half of Audrain County is to change to more grass land and more cattle and that will eliminate the hired man to some extent and build up the land at the same time. Under this plan a small field of pasture land can be plowed up every two years and we will get rid of a part, at least, of the heavy fertilizer bills. With small fields and more stock we can cover the field with a good coat of manure about every two years and under this system one-half the land we have been cultivating under the old plan will grow about as much corn we have been getting from twice the number of acres and thus raising our grain at a minimum cost.

Editorial Comment: The above letter contains some valuable suggestions and especially the idea of making our land richer and reducing the expense of growing grain so as to make a combination of grain farming and live stock raising profitable.

The growing of rye for grain has not been generally adopted in this state because as a rule wheat growing has been more profitable but by growing rye in connection with some system of live stock raising there may be some advantages of rye over wheat. When compared with oats rye has considerable advantage in the fact that it provides a good winter covering for the land, saves leaching of fertility and soil washing, provides fall and winter pasturage and as Mr. Braden suggests will clean foul land better than oats. When compared with wheat about the only advantage rye has is that it is a little more hardy, will stand a little more tramping and will come on a little faster in the Spring. Except in rare localities when there may be a demand for seed rye we can not count on getting as high a price for rye as we can for wheat. Taking a number of years average we find that wheat will sell for ten or fifteen cents more a bushel than rye will bring. If we take the average yield of winter wheat and rye for a period of ten years in the United States we find that the average yield is practically the same. If we had a piece of very poor land we would count on a little better chance for a crop with rye than with wheat but with good land not many farmers will make enough greater yield of rye over wheat to make up the difference in price. But whether we grow wheat or rye we should aim to grow some crop if possible that will hold our land from washing during the winter. When it is necessary to follow corn with corn, rye may be sown in the corn in August or September and will pasturage to pay for the seed and labor and then furnish a fine crop of green manure to turn under in May in time for the next crop of corn. Another method for handling the rye in Spring is to seed clover and timothy with it and pasture it off or cut it when in full head for hay. There is just one danger in pasturing if chinch bugs are numerous the standing rye gives them an ideal place for hatching and the bugs may do more damage to some adjoining field of corn than the rye is worth.

Speaking again of oats we doubt very much if one crop in four in this latitude pays expenses without any profit at all. One reason for this is that we have let our land run so low in humous that we can not sow the oats early enough and the ground dries out so quickly after a rain that the crop is cut short. We think the most important question before farmers is to find some system of farming that will put into the soil humus and fertility which must be done by turning under green crops or putting on manure.

Live Stock Judging Contest

The Ninth Annual Live Stock Judging Contest held for the short course men in the College of Agriculture, February 19, was the most successful ever held in the University, at least from point of enthusiasm and numbers participating. This contest is made possible by the liberality of a few well known breeders of Missouri who contribute the prizes.

W. B. Harrison, Fulton, Mo., made a total score in judging of 664 points out of a possible of 800 and was the high man in the contest. For his good work and good judgement he received a certificate presented by the College of Agriculture. Kalo Monsess, Smithton, won the Longview Farm Horse Medal; Frederick Brown, St. Joseph, won the Model Farms Hereford Cattle Medal; The Brookfield Farms Hampshire Hog Medal was won by Harold Whitaker, Carmaron, the Gill Sheep Medal was won by Frank O. Wilson, Nashua. Forty men made a passing grade on the following classes: Draft Horses, Light Horses, Hereford Yearling Heifers, Shorthorn Yearling Heifers, Poland China Gilts, Duroc Guilts, Fat Lambs and Shropshire Ewe Lambs.

THE MISSOURI FARMER

Devoted to Better Farming, Better Farm Homes and Better Citizenship.

Vol. VIII March 1, 1916 No. 5

William Hirth - - - Publisher
Geo. B. Ellis - - Managing Editor

Published twice a month, on the 1st and 15th, at Columbia, Mo.

Subscription Price 50 Cents a Year In Advance

The date on the address label gives month and year to which subscription is paid.

Agents Wanted. We want some one to represent us in every community and make up clubs for which we will pay liberal commissions. Write us for terms and sample copies.

We solicit communications from farmers and members of the family on timely and practical subjects. Photographs illustrating farm life or plans for buildings, live stock, etc., are appreciated.

To render service is our aim and we will endeavor to answer all pertinent questions or have them answered by competent authority. When answer is desired direct always inclose stamp.

Entered at the postoffice at Columbia, Missouri, as second-class mail matter.

THE LAND BANK PETITIONS

Every reader who wants to see the amendment adopting the Gardner Land Bank Bill put on our statutes should see that a petition is circulated in his neighborhood. The petitions must have five per cent of the legal voters in eleven of the sixteen Congressional districts of the state and this means several thousand names. These names can be easily secured if every man who wants to see this Act go into effect will first get busy and if no petition has already been circulated you ought to get busy right now and see that a petition is presented to every voter. If you want to help this work along just write to Mr. A. T. Edmonston, Jefferson City, Mo., who is secretary of the committee and he will send you the necessary blanks. Remember, this is a farmers' measure and unless the farmers help it along no one else is likely to do it for him. It will take but little time to get 50 or 100 names on a petition, and if at least one petition goes in from every township there will be no doubt about the success of the amendment.

EXEMPTION OF LAND BANK BONDS

A number of our readers have written us asking information about the exemption of the debenture bonds provided for in the Gardner Land Bank Act. Some have the opinion that if this Act is approved that all bonds will be exempt from taxation. In answering let us here quote just what the amendment to be voted on this fall has to say: "Section 3. The General Assembly is hereby authorized and empowered to enact a law or laws exempting from state, county and municipal taxes the assets of said Missouri State Land Bank and all debenture bonds by it." This shows that no other bonds except those of the Land Bank are in any way affected by this amendment. There are two primary objects sought in this legislation: Cheaper money and longer time loans with the amortization plan. In order to get cheaper money we must cut out all unnecessary expense in placing loans. This is done in the Gardner Land Bank by requiring existing state officers and departments to discharge the duties of the Land Bank without any more pay than they are now getting. Then to get cheaper money the bonds must be so attractive that they will sell when drawing a low rate of interest. Our inquirers must bear in mind that the State has no money to loan and all the State is seeking to do under this Act is to bring lender and borrower together so they can do business sanely and with little expense. If a farmer should execute a mortgage on his farm and offer to sell it on the market there would be no sale for it unless possibly by someone acquainted with the farmer and his land. But when the Missouri Land Bank, acting as the agent of a thousand farmers and holding each individual's mortgage offers to sell debentures based not on one farm, but on a thousand farms, the risk is so much better and is in a way further guaranteed by the capital and reserve of the Land Bank that those with money to invest will buy the bonds at a lower rate of interest. The framers of this law have tried to make it so the money to buy these bonds could be had at home as nearly as possible. Now, suppose that some farmer has a few hundred dollars saved up, or if a widow has $2,000 or $5,000 of life insurance money left her or it may be the tenant farmer or the hired man or the country school teacher is saving some money and desires a safe place to invest it. If these people are offered the bonds bearing only 4.3 per cent and they have to pay the averag rate of taxes in the country which is around one and a half they would have net only 2.8 per cent for their money, so as a matter of course they would not buy the bonds. If the person with money lives in the city it will be even worse because the total tax rate in cities will run from 2 to 3½ per cent.

We know how easy it is to cry out that exemption of these bonds is in the interest of the money loaner but if we look at it from a practical point of view we will see it is the only way to give farmers cheaper money and then as a matter of fact we know that very little of this money is ever given to the assessor any way. There are a great many millions of dollars of school, municipal and road bonds outstanding in Missouri. There are something like $225,000,000 of mortgages on Missouri farms. Then there are several million dollars of notes held by the citizens of the state and several millions of money on hand and yet the assessors of the state only find a little more than $100,000,000 of all this wealth. In the light of these facts certainly no harm will be done by the exemption provided in the Missouri Land Bank Act.

BEGINNING OF A GOOD OAT CROP

For several years most farmers have been awake to the importance of knowing before planting time that the seed corn was all right but we fear too many neglect exercising the same care in selecting their seed oats. There is great reason this year for examining the seed oats because not many farmers got the oats in the bin last year without a great deal of damage from the wet weather. If thoroughly sound seed can not be obtained considerable improvement may be made in damaged oats by running the seed through the fanning mill two or three times. This process will not only get rid of weed seeds, dirt and broken straws which bother in sowing but it will blow out the lighter grains. Most of the sprouted, infertile grains can thus be separated from the heavy, fertile seed. After the seed is thoroughly cleaned in this way it should be treated with formalin for prevention of smut as recommended in the last issue of The Missouri Farmer.

DEATH OF HENRY WALLACE

The death of Henry Wallace which occurred in his home town, Des Moines, Iowa, on Tuesday, February 22, 1916, has deprived this country of one of our greatest agricultural leaders. Mr. Wallace was the founder of Wallaces' Farmer and for more than twenty-one years had been its editor and through the soundness of his teaching on agriculture and his plendid Christian character no man has done a greater service for the farmers of this country than he did. Mr. Wallace was educated for the ministry but on account of failing health at about the age of 40 he gave up the ministry and took up farming and later with his sons established the paper which has been a powerful factor in developing more profitable farms and better farm homes, not alone in Iowa, but throughout the whole country. Mr. Wallace was active until the day of his death, being almost eighty years old, and the end came peacefully and without warning in the church where he had gone to deliver an address to the Laymen's Missionary Convention.

D. H. DOANE QUITS UNIVERSITY

No one connected with our State University is better known to the readers of The Missouri Farmer than D. H. Doane, state leader of farm advisers and formerly Professor of Farm Management and no doubt they will be surprised to learn that he has resigned his position to accept a more lucrative place with the Mississippi Valley Trust Company of St. Louis. The company has a large business in farm loans and it is in this department that Mr. Doan will work. The members of the Missouri Farm Management Association, one of the largest and most active of all the associations meeting during Farmers Week we are sure will join with The Missouri Farmer in hoping that Mr. Doan may be as successful in his new work as he has been in the field he is giving up.

While Missouri has a lot of good men left it goes without saying that during the last few years we have lost entirely too many of the men who have grown up here and have by faithful service got hold of some of the farmers' real hard problems.

A FARM CLUB AT WORK

For the last six years we have been urging farmers to organize farm clubs and pointing out a number of things the clubs could do to bring profit to the farmers. There are many advantages coming to most all farm clubs of a social and educational nature and these are alone sufficient for the trouble of maintaining a club in every neighborhood. But we realize that under existing conditions farmers have a right to expect economic benefits to come immediately from their club work and this may be brought about without sacrificing any of the social and educational advantages.

Below we publish a letter which tells briefly but plainly what a club in Northwest Missouri has been doing along the exact lines we have urged all clubs to work. A study of the business this club has been doing will show that the saving in buying such articles as coal, feed, seed oats, flour, fertilizer and binding twine is due more to a saving in the expense of handling these commodities than to anything else. When a dealer engages in this business and buys or rents a place of business he not only gives his time to his business but invests his capital, pays insurance, taxes and other expenses, all of which it is only reasonable to say he should have pay for this service. The dealer handling these heavy articles must go to the expense of unloading and storing them and again loading them into the farmers wagon and while this costs the dealer something it adds nothing whatever to the value of these articles. When the farmers get together and buy through the club they cut out this unnecessary handling—they meet and take their goods direct from the car and save a considerable part of the cost.

While there are many things farmers can buy and sell to advantage in a cooperative way, judging from past history we think it is a great mistake for farmers to attempt to enter the field of retail merchandising. In the Grange movement back in the seventies hundreds of retail stores were started by local granges but hardly one in a hundred was successful and most of them caused severe loss to the stockholders. But with things farmers are familiar with and which can be handled without loss or without being held over or getting out of date experience has shown that it takes very little effort or business experience for farmers to save quite a lot of money.

Let every man read the following letter carefully and then ask yourself "why you have not already organized a farm club in your neighborhood?"

To The Missouri Farmer:

Our local here is a sub-order of the Missouri Division of the Anti-Horse Thief Association, and has a membership of about seventy members, all farmers. A few years ago we conceived the idea that if we were a benefit to one another in the prevention of crime, we could also help each other and ourselves individually, by buying such articles as we used in car load lots. This section of Missouri being mostly prairie, we found that everyone used coal as a fuel and we tried shipping in coal as a starter. We

WHAT IT MEANS

Elsewhere in this issue will be found an interesting article on the money saved by the famers organization at Carl Junction, Mo., and we do not see how any farmer can read it without going to the telephone, calling up his neighbors and suggesting the immediate organization of a Farm Club in his community. When farmers in other parts of the state are saving hundreds of dollars annually through co-operation, is it not the sheerest stupidity for you and your neighbors to keep on drifting with the current and paying unnecessary tribute? Furthermore, all that is necessary to be done is for you and your neighbors to avail yourself of our Farmers Market Club through which we will gladly supply you with wholesale prices on bran, shipstuff, oats, hay, flour, coal, fertilizers, binding twine and also help you to find the best possible market for your wool, surplus feed and other similar products. In other words, we have already worked these things out for you and all you and your neighbors need to do is to "get together". Has a farmer who isn't willing to help himself got much right to kick when he keeps coming out at the small end of the hole? Isn't it time to get busy? Why not call a meeting at once and then let us hear from you?—The Missouri Farmer.

made up an order for three cars and found when freight and shrinkage were deducted we had saved $1.50 per ton. We now order about ten cars each fall and last fall laid our coal in at $2.55 per ton and saved from the regular price asked by the local dealer ($4.00 per ton) $290. We had done so well on coal that we next tried twine and the first year we saved three cents a pound, a nice profit, don't you think? As everyone used commercial fertilizers we again invaded a new field and to our surprise we saved from $5 to $6.50 a ton on this commodity. We used five cars of it and the profit on one car would be a nice income on the money invested—a car running about sixteen to twenty tons.

We have not tried selling our grain in car lots except in two or three instances, but each time have made a profit. My brother loaded a car and made $96 on it and our only expense was a man to back it in the car. If the millers can get rich buying your wheat and shipping it and buying it at non-competitive points within 150 miles of Kansas City, 15 to 18 cents under that market, one had better ship it out of the country and he can make from $50 to $100 on every car of it, according to test. I have told my neighbors that we could build an elevator and it would pay a big dividend on the investment and never handle a dozen cars of grain a year. (We suppose Mr. Ross means that competitors would be compelled to pay a better price and farmers would get more for their grain even though their own plant stood idle—Editor.) We have but one grain buyer at Carl Junction, hence we are at the mercy of the company that put in the elevator. If you have a good article it will pay every time to sell it in car lots, even though it takes three or more individuals to make up a car. Even though it does not go out of the country, if you have a number of milling companies there, there will be open competition as soon as loaded.

What we have accomplished in this community can be accomplished in yours, dear reader. Why should not every farmer and stock grower, every fruit and grain gower join with The Missouri Farmer in the great effort it it striving for? Don't you like to hear a fellow speak out in meeting? Well, The Missouri Farmer is "speaking out," and it is speaking out to the great masses of agriculturists in this great commonwealth in no uncertain tones.

Don't the shoe fit you? Don't it pinch just a little? Let's try to save some of the profit of our year's labor. We can save it by uniting, banding together, both in buying and in selling.

Frank F. Ross, Carl Junction, Mo.

BARNYARD GOSSIP

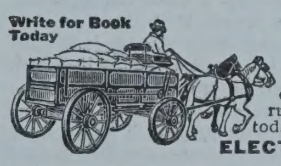
It does seem to me that if there is one crying need for change in the way the retail business is conducted it is to wipe out the credit system. The credit system has broke more merchants than all other causes combined. The merchant who sells on credit must buy on credit and no one of intelligence need be told that the cash buyer can get better prices than the man who buys on time. The two important reasons why the mail order houses can undersell local merchants are, first, they do a strictly cash business, and, second, they buy in large quantities, thus enabling them to reduce the average cost of doing business.

The only way our local merchants can meet the second difficulty is by cooperative buying and fewer and better stores. But this is entirely a merchant's problem and if they want to live against the present killing competition they must find a way to get together—but they can't do it by standing idle and abusing farmers for patronizing outside merchants who can undersell them.

Now, as to the first reason we have given, "Why local merchants cannot meet prices of catalog houses," if there is any change in that it will be when the farmers and other consumers demand it. The man who buys for cash has the right to demand of his merchant a better price than that given to the credit buyer. The man who buys for cash and the man who buys on credit, but who is good and always pays his bills, do not want to have to pay for the things the "dead beat" buys on time. Under the present system of selling on time there is no way out but for the honest man to pay the dishonest man's bills.

Adopting the cash system does not mean that no one can go in debt, for every year it seems that a greater percentage of business is done on credit, but credit should always be confined to those things which are productive. If a man borrows money to buy a milk cow, brood mare, young, growing stock he can reasonably expect that when the note is due the value of the animal together with what it has produced will pay the debt and leave something for profit. On the other hand, when a man goes in debt for something to eat or to wear, or in other words, for living expenses, when the debt comes due there is nothing on hand to pay with. If all consumers, including farmers, would adopt the rule never to go in debt for anything but for something they expect to get a profit out of we would have a great many more people of independent means in the country.

One advantage the farmer has in living expenses is a good garden, some good cows and a flock of hens. One acre of good land cultivated thoroughly in a variety of vegetables and small fruits will supply most abundantly any family of five persons and so far as fruits and vegetables are concern the family can live equal to any millionaire in the land. Yet in the face of these facts merchants tell me they have accounts with farmers runn two to six months and sometimes a year with charges for canned fruits and vegetables, dried fruits and vegetables, bacon, meal, flour, etc., the very things every farmer ought to produce and which thousands do produce and are not worried about grocer's bills. The man who stints himself for one month and then is in position to pay cash and take discounts will find that he has gained a pretty big reward for his slight inconvenience. Few men have obtained independence without making some sacrifice.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These are the results of the poultry feeding experiments through a year recently completed at the College of Agriculture of the University of Missouri, at Columbia. The tests were made on three separate pens of twenty-five fowls each, the White Leghorn being the breed of chickens used.

The chickens of the first pen ate during the year 956 pounds of grain and 446 pounds of mash, with all the sour milk they would drink. The feed cost $28.18. They produced 3,275 eggs. In the pen in which beef scraps were fed, the flock ate 1,095 pounds of grain and 422 pounds of mash, one-fourth of the latter being beef scraps. The cost of the feed for this pen was $27.51, and the number of eggs produced was 2,668. The chickens in the other pen were fed no meat or protein foods. They ate 1,046 pounds of grain, 409 pounds of mash and laid 1,373 eggs. The feed for this pen cost $26.01.

Don't fail to read carefully the article "It's Up to You," to be found elsewhere in this issue. It contains a message of great importance.

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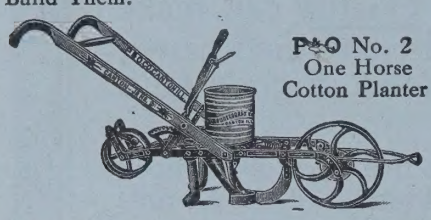

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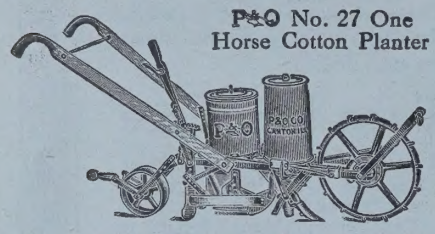

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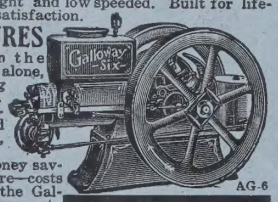

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The Plunderer

By ROY NORTON

Author of "The Garden of Fate"

Something in the attitude of the two appeared to render him more alert, more hard, more uncompromising, and he frowned, as Dick had seen him frown before when angry men made way for him and his dominant mastery. His daughter had stopped in front of the closed door, and eyed him with eyes no less determined than his own.

"Your men are working under the Croix d'Or," she said coldly, without wasting words in preliminary.

His face hardened instantly, and his eyes flamed, dull and defiant. The lines of his heavy jaw appeared to deepen, his shoulders lifted a trifle, as if the muscles of him had suddenly tensed for combat, and his lips had a trace of the imperious sneer.

"Oh, you're certain of that, are you, my girl?"

"I am," she retorted. "I was in their lower level when the Rattler's shots were fired. I heard them."

For an instant he seemed about to leap from his chair, and then, recovering himself, said with sarcastic emphasis, and a deadly calmness: "And pray what were you doing there? Was the young mine owner, Townsend, there with you? Was he so kind—?"

"Is there any need for an exchange of insults?" Dick demanded, taking a step toward him, and prevented from going farther only by recollection of his previous loss of temper.

For an instant the mine owner defiantly met his look, and then half-rose from his chair, and stared more coldly across the litter of papers, plans, and impediments on his desk.

"Then why are you here together?" he demanded. "Weren't you man enough to come yourself, instead of taking my daughter underground? Did you want to compel her to be the chief witness in your claim? What right had you to—?"

"Father!" admonished Joan's voice.

It served a double purpose, for had she not interrupted Dick might have answered with a heat that he would have regretted, and Bully Presby dropped back into his chair, and drummed with his fingers on the desk.

"You took the ore. You must pay. You must!" went on the dull voice of his daughter.

"But how should I know how much it amounts to, even if I do find out that some of my men drove into the Cross pay? " he answered, fixing her with his flaming eyes.

"But you must know," she insisted duly. "I know you know. I know you knew where the ore was coming from. It must be paid back."

For an instant they eyed each other defiantly, and her brave attitude, uncompromising, seemed to lower the flood-gates of his anger. His cheeks flushed, and he lowered his head still farther, and stared more coldly from under the brim of his square-set hat. There were not many men who would have faced Bully Pesby when he was in that mood; but before him stood his daughter, as brave and uncompromising as he, and fortified by something that he had allowed to run dwarf in his soul—a white conscience, burning undimmed, a true knowledge of what was right and what was wrong. Her inheritance of brain and blood had all the strength of his, and her fearlessness was his own. She did not waver, or bend.

"It must be paid back," she reiterated, a little more firmly.

He suddenly jerked himself to his feet, his tremendous shoulders thrust forward across the desk, and raised his hand with a commanding finger.

"Joan," he ordered harshly, "you get out of here. Go to your room! Leave this affair to this man and me. This is none of your business. Go!"

"I shall not!" she defied him.

"I think it is best," Dick said, taking a step toward her. "I can take care of my own and Mr. Sloan's interests. Please go."

The word "Joan" almost slipped from his lips. She faced him, and backed against the door. "Yours and Mr. Sloan's interests? What of mine? What of my conscience? What of my own father? What of me?"

She stepped hastily to the desk, and tapped on it with her firm fingers, and faced the mine master.

"I said you must pay!" she declared, her voice rising and trembling in her stress. 'And you must! You shall!"

He was in a fury of temper by now, and brought the flat of his heavy, strong hand down on its top, sending the ink-well and the electric stand lamp dancing upward with a bound.

"And I shall do as I please!" he roared. "And it doesn't please me to pay until these men"—and between the words he brought his hand down in heavy emphasis—"until— these—men—of the Cross mine prove it! I'll make them get experts and put men in my mine, and put you yourself on the stand before I'll give them one damned dollar! I'll fight every step of the road before I'll lay my hand down. I'll pay nothing!"

She stood there above him, fixing him with her clear, honest, accusing eyes, and never faltered. Neither his words nor his rage had altered her determination. She was like a statue of justice, fixed and demanding the right. Dick had rushed forward to try and dissuade her from further speech, and cumulated in that ruin of faith.

Dick looked down at her, and his nails bit into his palms as he fought off his desire to reach down and lift her to his arms. Bully Presby's chair went clashing back against the wall where he kicked it as he leaped to his feet. He ran around the end of the desk, throwing Dick aside as he did so with one fierce sweep of his arm.

"Joan!" he said brokenly, laying his hand on her head. "Joan! My little Joan! Get up girl, and come here to your Dad!*"

She did not move. The excess of her grief was betrayed by her bent head and quivering shoulders. The light, gleaming above her, threw stray shadows into he depths of her hair, and softened the white, strained tops of her fingers.

Bully Presby, the arrogant and forceful, still resting his hand on her head, turned toward the twisted, youthful face of the man at his side, whose fingers were now clenched together, and held at arm's length in front of him. The mine owner seemed suddenly old and worn. The invincible fire of his eyes was dulled to a smoldering glow, as if, reluctantly, he were making way for age. His broad stood at the end of the desk in the halo of light from the lamp, and there was a tense stillness in the room which rendered every outward sound more distinct. The voice of a boy driving mules to their stable and singing as he went, the clank and jingle of the chain tugs across the animals' backs, and the ceaseless monotone of the mill, all came through the open windows, and assailed their ears in that pent moment.

"Please let me have my way," Joan said, turning to Dick, and in her voice was infinite sorrow and tragedy. "It is more my affair than yours now.

1775 *1916*

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Father, I shall not permit you to go any farther. It is useless. I know! I can't do it! I can't keep the money you gave me. It isn't mine! It is theirs! You say you will not pay. Well, then, I shall, to the last dollar!"

"But I shall accept nothing—not a cent—from you, if we never get a penny from the Cross!" declared Dick, half-turning, as if to end the interview.

She did not seem to hear him. She was still facing the hard, twisting face of Bully Presby, who had suddenly drawn back, as if confronted by a greater spirit than his own. She went on speaking to him as if Dick was not in the room.

"You stole their ore. You know you stole it. Somehow, it all hurts so that I cannot put it in words; for, Dad, I have loved you so much—so much! Oh, Dad! Dad! Dad!"

She dropped to her knees, as if collapsed, to the outer edge of the desk, and her head fell forward on her hands. The unutterable wail of her voice as she broke, betrayed the desperate grief of her heart, the destruction of an idol. It was as if she told the man across the desk that he had been her ideal, and that his actions had brought this ruin about them; as if all the sorrows of the world had shoulders appeared suddenly to have relinquished force and might. He stooped above her, as if about to gather her into his arms, and spoke with the slow voice of pathos.

"She's right," he said. "She's right! I should pay; and I will! But I did it for her. She was all I had. I've starved for her, and worked for her, and stolen for her! Ever since her mother died and left her in my arms, I've been one of those carried away by ambition. God is damning me for it, in this!" He abruptly straightened himself to his old form, and gestured toward the sobbing girl at his feet. "I am paying more to her than as if I'd given you the Rattler and all—all—everything! — for the paltry ore I pulled from under your feet. You shall have your money. Bully Presby's word is as good as his gold. You know that! I don't know anything about you. I don't hate you, because you are fighting for your own! Somehow I feel as if the bottom had been knocked out of everything, all at once! I wish you'd go now. I want to have her alone—I want to talk to her—just the way I used to, before—before—"

He had gone to the limit. His strong hands knotted themselves as they clenched, then unclenched as he stepped to the farther side of the door and looked at Dick, who had not moved; but now, as if his limitations also had been reached, the younger man leaned forward, stooped, and his arms caught Joan and lifted her bodily to his breast. In slow resignation, and with a sigh as if coming to shelter at last, her arms lifted up, her hands swept round his shoulders, and came to rest, clasped behind his head, and held him tightly, as if without capitulation.

There was a gasp of astonishment, and the rough pine floor creaked as Bully Presby, dumbfounded, comprehending, conquered, turned toward the door. He opened it blindly, fumbling for the knob with twitching hands—hands unused to faltering. He looked back and hesitated, as if all his directness of life, all his fierce decision of character had become undermined, irresolute. He opened his lips as if to protest, to demand, to dominate, to plead for a hearing; but no sound came. His face, unobserved by either the man he had robbed, or the daughter who had arraigned him, betrayed all these struggling, conflicting emotions. He was whipped! He was beaten more certainly than by fists. He was spiritually and physically powerless. Dazed, bewildered, he stood for an instant, then his heavy hands, which for the first time in his life had been held out in mute appeal, dropped to his sides. Habit only asserted when he slammed the door behind him as he walked out into the lonely darkness of the accusing night.

(To be continued.)

RECALL EARLY HARDSHIPS

There was a discussion in our neighborhood as to which article of household equipment contributes the most to the comfort of the modern home and all its inmates and the man who argued that it is nothing more nor less than the little radiator in the corner won the debate and took the neighborhood prize for the best talk on a commonplace article.

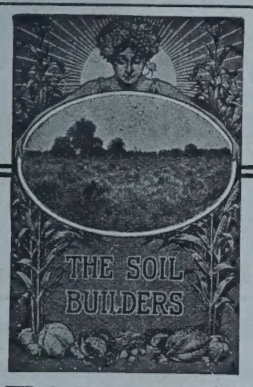
There are twenty men and twenty women in our club, and nearly every single one of them championed a different article, ranging from the parlor piano to the little dollar machine the women use to grind up apples and mincemeat. But only one of the bunch thought of the radiator, and he was given the merry laugh at first. They made it unanimous, though, when he got through and the vote was taken on which was the most convincing talk.

I'm not saying that a radiator is the handiest thing a man can have in his house. I'm just telling you what this other man said, and if you had been there and heard it it's a cinch that you would have voted just like the rest of us thirty-nine people did. And really, it's wonderful, when you come to think of it, what a lot of domestic comfort there is in these radiators and what goes with them.

He told about the time when he was a boy and it seemed as though the whole burden of living was bound up in the job of eternally cutting wood and building fires and keeping them going. That made a hit with me, and I guess most of the rest of the bunch were up against the wood fire stunt when they were small, the way they appreciated what he said. We had a stove in the kitchen, another in the dining room, another in the parlor, a big fireplace in the downstairs bedroom and three bedroom stoves upstairs. We didn't keep them all going all the time, but they were all going some of the time, and some of them all the time. In cold weather it was a case of fix the fire, fix the fire, fix the fire, until I used to secretly curse the man who discovered fire. And every stove had to be continually tended, not only to keep the fire going, but to keep it clean. And when it was warm and we didn't need fires, we had to cut wood for the next winter and pile it up in the big wood-shed. And then every spring we had to take down all the stoves and store them away in the barn, and every fall we had to get them out again and clean them up and black them and set them up in their places. Altogether, looking back on it now, a stove looms up as the veriest bane of my early existence, and that of my father and mother and brothers as well.

Now look how the thing is done. Down in our basement there is a boiler not much bigger than our old round sheet iron parlor stove. In the morning I shake it down a bit, and put in a few shovels of coal, and in the evening the same. Once or twice a year a boy carries out the ashes, and that is all there is to it from one year's end to another. The little regulator on the boiler automatically opens the door when the heat goes below a certain point, and it closes it again when it begins to get too warm. From the time we start the fire in the fall until we let it go out in the spring the whole of the house is maintained at the even temperature we desire, say 75 degrees, no matter how cold or how warm the day may be outdoors. We pay a very moderate coal bill; the boiler downstairs and the little radiator in the corner do the rest.

The modern heating companies have simply brought steam and water heating to perfection, for all kinds of homes, no matter how small. The radiators take up so little room as to be of no consequence; the new designs are an ornament to a room, rather than otherwise; they do not generate constant dirt like a stove, and they do not spot dust like the registers of a hot air furnace; they can be painted or gilded every year to match the furniture or wall paper, and they are always doing business with the least possible attention. My wife never worries lest the fire go out and the children take cold, the house is always the same, no matter what time of the day or night, and my boys are not being brought up to dread the very name of fire. When you come to think about it, it isn't so much of a wonder that the man who picked the radiator as the greatest home comfort won the prize unanimously. "Uncle James"



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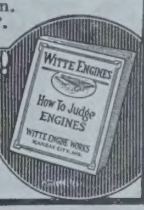

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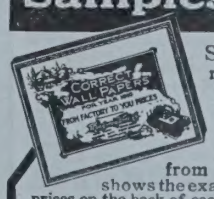

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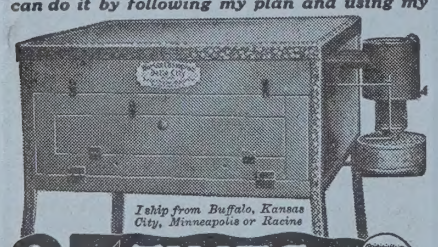

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$210 GIVEN AWAY Send us this ad for full particulars and Moberly Commercial College, Moberly, Mo. free catalog.

Home Makers Conference

This Department is Edited by Miss Alice Kinney, New Franklin, Mo.

March is here and it is full time that our plans be made for the coming garden, which should include this year enough to supply two families, for with the upbuilding of the parcel post trade the outlook seems bright for the farm fresh vegetables being in demand by the city consumers.

We make a strong plea for the flower border in the vegetable garden, if no other place is sacred from the chickens; this entire border filled with Perennials will be a thing of beauty and a joy every day during the flowering season.

The preparation of a Perennial bed should be very thorough, especially as the soil cannot be well tended or much enriched afterwards; and in order to sustain a large variety of plants in vigorous growth, it is necessary to prepare the bed well before hand by having the ground loose to a depth of at least two feet—the English think nothing of making the Perennial bed four feet deep—throw off the top soil then dig up the subsoil and mix with it a liberal supply of manure and wood ashes, besides keeping the surface soil rich at all times.

Select an open sunny situation far away from the roots or shade of trees. Perennials are easily grown from seed, though they are slower germinating than annuals, but with care they can successfully be raised and it is an excellent way to get up a big stock in a short time and at less cost.

Many Perennials, if the seed be sown early in the spring, will bloom freely the first year while others wait a year before blooming but will then give pleasure for years.

While waiting for them to grow into a size that will give a permanent effect in the border we can turn to the Annuals for quick returns and here the list is almost endless from Sweet Peas to Zinnias and Verbenas and many others that are familiar to all.

Do reserve a spot for the rose the "Queen of Flowers", by commencing with a few plants, you can add more each year, thus the cost will be very small when compared with the joy they will give you for their care.

This is the month to start your tomato seeds, if you desire early plants by planting in a small box in the house and keeping them at an even temperature, with all the sunlight possible, they are large enough to transplant and by holding them in the cold frame until warm enough to plant in open ground, thus prolonging the bearing season many weeks.

Baby Welfare

The week March 4 to 17 has been set aside by Miss Julia Lathrop, head of the Children'sc Bureau, Washington City, as "Baby Week," and the General Federation of Women's Clubs in cooperation with the American Medical Association has made this a national observance. In those communities where the week appointed cannot be observed it is suggested that some other week be chosen. Every house in the county that can boast a baby under three years of age should help in making this a week of community education on Baby Welfare.

Directions and assistance may be obtained by addressing "Children's Bureau, Washington, D. C. Attention Mrs. Goodwin."

HATCHING CHICKS MUST HAVE GOOD AIR

Moisture and ventilation are two features of artificial incubation of eggs that should receive careful consideration, says the poultry husbandman of Clemson College. This is especially true in the latter part of the hatch.

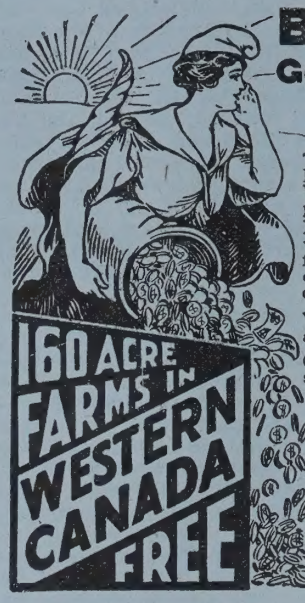
When the incubator is operated in a dry room, thoroughly sprinkle the eggs on the tenth, fourteenth and eighteenth days with water of 106 degrees (warm to the hand), removing the tray partly and scattering the water with a whisk broom. Open the ventilators throughout the hatch. Do not place a tray of wet sand or water under the eggs, as it is an ideal medium for the development of mold.

The egg chamber must be filled with moist air when the chicks are p[illegible] the shells on the nineteenth and twentieth days of incubation; otherwise the shell membranes become dry and tough and many chicks are imprisoned. Pure air is also necessary at this critical time. Both conditions can be had simultaneously.

Closing the door of the egg chamber from the eighteenth day to the completion of the hatch (about four days) is the direct opposite of natural incubation and contrary to all rules of hygiene. The sitting hen exposes the pipped eggs constantly in her instinctive desire to assist with her beak the chicks emerging from the shells. The ventilation of the egg chamber is inadequate for a number of live chicks, the poisonous carbon dioxid exhaled by the earliest hatched chicks vitiating the air and rendering it unfit to breathe.

The chicks open their beaks and gasp for breath, not because they are overheated, but because the impure air suffocates them. Human beings could not survive four days' close confinement in a room with practically no ventilation, yet embryo chicks are expected to undergo in a foul atmosphere the difficult process of birth.

Do not turn the eggs after the chirp of the first chick is heard. If the glass of the door is not dripping with moisture, withdraw and sprinkle the eggs on the trays with warm water as previously described. Close the door until the early chicks are hatched. Then partly withdraw the trays, place the dry chicks in the chick chamber underneath, roll the eggs around, and sprinkle eggs and newly hatched chicks with warm water. Wet the front of the trays and the inside of the egg chamber also. The whole operation should not require more than two minutes. Withdraw the trays and sprinkle the eggs as often as necessary to maintain pure, moist air in the egg chamber. When the door is closed the glass rapidly shows excessive moisture and the interior temperature rises to the desired degree.



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The winnings of Western Canada at the Soil Products Exposition at Denver were easily made. The list comprised Wheat, Oats, Barley and Grasses, the most important being the prizes for Wheat and Oats and sweep stake on Alfalfa.

No less important than the splendid quality of Western Canada's wheat and other grains, is the excellence of the cattle fed and fattened on the grasses of that country. A recent shipment of cattle to Chicago topped the market in that city for quality and price.

Western Canada produced in 1915 one-third as much wheat as all of the United States, or over 300,000,000 bushels.

Canada in proportion to population has a greater exportable surplus of wheat this year than any country in the world, and at present prices you can figure out the revenue for the producer. In Western Canada you will find good markets, splendid schools, exceptional social conditions, perfect climate, and other great attractions. **There is no war tax on land and no conscription.**

Send for illustrated pamphlet and ask for reduced railway rates, information as to best locations, etc. Address

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Early Lincoln—A large white oat. The best oat for feed. 65c per bu. Sacks free.
Pride of Saline—A yellow Dent seed corn. Heavy ears, very deep kernel, shells immensely. $2.25 per bu., shelled, tested.

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I have 500 bushels sound, heavy Johnson County White Seed Corn for sale at $1.50 per bushel.

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When David Bennison of Iowa bought a sixty acre tract of Cypress covered land near New Madrid, in

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the neighbors laughed at him. But Bennison knew **good** corn land. He cleared that tract, planted corn, and the first yield—grown among stumps—brought 90 bu. per acre. The wonderful depth and fertility of soil there is amazing. 90 bu. per acre there is better than average but not uncommon. Mr. Mahoney of Dexter, Mo. says "Last year our corn yielde 1 75 bu. per acre. We have made 90 bu. and it will run above 60 bu. an acre year in and year out". Mr. Hunter of New Madrid says many of his fields of corn average 80, 90 and 100 bu. per acre. There isn't a richer soil in America than that in Southeast Missouri.

There isn't a section anywhere where you can buy rich land so cheap that the first **staple, field** crop will pay for its cost and clearing (if you buy unimproved). And that rich soil makes wonderful yields of **anything.** C. D. DeField of East Prairie says "We cut our alfalfa every 28 days; five times a season. It averages a ton per cutting. Clover does well; in fact any kind of feed or pasture, I raised 40 mules last year without doing **any winter feeding** at all. Cattle and hogs go through winter here without feeding." 90 bu. per acre corn land at $35 will go quick; act!

Free book—illustrated!

A farmer wrote it; and he knows what you want to know about a section new to you. Tells about character and cost of lands, climate, crops raised, etc., and about schools, churches, towns, social conditions. Brimful of actual photograph pictures "taken on the ground." Send today and get this free book.

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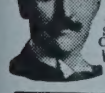

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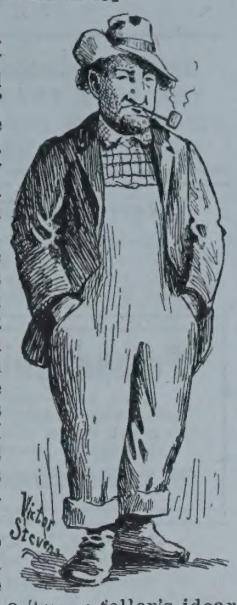
A.A. Berry Seed Co. Box 180 Clarinda, Ia.

By Old Jim Riley



You can git a fight out of my old friend Bill Bryan on "peace" any hour in the night or day. Youv' got to say this much for a polecat — you can always tell when it's on the job and that's more'n you can say about a lot of other folks in this world. You know I believe if Woodrow was to call me in I could settle this Mexican mess and all the other war stuff. He's relyin' too much on that feller Col. House from Texas—and a Texas feller's idear of makin peace is to take a half dozen high balls and then oil up his six-shooter. Is it any wonder we ain't gitten anywhere with this Good Samaritan stuff?

BUCKSHOT BY THE PROFESSOR.

If Henry Ford isn't careful the police will have to run him in for disturbing the peace.

Old Jim Riley got a bath the other day. It wasn't his fault though. He got caught out in a rain.

The average old batchelor is just about as much of an ornament to society as an old gray mule.

I know a lot of old skin flints who spoil a plug of Horseshoe every day and then get sore when their wives spend a half dollar for a sunbonnet.

If I was in the war over in Europe I'd want to have a job blacking some king's boots or currying his automobile. Then I'd know there would be no danger of my getting shot.

It's getting time to shear the sheep once more—and if a fellow could sell old whiskers and would shear the gang down at "Hez" Brown's store he could do a landoffice business.

Be sure to look up the article in this issue which is headed "It's Up to You"—for it's a mighty serious one to me because it means that maybe you won't have a chance to read what the "fool Professor feller" says much longer.

I wish all the great statesmen we are to have from now on would get together and arrange to die on the same day, because if they keep on dying on different days every day will be a legal holiday by and by.

Read the article by Mr. Ross of Carl Junction in this issue. It shows what the farmers of a community can do when they act together—and why shouldn't the farmers of every school district in the state do the same? Do you know of any reason except that of indifference?

I happened to look over that Jim Riley person's stuff that's in the paper this time and I see where he wants the President to call him in to settle the Mexican fuss. Now, as they say, wouldn't that "get your goat?" If he'd settle for his grocery bills down at "Hez" Brown's he'd be doing a blamed sight better than he's done for a long while.

The "Sunbeam" correspondent sends me the following: Rumpus Ridge, Ark. Deer Professer: I take my pen in hand to let you no that our little boy, Bearcat, won't be to school for several days. Last nite he set down in a steel trap by mistake and he won't be huntin for no other place to set for several days. Hoping these few lines will find you the same. Yours Truly, Mrs. Hy Holler.

DOWN IN POSSUM HOLLER

The bunch lined up around the stove at "Hez" Brown's the other afternoon and most of them reported "present." Old "Chouce" Baker was in an ugly mood. His whiskers got mixed up in the cog wheels while he was turning the corn sheller crank the other day and most of them got pulled out. Consequently he was about as full of fight as a fellow is when he gets religion at one of Billy Sunday's revivals. "Well," said "Jep" Thompson, "I guess they'll renominate Woodrow at the St. Louis convention. He's makin' us a great President and is keepin' us from—" "Renominate him!" roared "Chouce" as if somebody had pulled out the balance of his whiskers. "Of course they'll renominate him. They can't help theirselves. Woodrow and the Democratic party air like the feller that got hitched up to the calf. They've got to travel down the road together—whether you like the calf or not." This "riled" "Jep" and he snorted, "Yes, and you'll have to noimnate Teddy at Chicago. He just whacks you Republicans around as if you was a bunch of old flea-bitten mules and you ain't got the nerve to resent it. Why, if that broncho buster ever gits back into the White House it won't be thirty days before he'll be pickin' a fuss with the angels." "No, we won't," said "Chouce," "we'll nominate Hughes an' we'll—" "You won't do nuthin of the kind," roared back "Jep." "He'll have the whole outfit of you so tame by the time the convention rolls around that you'll eat out of his hand"—but at this juncture a candidate dropped in and set up the cigars to the crowd.

MY EXPERIENCE WITH SUDAN GRASS

I have two letters asking about this grass. In 1915 I grew two plots of it, one in drills on very wet land, the other broadcast in medium soil. It did well in both plots, and as a feed I like it better than any of the other sorghums or millet. My drilled patch was allowed to ripen for seed and yielded at the rate of 50 bushels per acre. I would advise no one to sow a large acreage, but would like to see a patch grown upon every farm, where more rough forage is needed. Three or four pounds per acre is a good rate of seeding in drills, fifteen pounds broadcast. The richer the land the heavier the yield, and I do not think it adapted to very thin soil. Seed should be bought at 10 to 12½ cents per pound this year and when once grown I think it entirely practical for every one to grow his own seed. It should be sown or planted as soon after the 15th of May as possible for best results, but will cut a heavy crop planted July 1. The May planting will give two full crops of hay.

C. D. Lyon.

How About Your Incubator?

Why not make the hens pay this year? Why not order a good incubator and go on the early markets with some good price? The hens can easily be made to pay for a new cooking range, carpet, dining room or bed room set or even a new farm house furnace. Write to the M. M. Johnson Co., at Clay Center,, Neb., and ask them to tell you about the famous "Old Trusty" Incubator. Then also write to the Belle City Incubator Co., whose advertisement you will find in this issue. Both will gladly supply you with a world of information on how to make money out of poultry. Please mention The Missouri Farmer.

Get the Work Horses in Shape

One of the finest things on the market to put your horses in fine shape for the heavy spring work is Dr. Hess' "Stock Tonic." It makes them shed their old coat of hair quickly, eat with a relish and carry the strain with ease out in the fields. Write to Dr. Hess & Clark at Ashland, Ohio, and ask them for full information and prices. A little money spent to get the work horses in prime condition will prove a mighty good investment. Please mention The Missouri Farmer.

A Comfortable Farm Home

Elsewhere in this issue will be found the advertisement of the American Radiator Co., and we suggest that those of our readers who would like to know all about the cost of a farm home furnace write the company for complete information. The time isn't far off when many farm homes will do away with the old heating stove which doesn't heat the house evenly and which requires such constant attention. Be sure to mention The Missouri Farmer.

We ask every reader of The Missouri Farmer to ready carefully the article "It's Up to You," found elsewhere in this issue. It contains a message of great importance.

Use It For Everything

4 H.P.—190 lbs.

The 4 H. P. Cushman Handy Truck Outfit is the most useful outfit ever built for farm work. The engine weighs only 190 lbs., and the entire outfit only 375 lbs. A child can pull it around from job to job.

Besides doing all the farm and household power jobs, this 4 H. P. Cushman may be lifted from truck and hung on rear of binder during harvest to save horses and save the crop.

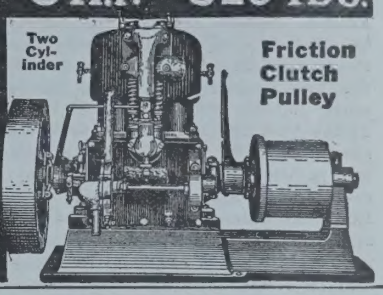
Light Weight

Cushman Engines

Built for farmers who need an engine to do many jobs in many places instead of one job in one place. **Throttle Governed,** with Scheblor Carburetor. Run very quietly and steadily—not with violent explosions and fast and slow speeds like old-style heavy-weights. Engine Book free.

CUSHMAN MOTOR WORKS
827 N. 21st Street Lincoln, Nebraska

8 H.P.—320 lbs.



A SPRING HAIR CUT

Fine and Fit

for the warm weather. When the heavy coat that holds the wet sweat and dirt is removed, Horses and Mules are more easily kept clean, look better, get more good from their feed, have more energy and work better. Insist on having the

Stewart Ball-Bearing **Clipping Machine**

It turns easier, clips faster and closer and stays sharp longer than any other. Gears are all file hard and cut from solid steel bar. They are enclosed, protected and run in oil, little friction, little wear. Has six feet new style easy running flexible shaft and celebrated Stewart single tension clipping head, highest grade. **PRICE $7.50**

Get one from your dealer or send $2 and we will ship C.O.D. for balance.

Clip the Udders and Flanks of your Cows and Get Clean Milk free from the impurities that otherwise drop in and can't be strained out.

CHICAGO FLEXIBLE SHAFT CO.
Chicago, Ills.

Write for complete new catalog showing world's largest and most modern line of horse clipping and sheep shearing machines.

BOWSHER

Saves 15% to 20% of Feed

Keep Stock Healthier. **Crush** ear corn (with or without shucks) and **Grind** all kinds of small grain and **Head Kaffir.** 10 sizes 2 to 25 H P. Conical shaped grinders—different from all others.

Lightest Running Feed Mills

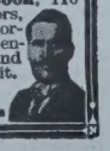
Handy to operate. Ask why; and state size of your engine. We also make Sweep Grinders.

FREE A folder on Values of Feeds and Manures.

T. P. BOWSHER CO.
South Bend, Ind.

FARM SEEDS WHOLESAL PRICES

We Make Lowest Wholesale Prices on "Hi-Quality" Pure Tested Seed Corn, Alfalfa, Clover and other field seeds; also Garden and Flower Seeds, Small Fruit, Shrubbery and Nursery Stock at very low prices. My **1916 Planting Guide and Pure Seed Book,** 116 pages, printed in four colors, hundreds illustrations, authority on field crops, gardener's encyclopedia, orchardist's and berry-grower's manual. Get it.



GALLOWAY BROS. & CO.,
592 Galloway Sta. Waterloo, Iowa

Live Stock Notes

R. P. ROYCE, Fieldman

COMING SALES

POLAND CHINAS
W. I. Britt, Rush Hill, Mo., March 9.

SADDLE HORSES
E. D. Moore, Columbia, Mo., March 10.

SHORTHORN CATTLE
W. C. Prewitt & Sons, Clarksville, Mo., April 27.

ANGUS CATTLE
Breeder's Sales East St. Louis, Ill., March 15 and 16.

Aberdeen-Angus Auction Cattle Sales at the National Stock Yards

On March 15th and 16th there will be an offering of Angus cattle at the National Stock Yards Pavilion, East St. Louis, Ill. that should attract many buyers from a very wide territory around this market. The offering will consist of 115 head, 30 bulls that are top-notchers and 85 cows and heifers that have made good. The first sale will be that of the following well known breeders and exhibitors; Stanley R. Pierce, Creston; A. A. Armstrong, Camargo; S. Melvin, Greenfield; J. Garrett Tolan and the University of Illinois. These breeders of Angus cattle are well known and they have been instrumental in advancing the interests of the breed until today it is one of the most popular beef breeds in the world. The cattle listed by these breeders represent the very cream of their herds and are in the finest condition. They have reluctantly booked animals for this occasion that otherwise they would refuse to sell. The bulls in this offering are the best of last years crop and many of them will be found nothing short of eyeopeners. Every one is a high-class herd header. No such offering of bulls has ever been seen before in the National Stock Yards. All are over a year old and of a serviceable age. They are sure to make your eyes water for them when you have seen them. The cows and heifers listed for this breeders' sale have been carefully selected by a competent judge and they are much better than ever offered in the Southwest before. There is not an undesireable female in the offering. They are all of the most fashionable families and will add strength to any herd. Some good show prospects will be found amon, the heifers.

On Thursday March 16th Durrstine Bro's, Scales Mound, Ill., will disperse a most remarkable lot of cattle. They began breeding Angus cattle with three cows and from those three cows 57 head of the 58 head they are selling have been bred and developed. This lot of cattle are very blocky, beefy, low down, thick and have scale as well as a lot of quality. The writer has sold many herds of Angus cattle and he cannot recall selling a more useful lot of business cattle. They are in the very pink of breeding condition and every cow that is old enough to breed that has not a calf at foot is well long in calf. You will find this offering one of the most attractive lot of coming yearling heifers that have been on the market for years. In this dispersion you will find 10 very classy bulls, all of serviceable age, included is the present herd bull, Ernie 2d of Greenwood 176705. He was 2d prize Junior bull in a very large class in the Chicago bull sale 1914. He is a sire of unusual merit and his get will furnish the evidence. He now weighs over a ton and is a grand individual. His blood lines are the most fashionable, a Trojan Erica of first water. Every fancier of good Angus cattle in the market or going to be soon should arrange to attend both of these sales and secure some of these good things that will no doubt sell worth the money. For a catalog and other information address sale manager, M. A. Judy, 817 Exchange ave., Chicago, Ill.

A County Purebred Beef Cattle Organization

The breeders of purebred beef cattle of Cape Girardeau Co., Mo., met on Feb. 7 in the office of the county agent and organized the Cape Girardeau County Association of Breeders of Purebred Beef Cattle. Thirteen herds were represented. P. C. Clippard was chosen president, J. H. Campbell vice-president and Wash Miller secretary-treasurer. The Shorthorn breeders presnt were Randolph Shaner, J. H. Campbell, B. O. Crites, O. L. Dow, J. R. Hope, Joseph Job & Son, Snider & Lance, and M. C. Kinienger. P. C. Clippard, Brown Clippard, C. C. Mirly, and Wash Miller represented the Aberdeen-Angus interests and E. J. Weiss, the Hereford. It is the purpose of the association to co-operate in advertising and in holding sales and shows, particularly local shows within the county.

Lawrence offers Augus Bulls and Heifers

V. E. Lawrence, Salisbury, Mo., in sending in a change for his advertisement says that he is now prepared to offer some real bargains to our readers. He is now offering for sale, at a reasonable price, his herd bull, Dean's Eric. This bull, a Trojan Erica, is of the right stamp in every way, and some one will get him at a bargain. Mr. Lawrence is now anxious to sell about thirteen coming yearling and two-year-old heifers. The older heifers were bred to the new herd bull, King Wayne 170152 a Ballindallock K. Pride of Aberdeen. This bull was good enough to place second in class at the 1915 Ohio State Fair.

Hereford Bull Worth the Money

Hugh Whiteford, the well known Hereford breeder of Guilford, Mo., is now advertising a cracking good three-year old bull for sale. The sire of this bull is the noted Tempter 2nd and his dam is a fine big cow of Anxiety breeding that sold last year for $280. The bull now offered is a splendid individual, well bred, a proven sire and priced worth the money. Mr. Whiteford advises us that calves by him and out of mixed cows topped the St. Joseph market, selling for 45 cents above any others in their class. The price on this bull is $200 and the first check gets him. Here is an opportunity that should not be overlooked by any of our readers who are in the market for a bull of the right sort. Our readers will find Mr. Whiteford thoroughly reliable in every way and a pleasant man to do business with. Kindly mention this paper.

Red Polled Cattle and Spotted Poland China Hogs

Notice the change in the advertisement of M. L. Snyder, Polo, Mo. Mr. Snyder is now offering a choice lot of young bulls sired by Logan 13500 and by Knocker 28791. Mr. Snyder also offers Spotted Poland China bred gilts. If interested in any of the above stock we would urge that you write at once. Mr. Snyder reports a very active demand for his stock and adds that his customers were invariably pleased.

Belcher & Bennett Bros. Have the Top Sale of Missouri

An average of $89.50 was the mark John Belcher and Bennett Bros. hung up for their fellow breeders to shoot at in their annual Smooth Columbus Sale held at Lee's Summit, Mo., Saturday, February 19th. This was the top sale of the state and one of the top sales of the breed.

It will be recalled that last year John Belcher held the top sale of Missouri, and when it was announced that Bennett Bros. had purchased a half interest in Smooth Columbus, and that the two herds would be drawn on for this years sale offering much speculation was indulged in as to whether or not they would break last years record. The recent sale was the answer.

An exceptionally attractive lot of bred sows, all either bred to or by Smooth Columbus, a splendid crowd of breeders from Missouri, Kansas and Iowa, a perfect day, and the added fact that it was the auctioneer's—Col. Harriman—birthday, were the contributing factors that made this sale such a success.

The top of the sale was finally set at $275 after Sigel Brown, Reeds, Mo., and Walter W. Head, St. Joseph, Mo., had given each other a battle for the good sow, Meadow Queen. Mr. Brown made the last bid and thereby bought one of the best aged sows the writer has seen go through a sale in a long time. One of the real bargains of the sale was secured by E. E. Marlow & Son, Wellsville, Mo., wthen they purchased the splendid daughter of old A. Wonder, Fessie's Lady, for $172.50. Another good bargain was the outstanding daughter of Smooth Columbus, Big Belle, purchased by Bridges Bros., Slater, Mo., for $127.50. Sigel Brown was the heaviest buyer in attendance, with Walter W. Head a close second. Space does not permit more detailed mention of the individual buyers, but a complete list will be found below.

Col. R. L. Harriman was never in better trim for a corking sale and he and Col. Sparks deserve considerable credit for helping to hang up the record average of the state.

No. 1. E. E. Marlow & Sons, Wellsville, Mo. $172 50

POLAND CHINAS

Smooth Columbus
THE BOAR THAT PUT MISSOURI ON THE MAP. HEADS OUR HERD

"LEST YOU FORGET" Our bred sow sale featuring Smooth Columbus. See ad in this issue and send for catalogue.
BENNETT BROS. R. 5, LEE'S SUMMIT, MO.

Spring Boars by the Grand Champion
A desirable lot of early spring boars by The Giant, acknowledged to be one of the greatest young Poland China boars of the breed. Prices within reach of all.
WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

Poland Chinas & Shorthorns
Bred sows and gilts. The real big kind with bone and quality. A few serviceable boars. Several extra good young bulls and heifers. Satisfaction guaranteed.
H. S. Williamson, Route 6 Centralia, Mo.

BAKER'S REAL BIG-TYPE POLANDS
We have a number of extra good spring boars sired by Big Look that we are offering worth the money. Need the room and must sell. Remember our February 18th sale.
W. A. BAKER & SONS, BUTLER, MO.

BIG TYPE BOARS FOR SALE
Hear we are with the good big type sping boars by SOOTH COLUMBUS and SPOTTED MONSTER out of WONDER and LEADER sows. Crated and on the car at Rocheport, for $25.
HALL & RAPP, ROCHEPORT, MO.

POLAND CHINA BARGAINS
I have some good Big Type Poland China hogs; some tried sows, one aged boar, some spring gilts and spring boars. Registered stuff. Cholera immune. Come and see them or write me. LOU LE FEVRE, Collins, Mo.

BALDWIN HEIGHTS POLAND BOARS $25
Choice spring boars sired by King Jumbo by King of All, and out of sows bred in the purple. Your choice for $25. Satisfaction guaranteed.
R. F. BALDWIN, Rt 1, ROCHEPORT, MO.

Linhardt's Polands
I have a choice lot of extra good fall gilts sired by outstanding boars. Customers in 26 states. GIANT MAMMOTH 68375 and CHIEF BIG BONE 75856 in service. Priced for farm trade.
H. O. LINHARDT, LOHMAN, MO.

DOOLEY'S SPOTTED POLANDS
Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pair and trios no relation. Also registry furnished. Send check with first letter.
EDGAR DOOLEY. - Etterville, Mo

DUROC JERSEYS

COL. WONDER DUROC BOARS $25
At recent Missouri State Fair my herd won 35 ribbons—3 championships, 15 firsts. Col. Wonder sires my champions—he will sire them for you. Choice bred gilts. Spring boars by Col. Wonder $25 each. Send check in first letter. Nothing but the best sent on mail orders.
CHAS. L. TAYLOR - - - - - - Olean, Mo.

BIG TYPE DUROC GILTS
We offer a choice lot of spring gilts bred for early farrow. Big type, big bone, big breeding and big quality. Also a few yearling sows. Priced to sell and satisfaction guaranteed.
W. H. & GEO. E. THOMSON - - - - - - Columbia, Missouri

Durocs With Size and Bone
I am offering a choice lot of early spring pigs with unusual size, bone and quality. Bred right and priced right. Visitors welcome.
A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

BIG TYPE DUROCS
We are offering choice sows and gilts of the best breeding, bred to PAL'S FANCY ADVANCER, one of the biggest of the big type. Also a number of extra fine fall boars.
W. O. & B. A. SMITH, - - - THOMPSON, MO.

DUROC GILTS--BRED
A few extra good gilts, some a year old, sired by prize-winning boars and bred to Merry Chief, a prize-winner at Sedalia. Bred to farrow early next spring. Prices right.
R. L. HILL - - Columbia, Mo.

If You Could Buy Duroc Gilts
bred deep in the blood of champions, well grown, of the right type, and bred for early spring farrow, for $30 to $35—and guaranteed, would you be interested? If you are we would be glad to hear from you. Correspondence invited.
ROCKWOOD FARM, IBERIA, MO.

Hazelwood Durocs
Seventy choice spring boars and gilts sired by HAZELWOOD CHIEF, by CRIMSON COL., and out of OHIO CHIEF bred sows. Get our prices.
E. P. POWELL & SON, Maryville, Mo.

Duroc Gilts---Bred for Spring
I now offer a choice lot of big February and March gilts sired by GOLDEN TA and bred to a grandson of COL. WONDER. Priced to sell. Extra size and bone.
J. E. McPherson, Columbia, Mo.

75 Duroc Spring Boars and Gilts
Seventy-five (75) good boars and gilts. Rich breeding, and plenty of size and bone. Pairs, trios or more. Priced to sell
J. C. Garrard & Son, McBaine, Mo.

DUROCS PRICED TO SELL
Five extra good service boars, $25 each; 20 choice gilts bred for March and April farrow, $25 each. They carry the blood of champions and will please you. All hogs guaranteed to be as represented.
BUCKEYE STOCK FARM, OLEAN, MO.

2. Walter W. Head, St. Joseph, Mo. 105 00
3. Sigel Brown, Reeds, Mo..... 102 50
4. Col. Reed, Oskaloosa, Ia..... 115 00
5. O. L. Garrett, Rea, Mo..... 100 00
6. J. A. C. Doggett, Crane, Mo.... 75 00
7. L. R. Wiley, Elmdale, Kans.... 100 00
8. E. D. Frazier, Drexel, Mo..... 125 00
9. Same 115 00
10. W. A. Hill, Grandview, Mo.... 67 00
11. W. H. Landers, Harrisonville, Mo. 85 00
12. Bridges Bros., Slater, Mo..... 127 50
13. Joe Lynch, Lee's Summit, Mo. 87 50
14. Sigel Brown, Reeds, Mo..... 122 50
15. E. Farrel, Wieser, Idaho..... 75 00
16. Walter W. Head 67 50
17. Dr. J. A. C. Doggett..... 75 00
18. Sigel Brown 275 00
19. B. B. Risk, Weston, Mo..... 72 50
20. W. H. Landers 95 00
21. J. L. Massey, Billings, Mo..... 111 00
22. B. B. Risk 87 00
23. Sigel Brown 102 50
24. Walter W. Head 80 00
25. A. P. Young, Lexington, Mo.. 70 00
26. E. B. Goodrich, Adrian..... 72 00
27. W. O. Pritchard, Walker, Mo.. 92 50
29. F. L. Martin, Walker, Mo..... 92 50
31. Walter W. Head 97 50
32. O. C. Jeter, Raymore, Mo..... 54 00
33. W. M. Bowers, Stewartsville, Mo. 95 00
34. E. D. Bracken, Adrian, Mo.... 61 00
35. W. A. Baker & Son, Butler, Mo. 92 50
36. Frank Hawman, Stewartsville, Mo. 66 00
37. Same 60 00
38. Carl Horridge, Lee's Summit, Mo. 72 00
39. Ed. Harbison, Raymore, Mo.... 61 00
40. Juster Jeter 66 00
41. Horace Mundy, Mexico, Mo.... 70 00
42. F. J. Mobley, Lee's Summit, Mo. 61 00
43. C. C. Schmidt & Son, Savannah, Mo. 55 00
44. O. C. Jeter 65 00
4. J. N. Brown, Raymore, Mo..... 55 00

ANGUS CATTLE

ChoiceAberdeen-Angus

Established 30 years. 100 head in herd. We are offering good useful Bulls and Heifers of excellent individual merit and breeding. Price reasonable. Our customers make them popular.

D. L. Sutherland & Sons, Windsor, Mo.

Aberdeen-Angus

I am offering a number of young bul,sl cows and heifers — good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.

J. D. Blackwell - Fayette, Mo.

ANGUS CATTLE

Herd founded 1904

Young stock sired by Dean's Eric 139686. Also offer splendid herd bull for sale. Every one the right kind and priced to sell.

V. E. LAWRENCE, SALISBURY, MO.

Angus Bargains

Registered bulls and heifers. The market topping kind. Leading families represented. Priced worth the money and satisfaction guaranteed.

Also Poland China Hogs.

J. M. JONES, R. F. D. 3, EVERTON, MO.

HEREFORD CATTLE

HEREFORD BULL

Splendid 3 year-old bull. A good one and a proven sire of great merit. First check for $200 gets him.

Hugh Whiteford - - Gullford, Mo.

RED POLLED

RED POLLED CATTLE

Herd established 16 Years

Young stock for sale. Young bulls sired by LOGAN 13500; Calves sired by KNOCKER 28791. Bred for milk and beef. Also offer spotted Poland China hogs and Rieds Yellow Dent seed corn.

W. L. SNYDER. - POLO, MO.

AUCTIONEERS

THOMAS E. DEEM

AUCTIONEER

Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased.

Dependable service at a reasonable charge. Address, Cameron, Mo.

NATIONAL DUROC-JERSEY RECORD Association Futurity for 1916

$400 for Spring Pigs as Follows:

Spring pigs.	1	2	3	4	5	6	7	8
Boars	$35	30	20	15	10	8	7	5
Sows	35	30	20	15	10	8	7	5
Litter of four	35	30	20	16	12	10	9	8

$50.00 trophy by Duroc Bulletin Co., for Premier Futurity Exhibitors.

The National Duroc-Jersey Record Association guarantees the above premiums and wants to promote a Futurity in every state, under the following conditions:

a. An appropriation of $100 to the Futurity Fund by the Fair Association where the show is to be held.

b. Twenty herds to be nominated in every Futurity at $5.00 each, and these nominations must be made by breeders of the state in which the futurity is held, or from adjoining states where there is no futurity show. Herd nominations close March 15, 1916.

c. A second payment of $1.00 will fall due June 1, 1916, on each litter from a nominated sow which it is desired to keep eligible in whole or in part.

d. A third of payment of $1.00 per pig will fall due on August 1, 1916, for each pig you desire to show.

e. All payments are due in cash on or before dates specified. Failure to make any payment when due forfeits all sums previously paid in and shall automatically declare any entry void and out of the Futurity.

f. All dollar payments when duly made on litters and individual pigs shall qualify each and every pig in each and every litter for exhibition in the Futurity Show. A nominator makes only as many payments as he deems advisable. There shall be no refund after an entry has been accepted as in the stakes, but nominators incur no future liability by making any payment and all nominations may be dropped at will.

g. All payments in this Futurity must be made direct to the National Duroc Jersey Record Association, Peoria, Ill.

Rules Governing the Futurity

1. Farrowing dates of spring pigs will conform with the rules of the Fair Association where Futurity is held.

2. A litter consists of four pigs of either or both sex, farrowed by one sow.

3. Should a nomination be made in a state which failed to comply with conditions to secure a Futurity, the nominator has the option of having the nomination fee returned or to continue payments for the purpose of exhibiting at a Futurity in an adjoining state. Not more than one Futurity will be provided for any state.

4. The litter payment due on June 1, 1916, must give the name and record number of the dam of each litter on which payment is made. Credit for payments will not be given unless name and record number of dam of each litter is given.

5. The individual pig payment due August 1, 1916, must give the name and record number of each pig on which payment is made. That means that each pig must be recorded before this payment is made.

6. It is understood that in order to be eligible to compete for prizes in the Futurity, each pig must be recorded not later than August 1, 1916. Registry certificate for each animal shown in a Futurity will be required.

7. An exhibitor can exhibit at only one Futurity and this must be in the Futurity in his state. Should the Futurity not fill in his state, he is permitted to show in a Futurity in an adjoining state.

8. Substitutions will not be allowed, but nominations are transferable up to and including the date of making the final litter payment to the extent that once nominated and properly transferred from owner to owner, and the payments duly kept up, any litter or any pig in any litter may be exhibited, irrespective of the number of times it may change hands.

9. Only pigs farrowed on or after the spring farrowing date adopted by the Fair Association where the Futurity is held, will be eligible to compete. Those farrowed before that date shall not be eligible.

10. Pigs nominated in the Futurity shall have the right to compete in all the regular classes to which they are eligible at the state fair where Futurity is held.

11. Judges as far as possible will be those selected to act at the fair at which the Futurity is held, but the Futurity premiums must be awarded by a Duroc-Jersey breeder, or a person directly familiar with the breed, and in all instances must be acceptable to the committee in charge of the Futurities; otherwise the committee reserves the right to place their judge in charge and place the awards in the Futurity show.

12. The Futurity show will be held before that of the regular classes.

13. Right is reserved by the National Duroc-Jersey Record Association to declare off a Futurity by reason of insufficient nomination of herds, to alter, amend and interpret these rules and conditions as it may see fit, and to make such other and further rules and regulations as may be necessary to the successful prosecution of this enterprise. In case of an insufficient entry being received and the stake being declared off in consequence, nominators will be so notified within ten days of the date of closing and nominating fees will be returned as received.

For any other information regarding the Futurity, write the National Duroc Jersey Record Association, Peoria, Ill.

Report of W. Z. Baker's Poland China Sale.

W. Z. Baker's annual sale of Poland China bred sows and gilts held at Rich Hill, Mo., February 1, opened the bred sow season, and as usually happens, the first sale was hardly up to expectations. However, the average of $36 was fairly satisfactory to Mr. Baker in view of the fact that he had listed a number of May gilts. The extreme cold weather prevailing at the time no doubt kept many local buyers away.

W. A. Baker & Son, Butler, Mo., topped the sale when they bought the show sow, Josie's Best, for $75. This same firm secured one or two other real bargains. S. E. Wait, Blue Mound, Kans., was the heaviest buyer, securing six head. Cols, Harriman and Gross conducted the sale. A partial list of the buyers follows:

No. 1. S. E. Wait, Blue Mound, Kans. $52.50
2. W. A. Baker & Son, Butler, Mo. 75.00
3. S. E. Wait 46.00
4. C. D. Smith, Lincolnberry, Mo.. 41.00
6. L. J. Petway, McKinney, Tex.. 70.00
7. W. A. Baker & Son..... 49.00
8. C. D. Smith 38.00
9. S. E. Wait 37.00
10. H. G. Requa, Butler, Mo..... 40.00
11. S. E. Wait 40.00
13. Roy Stokes, Butler, Mo..... 41.00
14. S. E. Wait 35.00
12. John Pharis, Appleton City, Mo. 42.50
15. Arthur Baker, Rich Hill, Mo.... 37.50
16. Joe Ferris, Adrian, Mo..... 36.00
17. Monroe Lasky, Butler, Mo..... 33.00
18. Arthur Baker 37.00
20. W. W. Cheverton, Rich Hill, Mo. 32.00
21. Same 31.00
22. Wm. Olive, Rich, Hill, Mo..... 33.00
23. Lee Daniels, Rich Hill, Mo ... 29.00

Lockridge Averages $43.25 on 32 Head

The second annual sale of big type Poland Chinas held by Will G. Lockridge at Fayette, Mo., Thursday, February 17, attracted a fairly representative crowd of breders and farmers and resulted in an average of $43.25 on the 32 head sold.

This offering featured the blood of Mr. Lockridge's grand champion boar, The Giant, and the get of this sire was in keen demand. Mr. Lockridge did not have his sale offering fitted quite as high as buyers usually like, and this fact no doubt caused the average to drop considerably below what was expected. H S. Williamson, the veteran breeder, topped the sale on No. 0, a substitute sow, at $160.00. Mr. Lockridge purchased his foundation herd from Mr. Williamson a good many years ago.

Col. R. L. Harriman did the selling, and much credit is due him for the success of the sale. A representative list of sales follow:

No. 1. Duglas Sallee, Wheeling, Mo.$50.00
0. H. S. Williamson, Centralia, Mo.160.00
3. J. A. P. Garrett, Enon, Mo..... 65.00
4. A. D. Patterson, Fayette, Mo... 50.00
5. O. G. Lease & Son, Centralia, Mo. 42.00
6. C. C. Smith, Savannah, Mo..... 36.00
7. Bridges Bros., Slater, Mo..... 49.00
8. F. I. Wilbur, Fayette, Mo..... 36.00
9. Geo. Crowden, Fayette, Mo..... 38.00
11. J. A. P. Garrett..... 65.00
12. Milton Williamson, Fayette, Mo. 42.00
13. A. P. Samer, Pleasant Greek, Mo. 42.00
14. S. R. Marshall, Glasgow, Mo..... 40.00
15. M. S. Thompson, Kearney, Mo... 40.00
16. E. A. McKenzie, New Franklin, Mo. 34.00
17. Will Harvey, Armstrong, Mo.... 33.00
18. E. A. McKenzie..... 30.00
19. H. S. Williamson 30.00
20. E. A. McKenzie 32.00
21. S. R. Marshall 35.00
22. Joe Sartain, Fayette, Mo..... 30.00
23½. E. A. McKenzie 35.00
24. Robert Selmeyer, Glasgow..... 39.00
26. E. A. McKenzie 35.00
27. John Aholt, Fayette, Mo..... 38.00
28. E. A. McKenzie 36.00

JERSEY CATTLE

JERSEY CATTLE

Bulls ready for service. They are sired by the Owl's Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

JERSEY BULL CALVES

I have three extra fine ones for sale. Sired by Stockwells Champion. He has won 29 first and Champion ribbons at the leading State Fairs. Calves are out of very high producing cows. For breeding, etc., writ.

J. B. SMITH Platte City, Mo.

SUNSET JERSEYS--TRIO

Two fancy heifers (both bred) and a fine bull, all of the famous Blue Belle—Golden Rosebay breeding. I will sell this trio for $250. This price cannot be equalled anywhere for such stock. Send for circular, description of herd, production etc.

The ENNIS STOCK AND DAIRY FARM, Horine Station, Mo. (Just south of St. Louis)

For Sale

A few choice Jersey bull calves sired by Kinloch Granville Lad 91520 (grandson of "Golden Fern's Lad"), and out of cows producing over 40 pounds of milk per day. While they last at $20 each.

D. V. VANDIVER, COLUMBIA, MO.

HOLSTEIN CATTLE

Dutchland Sir Hengerveld Rag Apple 99771

A few choice bull calves out of heavy producing dams sired by the above famous bull for sale.

BLACK AND WHITE FARM
Baden Station, Mo.
Tel. Colfax 1812 R. R. 30

IN MISSOURI

Eight bulls, 2 to 8 months, $100 to $175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.

S. W. COOKE & SON, MAYSVILLE, MO.

HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndyke Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

M. E. MOORE & CO., Cameron, Mo.

HOLSTEINS

Bought for you on small commission. What do you want? Price low. Feed short.

H. T. Hook, Janesville, Wis.
(Formerly of Columbia, Mo.)

HAMPSHIRES

BROOKVIEW HAMPSHIRES

Herd headed by GEN. TIPTON and SIR BROOKVIEW, both grand champions. Spring boars and gilts of choice breeding and individuality. Prices reasonable.

ISOM J. MARTIN, R 5 Lancaster, Mo.

BERKSHIRE HOGS

Big Type Berkshires

Choice Berkshire breeding stock sired by grand champion boars of Illinois and Missouri state fairs. Also S. C. Black Minorca chickens. Prices reasonable.

J. V. FISH, Route 7 BOLIVAR, MO.

FINE SEED CORN

Yellow Corn: Reid's Yellow Dent, Shenandoah and Gold Mine crossed, Berry's Perfection, Funk's 90-Day Yellow. 90-day White Cap Dent. White Corn: Boone County White, Johnson County White, St. Charles White, Iowa Silver Mine. Prices per bushel, F. O. B. Skidmore. Butted and tipped by hand, graded and tested, $2.50; over ten bushels $2.40; 20 bushel lots $2.30. Sacks free. Crated ear corn, $5 per bu.; 5 bushels or more $4 per bu.

Winnings: 1904, First on best six varieties in entire show at World's Fair held at St. Louis in 1904. Prize gold medal. 1913, First on 10 ears yellow at Maryville, State Show; grand shampion ten ears in young men's class. 1915, First and second a Missouri State Corn Show.

A. F. Howden, Skidmore, Mo.

MOLASSES Richest Feed Lowest Cost
St. Louis Molasses Co., Dept. MF.,

Breeders' Aberdeen-Angus Cattle Auctions

115 Head of High-Class Bulls, Cows and Heifers

85 Desirable Females--30 Outstanding Bulls

National Stock Yards Pavilion, Barn 5, East St. Louis, Ill.

Two great sales of highly-bred and desirable Angus Cattle. A great opportunity for all classes of buyers to supply their wants. Cattle that will suit the exacting taste of the breeder in search of the best stock available, or the farmer, or southern or western buyer who desires to raise the highest priced beef the world affords.

Wednesday, March 15th

at the above place **59 head,** consisting of **20 bulls and 39 females, from the herds of the following well known breeders: Stanley R. Pierce, A. A. Armstrong, S. Melvin, J. Garrett Tolen, A. Middleton** and the **University of Illinois,** will be offered. The offering represents such fashionable families as **Blackbirds, Trojan Ericas, Pride of Aberdeen, Queen Mother, Zara, Barbara** and other popular tribes. Never before in the history of the breed have so many high-class bulls been offered at this market. Every one is of serviceable age and many are top-notch herd-headers. Every one has much to recommend him as an eye-opener. Among the **39 cows** to sell are many splendid individuals, richly bred and of superior quality. Many have calves at foot, the others sell bred. Some are near calving. You will find plenty of show prospects awaiting your inspection.

Thursday, March 16th

Durrstine Bros., Scale Mound, Ill., will disperse their noted herd of Aberdeen-Angus cattle, consisting of **57 head—10 bulls and 47 females**—at the National Pavilion. Every animal in this herd, except one, has been bred and developed by Durrstine Bros., a record seldom equaled. The entire herd of 57 head has been produced from the **three cows they began with.** The offering is in the very pink of condition and buyers will not be disappointed. The following popular families are represented: **Westertown Rose, Westside Grace** and **Mina.** There will only be 10 bulls, all of serviceable age. A specially attractive bull to sell is the herd bull **Ernie 2nd of Greenwood,** a three-year-old Trojan Erica that weighs above a ton. He is a show bull of the first water and his get show him to be a great sire. Many of the cows are in calf to him. Some fine show heifers are in this consignment.

If you are in the market for some good Angus Cattle plan to attend these two sales and secure some of the bargains. For catalog and further information address,

M. A. JUDY, Sales Manager

817 Exchange Ave.
Chicago, Ill.

COL. SILAS IGO, Auctioneer

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And ending with the last brushful of paint, there is not a questionable item to be found in any engine that the Nichols & Shepard Company build. Everything is of the best.

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Is the unfailing result of this method. When we say that it IS good we are backed by the openly expressed opinion of thousands of users who know in every detail what a good traction engine should be.

THE USER IS SATISFIED

That every convenience, that every economy of operation, that every safety device that is necessary or practical will be found right where it belongs on a—

RED RIVER SPECIAL ENGINE

Five sizes and sixteen variations are built, ranging from 13-40 to 30-98 H. P. Wood, coal or straw may be used for fuel, the engine may be had in single or double cylinder, the mounting may be center or rear. No matter what your needs may be for agricultural traction power we make an engine that will fill the bill.

Send for a copy of the Home Edition of the Red River Special paper. You will find that someone in your immediate vicinity has tried with success a Nichols & Shepard Co. traction engine on every kind of work that a tractor can do. They have been pleased with the results and have written us to tell just how well it performed. There is a lot of experience condensed in these letters that may be useful to you. Ask for a Big Catalog at the same time. It illustrates and describes the power that will haul the mortgage off the farm.

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BUILDERS *EXCLUSIVELY* OF

THRESHING MACHINERY

Red River Special Threshers, Feeders, Wind Stackers
Steam and Oil-Gas Traction Engines

(8) BATTLE CREEK, - MICHIGAN

Please read every word of the article, "It's Up to You," in this issue. It vitally concerns the future of The Missouri Farmer.

Baker & Son Hold Successful Sale

W. A. Baker & Son, Butler, Mo., added another successful sale to their list when on February 18 they sold about forty head of Poland China bred sows and gilts for an average of near $50.00. This firm has been before the public so long that their annual sales are always looked forward to with a great deal of interest by breeders and farmers of Southwest Missouri and each year sees a widening circle of buyers. The top of the sale was $160, that price being paid by E. W. Thompson, Maysville, Mo., for the splendid yearling show gilt, Lady B. Dr. Daggett, Crane, Mo.,, was a good buyer of the choicer lots. Walter W. Head, St. Joseph, Mo., who is founding such a high class herd, was also a good buyer. E. D. Frazier, Drexel, Mo., paid $105 for a spring yearling, No. 7, in the catalog.

Col. R. L. Harriman did exceptional work on the block and was given splendid support by Col. Robbins in the ring.

No. 1,	E. W. Thompson, Maysville, Mo.	$160.00
No. 4,	C. Z. Baker, Butler, Mo.	70.00
No. 5,	Henry Roethemeyer, Hoberg, Mo.	40.00
No. 6.	Chas. Argenbright, Butler, Mo.	60.00
No. 7,	E. D. Frazier, Drexl, Mo.	105.00
No. 8,	L. S. Paddock, Amoret, Mo.	47.00
No. 9,	William Craft, Butler, Mo.	41.00
No. 10,	James Hilton, Rich Hill, Mo.	48.00
No. 11,	C. W. Smith, Niaugua, Mo.	41.00
No. 12,	C. Z. Baker, Butler, Mo.	50.00
No. 13.	E. L. Deter, Maysville, Mo.	44.00
No. 14,	R. C. Marriat, Pleasant Hill, Mo.	38.00
No. 15.	John Armstrong, Butler Mo.	55.00
No. 16,	Henry Roethemeyer	38.00
No. 18,	C. Z. Baker	50.00
No. 19,	C. W. Smith	47.00
No. 20,	E. D. Frazier	49.00
No. 21,	Paul Baker, Rich Hill, Mo.	41.00
No. 22,	William Craft	42.00
No. 23,	Dr. J. A. C. Daggett, Crane, Mo.	50.00
No. 24,	L. D. Meador, La Russell, Mo.	52.00
No. 25,	L. G. Adams, Hoberg, Mo.	52.00
No. 26,	L. D. Meador	50.00
No. 27,	Belcher & Bennett Bros., Lee's Summit, Mo.	52.00
No. 29,	Walter W. Head, St. Joseph, mo.	86.00
No. 31,	W. E. Willey, Steele City, Neb.	48.00
No. 32,	Lee Daniels, Rich Hill, Mo.	35.00
No. 34,	Fred Brayton, Butler, Mo.	23.00
No. 36,	Harry Girard, Butler, Mo.	25.00
No. 44,	E. L. Deter	35.00
No. 47,	Frank Brummett, Carthage, Mo.	32.50

Durocs Sell Well at Maryville

An average of $37 was made on 42 head of Duroc bred sows and gilts at the Dowden & Partridge sale at Maryville, Mo., February 11. While the average does not represent the real merits of the offering, Messrs. Dowden & Partridge were not discouraged. Better conditions would have meant an increase in the average. Local support was splendid at this sale, and this is a branch of the sale business upon which hinges the success or failure of any sale. Charles May, Roca, Neb., bought the top sow of the sale at $65 and she was undoubtedly a bargain.

The fact that this herd is nominated in the Missouri Duroc Futurity for 1916 proved a good advertisement for them.

Col. W. M. Putnam, Tecumseh, Neb., sold the entire offering and worked hard. The fieldmen and Col. Hosmer, the local auctioneer, kept the crowd bidding promptly. The weather was bad. Following is a detailed report of the sales:

No. 1,	Chas. May, Roca, Neb.	$65.00
No. 2,	M. R. Hiles, Burlington Junction, Mo.	56.00
No. 3,	C. W. Hillsenbeck, Maryville, Mo.	45.00
No. 4,	Gale Thornton, Graham, Mo.	51.00
No. 5,	Hillsenbeck	45.00
No. 6,	R. L. Hurst, Bolckow, Mo.	40.00
No. 7,	Thornton	51.00
No. 8,	Ollie Davis, Guilford, Mo.	39.00
No. 9,	Same	45.00
No. 10,	J. A. Dugan, Coin, Iowa	42.00
No. 11,	Day & Welch, Hepburn, Iowa	44.00
No. 12,	Ed. Myers, Maryville	37.00
No. 13,	Ollie Davis	39.00
No. 14,	Ed. Myers	35.00
No. 15,	G. T. Dickerson, Maryville	45.00
No. 16,	Davis	37.00
No. 17,	Ben Bellows, Maryville	36.00
No. 18,	O. D. Walker, Maryville	39.00
No. 19,	Bellows	36.00
No. 20,	J. M. Henderson, Barnard	30.00
No. 21,	Same	34.00
No. 22,	M. R. Hiles	38.00
No. 23,	John Deardorff, Hickory, Mo.	31.00
No. 24,	Same	31.00

NEW CROP, WESTERN GROWN, UPLAND

ALFALFA TESTED FOR PURITY

At special bargain prices. Write for samples, price list, and illustrated circulars telling how to grow and use the crop.

SWEET CLOVER WHITE OR YELLOW

Of excellent purity and quality. Samples, circular of information and Red Ink Bargain Price List FREE.

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FOR SALE—Barred Rock Cockerels. High class fellows with great size. $2 to $5 each. Obadiah Prettyman, Fairfax, Mo.

EGGS—Pure S. C. Buff Orpington Eggs from vigorous, extra heavy stock, $1.50 per setting of 15. Pure S. C. Ancona Eggs from Mountain Grove trap nested birds. $1.50 for setting of 15. F. A. Henninger, Columbia, Mo.

BARRED PLYMOUTH ROCK EGGS for hatching, from extra choice, large farm raised stock. Deep clear barring, and free from smutty or brassy color. Big yellow legs and proper shape, Price of eggs, $1 per 15; $2.50 per 45; $5 per 100.

SEED SWEET POTATOES—Improved Red Nausemond and Yellow Jersey. Pure stock; select seed. Get the best. Bushel $1.00; barrel $2.50. Geo. J. Meister, Affton, Mo. 3-1-2t

M. D. PORTER, VANDALIA, MO.
FOR SALE—Pure Pearley's Mongal Soy Beans, $3.00 per bu. Sacks furnished. L. G. Snyder, LaMonte, Pettis Co., Mo.

WHITE ORPINGTONS—Eggs $3.00 per 15; utility eggs 80c per 15, $4.50 per 100. Otto W. Oetting, Concordia, Mo.

THOROUGHBRED S. C. REDS—Bred for eggs and standard points; deep red, healthy, fine males. Eggs 15 for 75c, 105 for $4.00. Mrs. Geo. Gerhart, Glensted, Mo. 3-1-5t

BARRED ROCKS—Eggs from big, vigorous stock that will give you some prize winners at $1.00 per setting. Exhibition mating, $2.50 per setting. Mrs. Wm. Heinman, Salisbury, Mo. 3-1-6t

S. C. BROWN LEGHORN EGGS—$1.50 for 30, 4.00 for 100. Also some fine stock. John H. Plassmeyer, Westphalia, Mo. 3-1-4t

R. C. R. I. REDS—Famous Kaufmann & Windheim strain; none better. Keep up with the best stock. Pen eggs $3.00 per setting; range $1.00 per 15, $5.00 per 100. Am booking orders. W. B. Elley, R. 2, Columbia, Mo. 3-1-6t

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE MISSOURI FARMER

COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE AND THE MISSOURI EXPERIMENTAL STATION

Red Lights

Some time ago I happened to be changing trains at a little station in central Missouri when one of the loungers suddenly greeted a newcomer by saying, "Hello, Sheriff! What's up?" "Oh, there's been a killin' up the road and I am after the feller that done it," dryly answered the sheriff. "You don't say," remarked the other, in some degree of astonishment —and then he added, "Well, I don't believe I'd want your job because things like that would get on my nerves." "No use lettin' 'em git on your nerves," replied the sheriff, as he slowly filled his pipe. "A sheriff's got to figger that there's goin' to be a certain number of killin's—so there ain't any use in gettin' excited about it"—and with that the subject was changed to the various county candidates and the probable winners in the primaries.

I have thought over the Sheriff's words a number of times since then—the proposition that there must be "a certain number of killin's"—and that there wasn't any use in getting "excited" about it, etc. That his philosophy is true, of course, there is no question—for, from the first gray dawn down to the present hour there has been crime and so I guess there will continue to be until the great Trumpet blows on the Judgment Day. And yet, what a sinister prophesy in these laconic words of the Sheriff? If there must continue to be a certain number of killings, then, likewise, it means that a certain number of men who are at this hour at peace with the World and who are not afraid to look their friends and the law boldly in the face will, at some time in the not distant future, be brought within the shadow of the awful and terrible crime of murder, either as its victims or its perpetrators—and it is in the hope that the significance of such a dread possibility may be impressed upon those who read these lines that I refer to it on this page, which I so much prefer to devote to the bright and beautiful things of life rather than to its sorrows and shadows.

Do you know, my friend, that ninety-nine out of every hundred murders wouldn't happen if, within thirty minutes after they have occurred, the men responsible for them could retrace their steps? Look at the haggard face of the "prisoner at the bar" in any crowded court room—or look into the dull eyes of the convict in his prison garb—deprived of liberty, family and friends—and draw your own conclusions. And then, think of the heartbroken mothers, fathers, wives, sisters, brothers and little children who are often compelled to bear the sorrow and disgrace to the end of their lives? And how trivial are the causes which usually lead to this awful crime. A fancied insult, a dispute over a few paltry dollars, or a wrath which leaps like a wild beast from the bottom of the cup that cheers—and the terrible thing is done and all the tears and vain regrets of the years that follow can never wipe out the red stain which a moment of unreasoning anger brought into being.

So, my friend, if you are nursing a secret grudge against somebody, think it over and resolve to get it "out of your system" at the first opportunity. Go to him with a smile and say, "Let's be friends and start over again." Hold out your big, warm hand and make him shake it—and if you will do this and really mean it, it doesn't matter how much poison may be lurking in his heart, he will surrender. What difference does it make, even though you know you are in the right? Isn't it better to meet him more than half way rather than nurse a smouldering hate which may suddenly blaze forth in red anger and ruin the life of yourself and your loved ones? If every man in this great state of ours who is treading the path of danger at this moment would fight it out with himself in this way we could disprove the logic of the Sheriff that there must be a "certain number of killin's"—and think of the anguish and the tears and the heartaches which would thus be spared? Every path of danger in this World has its "red light" signals—but too often we refuse to see them until it is forever too late.

—By the Author of After-Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

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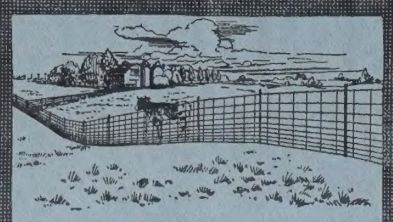
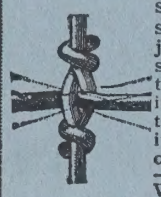
WILLIAM HIRTH
PUBLISHER



Save Hard Work —Get Better Looking Fence

THE swinging joint makes Apex Fence flexible—self-adjusting to hills and hollows. Easy to set up. No bagging or sagging — doubly strong at every joint — strains and shocks evenly distributed — rigid, reinforced construction keeps the fence in shape. Made of open hearth steel wire — heavily galvanized. Write for booklet.



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When You Use
Apex Steel Drive Posts

Just think what this saves you! Drive the posts without leaving your wagon. Save on hauling and handling — save 8 to 10 cents a post in setting. Drive Apex Posts in any soil, gravel or soft shale. Made of elastic carbon angle steel—tough and strong—can't be injured. Last for generations—do not bend, break, rot or burn.

Write for the **"Apex Way"** booklet and see how you can save a lot of work, time and money and have better fencing on your farm.

Janesville Barb Wire Co.
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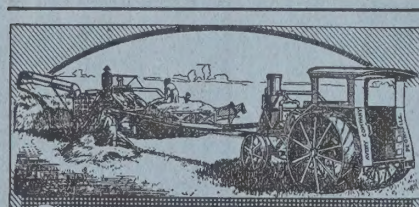

NOW! A Combination Plowing and Threshing Outfit—

Any Size You Want

THERE are five sizes of Avery Combination Plowing and Threshing Outfits—a small 8-16 H. P. Tractor, 3 bottom Plow and 19x30 inch Thresher up to a large 40-80 H. P. Tractor, 10 bottom Plow and 42 x 70 inch Thresher.

There's a size Avery Plow Outfit for any size farm and a size Avery Thresher for any size run.

Avery Tractors deliver strong traction power for plowing and steady belt power for threshing. Avery Plows are original patented "Self-Lift." There are more acres plowed by Avery Tractors and Plows than by any other make. Avery Threshers have made the best proven grain saving records. Average in 27 tests was 99 9-10 per cent.

Get a complete Plowing and Threshing Outfit built and backed by one company. Large factory and many branch houses insure prompt and permanent service. Write now for new 1916 complete Avery Catalog. Address

AVERY COMPANY
1367 Iowa Street PEORIA, ILL.

Ask for address of the nearest Branch House or Jobber.

AVERY
"One Man Outfits 6 Sizes Fit Any Size Farm"

12½¢ ·ECONOMY· FENCE

Before you buy any more fence, write for facts about our **26-inch ECONOMY HOG FENCE** at 12½c. per rod. Many other styles and prices.

Keystone Steel & Wire Co.,
5878 Industrial St. PEORIA, ILL.

SUDAN GRASS IN MISSOURI

Tests of Sudan grass by the Missouri Agricultural Experiment Station during the last two years indicate that this new crop will be of value to Missouri farmers especially in the southern part of the state. Seed may be secured from any reliable seedsman but it is well to take the precaution of buying northern grown seed so as to avoid the possibility of introducing Johnson grass.

Sudan grass is a tall, rank growing, annual grass closely related to the cultivated sorghums and resembling Johnson grass. It differs from Johnson grass, however, in not possessing the heavy root stocks or underground stems which make Johnson grass so difficult to eradicate in those regions which are well suited for its production. The plants average from 3 to 5 feet in height when drilled or broadcasted and have stems a little larger than a lead pencil. If grown in rows and cultivated, it reaches a height of from 6 to 9 feet on good soil with a corresponding increase in the size of the stems. When planted thinly it stools very freely, sometimes producing as many as 100 stems from one crown.

Like the other sorghums, Sudan grass does best in a warm climate. It should not be planted until all danger of frost is past and the ground thoroly warmed. It is decidely drought resistant, which makes it well suited for the semi-arid regions of the southwest. It is also being grown with success in the more humid regions but it has not attracted as much attention there as in the drier sections where there are not so many other good hay plants. Two cuttings are usually made and under very favorable conditions sometimes three or four. It has rather wide adaptions as regards soil, growing successfully on almost every soil from a heavy clay to a light sand. It does best on a rich, well drained loam.

Two methods of seeding are practiced, broadcasting or drilling solid, or drilling in rows to be cultivated. An ordinary grain drill may be used and the seed covered from one-half to one inch deep. Where drilled in rows a sufficient number of the holes are stopped up to put the rows the proper distance apart. Where an ordinary corn cultivator is to be used, the rows should be from 36 to 42 inches apart. Where seeded broadcast from 20 to 25 pounds of seed to the acre are required, while seeding with a drill requires about five pounds less. If seeded in rows 4 to 5 pounds is sufficient.

It is customary to cut it for hay just after full bloom and to cure in light windrows and small cocks. It may also be harvested with a binder and cured in shocks. Where grown for seed it is usually harvested with a grain binder when the first heads are fully ripe.

In Missouri, Sudan grass should be considered a hay grass of much the same use on the general farm as millet.

It will generally give two cuttings and will yield from two to four tons of good hay. In feeding value it is similar to timothy hay, millet and Johnson grass.

J. C. Hackleman,
Missour College of Agriculture.

FAVORS A COOPERATIVE PACKING PLANT

To The Missouri Farmer:

I am so much delighted with your plan for the farmers to organize a cooperative packing plant and to sell direct to the consumer that I thought I must write and encourage you to go ahead with your fight. It is the duty of every farmer as well as the consumer to give you his support in this matter.

I think your plan the most reasonable of any I have seen. It will be hard to get the farmers of the state to hold together long enough to win the fight but as soon as they begin to see what a benefit it will be to them they will forget their differences and hold on in a true cooperative spirit. If the plan is carried out successfully it seems to me that everybody would be benefited by it unless it be the packers and the butchers. One advantage in the business getting under the cooperative control of farmers would be a more uniform price for meat animals and less uncertainty in the risk of raising and fattening hogs and cattle. The way it is now we can not tell when we start feeding an animal whether it is going to be a gain or a loss by the time it is finished for market. There is no question but what the packers bear the market just at the time when most of the hogs and cattle are ready to go and the farmer can not help himself for it is very expensive to held stock long after they are finished. And anyway, the farmer has his obligations to meet regardless of price and he can do nothing but sell at the price offered.

The control of markets by others I think is the one great cause why so many farmers have been losing money and why so many are going to town. When we are organized and get a stable market I believe you will see conditions improve so that these men will flock back to the farms faster than they left them. Why should not farmers know something about the prices they are to expect for the stuff they produce and why should they not have a right to demand a certain profit each year just as the merchant does? As it is now one kind of stock is high one year and some other kind high the next year and this keeps the farmer guessing and changing methods of farming and I think is a reason often for the farm being sold under mortgage. City people blame the farmers for the big prices to them of farm raised products but if they could know on the other hand just what the farmer has received for these same products and if they could furthermore, be made to understand that the farmer is working on small profits and oftentimes for no profit at all—even at a loss—and that the average farmer must be both frugal and sikllful to make a living, then I think the city man would acknowledge the just cause of the farmer.

I appreciate the fight The Missouri Farmer is making in our behalf and think we farmers should take a pride in supporting it and I truly hope some such plan as the paper is working for may be carried into successful operation in the near future.

H. A. Steinhoff,
R. 1. Cape Girardeau, Mo.

I Will Tell You How to Make Poultry Healthy, Make Hens Lay, Make Chicks Grow

Now that mating time has arrived, it's up to you to see that your poultry get a tonic and internal antiseptics to make them vigorous and free of disease. *Therefore, feed Pan-a-ce-a.*

In that condition your hens will lay better, you will get more healthy, fertile eggs and the chicks will stand a better show of reaching maturity. *Therefore, feed Pan-a-ce-a.*

And, before the hatches come, I want to warn against gapes, leg weakness and indigestion, for these ailments are responsible for half the baby-chick losses. *Therefore, feed Pan-a-ce-a*—it will save you these losses.

My Guarantee
So sure am I that Dr. Hess Poultry Pan-a-ce-a will help make your poultry healthy, help make your hens lay and your chicks grow that I have told my dealer in your town to supply you on condition that if Pan-a-ce-a does not do as I claim, return the empty package and get your money back.

Dr. Hess Poultry PAN-A-CE-A

It's a Tonic—Not a Stimulant

Here are a few of the valuable ingredients in Pan-a-ce-a to meet the requirements of your poultry which I have just stated: *Nux Vomica*, a nerve tonic; *Carbonate of Lime*, a shell former; *Hyposulphite of Soda*, an internal antiseptic; *Quassia*, an appetizer; *Iron*, to enrich the blood, and other valuable ingredients, all well known and recommended by the highest medical and veterinary authorities.

Perhaps the strongest argument in favor of Pan-a-ce-a is the fact that it has been on the market for 22 years and is growing in favor each year. Read the guarantee in the right-hand panel—that is your protection. There is a Dr. Hess dealer in your town, a man whom you know, a man who stands back of my guarantee and will return your money if Pan-a-ce-a fails to make good. 1½ lbs. 25c; 5 lbs. 60c; 25-lb. pail, $2.50 (except in Canada and the far West).

DR. HESS & CLARK, Ashland, Ohio

Dr. Hess Stock Tonic
25-lb. pail, $1.60; 100-lb. sack, $5.00
Why pay the peddler twice my price?

Your stock need this tonic now to harden and condition them after the confined heavy feeding of winter. There's nothing better to put horses in trim for hard spring and summer work. Milch cows need it just now to prepare them for the heavy milking season ahead. Dr. Hess Stock Tonic makes all stock healthy, keeps them toned up and expels worms. Sold under money-back guarantee. 25-lb. pail, $1.60; 100-lb. sack, $5.00; smaller packages as low as 50c (except in Canada, the far West and the South). Send 2c for my *new* free Stock Tonic book.

Dr. Hess Instant Louse Killer

Killslice on poultry and all farm stock. Dust the hens and sprinkle it in the nests, or, if your fowl are provided with a dust bath, sprinkle Instant Louse Killer in the dust bath every other week—the hens will do the rest. Also destroys bugs on cucumber, squash and melon vines, slugs on rose bushes, etc. Comes in handy, sifting-top cans. 1 lb. 25c; 3-lb. can 60c (except in Canada and the far West). I guarantee it.

Gilbert Hess M.D., D.V.S.

FREE
If you have a sick or injured animal, write Dr. Hess, tell symptoms, enclose 2c stamp for reply, and he will send you a prescription and letter of advice free of charge.

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To almost any problem that arises on your farm.

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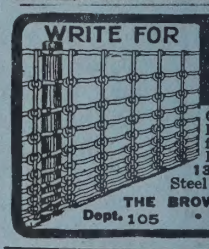

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Dept. 105 • • • Cleveland, Ohio

$210 GIVEN AWAY Send us this ad for full particulars and Moberly Commercial College, Moberly, Mo. free catalog.

Going to Need a New Plow?

If so, ask the Parlin-Orendorff Co. of Canton, Ill., to send you their catalogue on the improved plows and disc harrows which they are offering to farmers.

The Missouri Farmer

'OLUME VIII | MARCH 15, 1916 | NUMBER 6

The War and The Farmer

By William Hirth, Publisher

That the great European war means at we are living in a different world om the one which we knew prior to ugust, 1914, is apparent to every inking man and the time has come re in the United States when this ct should sink deeply into the public nscience. In saying this I mean not erely that the world's territorial and onomic map will be changed across e seas—but that here at home the merican farmer and business man ill have to face new and strange contions to which they cannot too soon ljust themselves—for upon the mander in which we meet these changed tuations will depend very largely the ture well being of our agricultural d industrial classes.

And this is true regardless of whether the final victory in the bloody ama rests with the Allies or with e Central Powers. From time of ind, England, Germany, France and ussia have been our best customers. hey have annually bought hundreds millions of dollars worth of our surus wheat, cotton, beef and pork and her farm products as well as hunreds of millions of dollars worth of e output of our factories—and staging as they will be when the carnge ends under a war debt without recedent in history, two things in my dgment are assured: First, that ice peace comes they will resolve to y as little as possible outside their vn countries and secondly, to sell as uch as they can to the balance of e world—for only in this way, rough favorable trade balances, will ey see any chance of gradually unading the tremendous debts which ey have incurred.

Our Good Fortune Temporary

That for the time being the war has ought a degree of prosperity to the S. is true—and yet in my judgment has not been a healthful kind of osperity nor is it in any sense peranent. To begin with, the lions are of it has gone to the manufacrers of war munitions who have ofited to the extent of hundreds of illions and about the only benefit hich has accrued to the general pubc in this connection is that it has ven employment to many thousands laboring men. The railroads too ve derived increased revenues from uling these munitions and to this is iefly due the increased earnings hich many lines—especially those in e East—have shown during recent onths. Again, at the beginning of e war, European investors owned mewhere between two and three bilon dollars worth of American bonds d securities and with a balance of ade in our favor amounting to more an a billion dollars—and with loans r almost as much more having been being floated in this country—it eans that Europe is squaring or will uare these accounts largely by reirning to us these foreign held bonds and securities and thus we will emerge from the final conflict with the satisfaction of knowing that we have very largely, if not altogether, wiped out our debt to the European money lenders. But this benefit is only National or general. If, for instance, the American farmer who is responsible for the lions share of the great balance of trade which has resulted in our favor, had received his just share of profit on the things he furnished to the European armies the situation would be much more wholesome—but instead of this being true the manipulators of market conditions have robbed him unmercifully and compelled him not only to lose heavily upon his cattle and hogs but even his wheat and cotton have paid heavy tribute to a gang of conspirators who saw their opportunity and hastened to make the most of it.

As To The Future

Now what is likely to happen in the future? As we have already said the policy of the European nations after the war will be to buy as little and sell as much as possible to the balance of the world in order to rehabilitate their depleted finances. If this supposition is correct, then it means that the American manufacturer will face the hardest competition he has ever known in fighting for his share of the worlds trade while it means on the other hand that the people of the stricken nations will try as never before to subsist on the fruits of their own fields—and this is certain to bring about a greatly decreased demand for surplus American wheat, beef, pork and other export farm commodities. In rebuilding her railroads, canals, etc., and the other havoc wrought by the war, Europe may have to patronize our steel mills—but rest assured that through the forced economy imposed by the tremendous sacrifices which the rich and poor have already made and in order to pay the heavy taxes which are inevitable in the future for many years to come, the breakfast and dinner tables of European families are going to be a more frugal affair than Europe has known in many a year—and I shall be agreeably surprised if this does not mean an enormously diminished demand for the wholesome products of the American farmer. In short, the forced expenses of the war have crippled the buying power of these nations for years to come and we cannot expect to escape our share of the depression which is certain to follow—and the sooner the American farmer and manufacturer realize this fact the sooner they will be in position to shift their sails to the wind—once the war is at an end and we find ourselves face to face with the new conditions. Had the farmer received for his surplus beef, pork, wheat and cotton what he was justly entitled to since the war began he would be in better position to stand the period of readjustment which is certain to come—but instead, he faces the future in a condition of weakness which has never been more acute than at this hour.

The Remedy Ahead

If I am correct in this analysis, then how should we trim our sails for the future? Here at home we must build up factories which will be more able than ever before to meet the competition of Germany and England in the world markets. We must stop shipping raw materials to Europe and manufacture them into finished product ourselves—for only in this way will we be able to hold the "whip hand" in the fight for world commerce. Why should we sell the raw cotton to England and Germany and then later on buy back from them the finished cloth? It has always been a stupid policy and one which has reflected no credit upon our boasted Yankee shrewdness. Once the war is over, Europe will be in the market for raw materials—for not producing enough of them herself her only chance will be to buy them elsewhere and once finished, sell them wherever opportunity offers. In short, we must try to build up here in the United States our increased industrial activity which will bring in its wake an increased demand for our farm products and thus, by this means, enable the farmer to sell at home a large part of the surplus which has been going to Europe—and only by so strengthening an increased industrial activity which man who wants to work will have a job can this be done and only by a larger conversion of our raw materials into the finished product will this opportunity be offered. If our Captains of industry would watch the antics of war stocks in Wall Street less and study the horizon of the future more we would the sooner arrive at a solution of the grave problems which confront us.

The Farmers Chief Problem

But while the chiefs in our industrial world are facing the greatest test of acumen which they have ever undergone and while an increased demand for the home consumption of farm products will largely depend upon how these men meet the coming crisis, yet the farmer likewise has the greatest task of his career ahead of him—and never was it so important that he realize this great truth as to day. First, and above everything else, there must be an end of the "hit or miss," "go it alone policy." In the struggles of the future it will be more necessary than ever before that farmers shall reseue themselves from market conditions in which a gang of manipulators can fix the price of farm products—and as we have pointed out time and again in recent months. this gigantic task can be accomplished only through farm organization which reach from the school district up to the county, state and finally the Nation. Are we equal to the task? Up-

JUST A THOUGHT

In order to inspire better farming methods, why should we not bring into being a "Roll of Honor" among farmers? Why not get up what might be termed the "Ten Commandments" of Better Farming and then let those who faithfully subscribe to and carry out these commandments organize themselves into a sort of society and by their precept and example stimulate others to do likewise in their communities? Suppose, that among other things, a farmer seeking membership in this society would agree to do certain things to improve his soil each year—to use none but pure bred sires—to permit no piece of machinery to remain from under shelter while not in use—to practice strict quarantine against hog cholera or any other contagious live stock disease on his premises—to spray his orchard if he has one—to feed balanced rations to his live stock—to grow at least a small patch of Alfalfa if he has suitable soil—to give his buildings a new coat of paint at least once every five years and to supply his home with such household conveniences as his means permit?

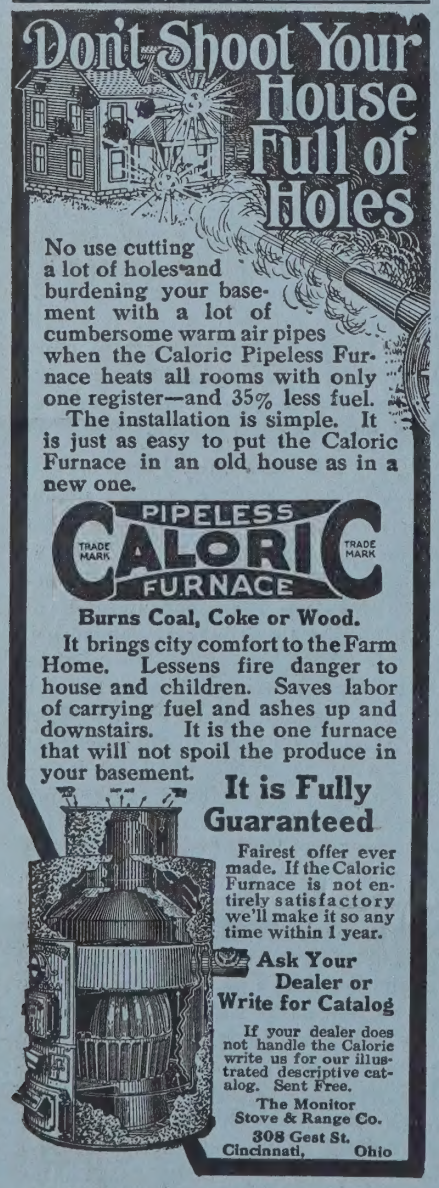
The above are merely some of the things which I think should be included in the "Commandments" and I believe that once each year every member should be required to furnish a written report to the Secretary of the Society and that his continued membership should be conditioned upon his performance. I think every member should have a "red barn"—a big one if possible—but red in any event and that on the side or end of it there should be painted a neat "official emblem" showing that he belongs to the "Roll of Honor." Don't you think that if farmers agreed to live up to such a "Confession of Faith" their farms would soon become marked in every community? Don't you think people would soon get so they would count these "Roll of Honor" farms as they looked out of the train windows? Back of my thought is the longing to put a little more "pride" back of the farm—to arouse a little more enthusiasm and to introduce a little more wholesome rivalry among farmers themselves. In any event, I will be glad to hear what our readers think of it.

The Publisher.

on this every thing depends. When we are able to compel a fair price for what we produce—when we distribute among the over six million farmers in the country the hundreds of millions of tribute which now go into the pockets of the few—here and here alone leads the path of deliverance from bondage and from this source alone must come the strength which will enable us to hold our own against the new conditions to which all signs point so unmistakably at this time.

Better Farming Methods

In the meantime, much as farm organization is the overshadowing question of the hour, we must never forget that the time will never come when better farming methods will not deserve to be an indispensable part of the creed of every thinking farmer. If we have been lax in farm organization we have been equally lax in the application of those improved methods which will cheapen the cost of production. It is of tremendous importance to compel a "square deal" in the market place—but it is of equal importance to fight the battles of the fields and feed lots intelligently and we therefore hope that the slogan of the hundreds of Farmer Clubs which are now forming throughout Missouri may be "Honest Markets" and "Better Farming"—for the two are of equal importance and deserve to be kept constantly in view. Even as the American manufacturer will face a fiercer competition in the world markets than ever before, so the American farmer, too, will have to face an European farmer determined not only to supply the needs of his own country from this time forward but to have something left for export. In this test of strength economy of production must be a vital factor in our calculations. In short, we have at last reached a point where in meeting the crisis which confronts the American farmer from numerous angles, makes the hap hazard policies of the past suicidal. At last we are face to face with conditions which it will require brains as well as muscle to solve. In some future article I trust to be able to touch upon the importance of an adequate merchant marine—for the time has come when we must have American ships in which to ship American products and goods—when we shall no longer be at the mercy of foreign ship owners who have the power to discriminate against us as their own selfish interests direct.



A BETTER SYSTEM OF MARKETING IS NEEDED

It is a common notion that the farms in this country are growing smaller, but the fact is they are getting larger on the average in the United States. The tendency is toward a more extensive system of farming and the increased use of labor saving machinery. Intensive agriculture on some of the poorer soils of New England and in the Atlantic States is giving way to extensive agriculture. According to the report of the government commission, four men are now producing on the farm with machinery what it formerly required fourteen to produce.

Along with the increase in the size of farms and the use of machinery, has come an increase in tenantcy. More and more the best lands are being purchased by capitalists and tilled by tenants. No one can tell, of course, how far this may go.

With agricultural lands capitalized at from three to five per cent and with money commanding from six to eight per cent, the natural tendency is for the best land to get into the hands of the capitalists. Good agricultural lands have always been considered the safest form of investment and on this account they always have been capitalized on a very low rate of return.

A Lesson from Denmark

A generation ago the farmers of Denmark were largely tenants. The government found it necessary and still considers it good policy to lend its credit at a very low rate of interest, and with long deferred payments, to the small farmer to enable him to buy land. As a result nearly nine out of every ten Danish farmers own the land they till, while in this new country of ours, with Uncle Sam still giving away land, four out of every ten American farmers are tenants. Recently Great Britain entered upon the policy of taxing the absentee landlord out of existence and lending government credit to the Irish peasant to buy a farm. Under this system Ireland again is taking her place among the prosperous and progressive people of the world.

It may be that we are not at the beginning of any such a system of landlordism and tenantcy as has been the curse of many older countries, but everything indicates that we are. Shall we have the foresight to establish better systems of rural banking and rural credits than we now have and better systems of marketing and distributing the material produced on the farm, and in this way stop the growth of monopoly in agricultural lands? Or, shall we let the system develop naturally as it has in Europe and later be forced to resort to the methods adopted by European governments?

At St. Joseph, Missouri, recently there was a movement among the business men to extend credit to young men of limited capital, but with energy and intelligence, to encourage the development of small manufactories. It is a fine spirit, a constructive policy. I asked if it had occurred to them that it was just as important to get behind the young men in the country who wanted to buy a farm. Apparently they had not looked the proposition through that far and had not seen the relation it had to the development of St. Joseph and the state.

Local Markets Must Precede Intensive Agriculture

We need to pay attention to some other things before we can establish intensive farming in Kansas. One essential is better local markets. We cannot develop intensive farming and ship materials long distances and depend upon foreign markets. As we build factories in Kansas and develop it any more rapidly than we develop the factory. A campaign to build factories in Kansas must precede intensive farming.

Why should we continue to send money to other states to support their industries? We should develop manufacturing in this state to give employment to our labor and keep our money at home. The insurance business of Kansas should be done with Kansas capital.

There is great interest at the present time in all movements looking toward improving the methods of getting our products from the farm to the consumer. Never did it cost so much to market our food supplies as now. The farmer is more interested in how he is going to sell what he produces to good advantage than he is in producing any more, which he thinks he would be forced to sell at a lower price. You can interest him much more quickly in a discussion pertaining to marketing than you can in one pertaining to increasing his output. He even thinks of limiting production in order to be able to market his wares to better advantage.

Frequently fruit and other perishable products rot in the field in one locality, while people not far away are hungry for these products, and are willing to pay good prices for them.

Often a central market is so completly glutted with perishable products that additional consignments will not sell for enough to pay the freight and commission, while other markets are short on these materials.

The waste due to improper distribution of our food products is enormous and might be largely saved if the producer and consumer had all the help from the state and nation that it would be profitable to give them.

Crop Reports are Inadequate

At present the country's crop reports are inadequate, the results are not sufficiently detailed and complete to form a trustworthy basis for buying or selling crops.

The system should be extended to include a careful consideration of the demand as well as of the supply. The consumer has as much right to information showing where to buy to the best advantage as has the producer in his selling operations. Both of these are entitled to such knowledge of the crop situation, of the food supply and of its distribution as would be a safe guide in selling or buying. This knowledge our present crop reporting system does not provide. That is to say, it does not include sufficient detail to help the farmer much in deciding whether to sell his wheat from the thresher or hold it for an advance in the market. It does not tell the peach grower, where the market is glutted, where disaster would follow the consignment of perishable products. It fails to point out where his products are needed and where a good price can be obtained.

Speaking more specifically, the crop reports do not involve a sufficiently accurate and detailed consideration of distribution of supply and demand to tell the consumer accurately whether to buy in anticipation of an advance. They do not give information upon which a consumers' league in a city, for instance, can touch quickly the point of largest supply and thereby serve two good purposes: giving the farmer a good market and cheapening the food to the consumer. But the large dealer and the speculator supplement the public crop reports, and this with their expert knowledge of the field of marketing, and the facilities for storage, and ample capital and credit, enables them to take advantage of a surplus in one part of the country and a shortage in another. They can store food stuffs when those food stuffs are cheap and thereby reap a benefit from large supplies which the consumer should enjoy, and a benefit from a shortage which should go to the farmer.

These observations are not in criticism of federal or state departments of statistics. They mean, merely, that the public has not been interested sufficiently in marketing and distributing to provide means necessary to do this work as we now know should be done.

—Excerpts from an address by H. J. Waters, president Kansas Agricultural College.

[This address made to Kansas farmers is equally applicable to Missouri farmers. Two points in President Waters' address needs emphasis. If Denmark can change a system of landlordism to landownership by a rural credit's plan why cannot we do it in Missouri?

The other point is the inadequacy of crop reports. Last year the farmers of the United States lost millions of dollars because the government report on wheat failed to show that somewhere from 100,000,000 to 150,000,000 bushels of winter wheat was so damaged that it was not fit to mill and should not have been counted as wheat. So far as the wheat market is concerned, sprouted wheat is not wheat at all—it is only stock food. But the government report seems not to have found that out yet.—Editor.]

FORTY FEEDS PER SHOCK

There are, approximately, thirteen shocks, sixteen hills square of corn per acre, and if according to government experiments, thereon is generally, one ton of silage per five bushels of grain, an acre yielding a trifle more than fifty bushels will make from ten to twelve tons silage, and a shock will be 1600 lbs. or more of silage, which fed at the rate of forty pounds per day is a feed a day for forty days.

Most people agree that it costs very little more to silo an acre of corn than it does to cut, shock and haul in all kinds of weather and mud, but they have discovered no way whereby one shock of corn and the fodder will make forty feeds. Of shock corn the greater part of the stalk is wasted; in silage 95 per cent is eaten. Allowing a wide margin for cost of filling, etc., corn made into silage makes about one third more feed. For example: 45 bushels corn on the stalk is worth 60 bushels in the silo.

The general opinion is, put the lightest, no account corn, in the silo, but that can be proven an error. From tests it has been shown there is but a small percent more grain per

on of stalk on fifty bushel corn than n twenty bushel corn, generally.

Corn that will produce fifty bushels as a tall heavy stalk, while the fifteen or twenty bushel corn has a short, small stalk. The stalk is usually in proportion to the grain. It costs more to handle a ton of light corn and the silage is not so good, for better fodder makes better silage. You can't take out good silage unless you put it in the silo.

Pam Grinstead, Pettis Co., Mo.

THE DAIRY COW AND THE FARMER

It has been well said, "No matter how much money a man may make through farming, if during his years of control the land has become impoverished he has not been a successful farmer." Therefore, the growing of all kinds of live stock on Missouri farms, should be encouraged. Besides the added profits from feeding our farm products the soil's production is assured. Raising any kind of farm stock is profitable, if properly handled, but in order to get the most out of his stock raising, the farmer should choose the kind of stock best adapted to his farm and community.

Missouri today has approximately 700,000 cows distributed over 277,000 farms. These cows produce more than 30,000,000 worth of butter fat annually. This does not include the increase of the herds, nor the value for feeding of skimmed milk. Add to this the benefit the soil is receiving each year from this number of cows, and it is easily seen that dairying is among our important industries.

That interest in dairying in Missouri has increased is evident by the fact that a few years ago, cream cans were uncommon, while now at every railway station, cream cans are loaded and unloaded daily. There are reasons, however, why the Missouri farmer is not getting what he should out of his dairy work. The average man who owns cows does not specialize sufficiently to realize the vast difference in cows. He keeps cows as a side issue and too often does nothing to improve his herd nor increase his production.

When we consider that the average cow produces less than 150 pounds of butter fat per year, while the champion cow produces over 1200 pounds of butter fat per year, it is easily seen that our average is too small. For every 5 pounds of butter fat we could increase the average output of Missouri owned cows, it would mean a million dollars added to our dairymen's wealth annually, and the many large records compared with our average records, surely convinces us that it is well within the range of possibilities to increase our wealth from dairy sources several millions annually. Better breeding, more and better feed, and getting rid of the unprofitable cow, will surely get this result.

While it has been mentioned that dairying is profitably followed on high priced lands, it must be remembered that such lands are usually close to good markets for dairy products. In many cases the advantages of favorable shipping facilities enables the producer to ship whole milk and sweet cream, thus giving him the best market for his product, and an increased profit over his neighbor, not so well located. In dairy sections, however, this disadvantage is largely overcome through the cooperative creamery or cheese factory.

Where many people are specializing on one thing, their interests are common, and it is but a short time until they become organized for the purpose and with the effect of solving problems that would, without organization, go unsolved. Where communities are specializing in the growth or production of anything, for which there is demand, buyers are soon attracted and profitable markets easily established. To illustrate, take the dairy industry as it exists in Missouri today. Most of the cream produced on Missouri farms is sold to cream agents or buyers for large plants, called centralizers. These agents receive 2 cents for each pound of butter fat contained in the cream they buy. It costs 1½ cents to 2 cents more per pound to ship and handle it. This is necessary, because there isn't sufficient development in dairying in the sections cream is shipped from, to maintain a creamery. With a cooperative creamery close by and the product of sufficient cows to keep it in operation, the farmer could not only save the 3 to 4 cents per pound in commission and cost of shipping, but would receive his share of the profits from his butter fat, when made into butter, amounting to at least 20 per cent more or 6 cents per pound on 30 cent butter, less the cost of operating the creamery and finally receiving 6 to 8 cents more per pound for his product than under the present system of marketing, that largely prevails in Missouri.

The annual report for 1915, of the Farmers Gilt Edge Creamery, a cooperative creamery at Owatonna, Minn., has just reached this office. It shows the patrons of this creamery received $76,629.70 in cash for butter fat and received an average of 34.53 cents per pound for same. The cost for making butter was .0129 cents per pound. In the same report it shows that for the year 1895, patrons received an average of 18½ cents for butter fat and a total of $18,638.25 in cash. A pretty good gain for the twenty-year period.

Six to seven hundred cows will furnish enough milk to start a cooperative creamery and if properly managed, will in a short time, have the product of double that number. One thousand good cows should produce from $6000 to $7000 worth of butter fat per month. Figure the increase in the herds, the value of skim and butter milk for feeding, and the increased richness of the soil, and I doubt if any enterprise, with no larger investment, would prove more profitable to the merchants, and bankers, nor do the community more permanent good.

Bankers and merchants are realizing this in several states, notably Wisconsin, our greatest dairy state, producing over one hundred million dollars worth of dairy products annually, having more than 1000 creameries and over 2000 cheese factories. Many places have loan funds; committees are appointed to purchase cows on orders for farmers; payments are usually made and balance paid from products of the cow, thus the cow pays for herself, and the community is permanently benefited at a nominal cost, if any. The Bankers of southern Illinois recently stated they were ready to loan $250,000 to their farmers and dairymen, with which to increase their dairy herds.

A short time ago, a banker in Creston, Iowa, on checking the business done through his bank by a local firm, found that $60,000 had been paid out by this firm for dairy products in one year. He realized the advantages of silos, and proposed that to the first twenty farmers living in the country, making application to that bank, would be furnished sufficient money for one year without interest, with which to build a silo provided he owned 80 acres of unincumbered land. In explanation the banker stated that any enterprise doing that amount of good in a community was entitled to his financial and moral support.

We talk a great deal about better dairying, and through the various activities, such as Institute lecturers, of the State Board of Agriculture, the work done by the Dairy Department of the State Agricultural College, and the Farm and Dairy Journals—many reliable men become convinced that they should change their methods, and *would* if they had financial aid. At such times they do not need dairy speeches, as much as they need the help of the banker and merchant.

I am often asked about markets for dairy products, and if there is not some likelihood of exceeding the demand. Eighty-five per cent of the milk supply of St. Lous comes from Illinois, and a large percentage of Kansas City supply comes from Kansas.

All sections of the United States are not adapted to dairying and it takes most of the milk produced in the eastern states to supply the demand for whole milk, in the densely populated centers. Six states, namely, California, New York, Michigan, Wisconsin, Iowa and Minnesota, produce 64 per cent of the manufactured dairy products of this country. During the year 1914, 7,200,669 pounds of butter and 55,477,044 pounds of cheese, were imported from other countries, while we exported 3,687,657 pounds of butter and 3,797,450 pounds of cheese. The cream imports amounted to 2,229,499 gallons and the milk and condensed milk imports totaled $283,084.00. So, with our rapidly increasing population, it will be many years before dairying is overdone in this country.

E. G. Bennett,
Missouri State Dairy Commissioner.

Elwood Fence

A perfect hinge joint is formed at every second cable, making an elastic, long-life fence yet sufficiently rigid to prevent sagging. Made of tough, springy steel with a thick coat of galvanizing that adds to appearance and resists weather.

American Steel Fence Posts—cheaper than wood and more durable. Last a lifetime. *Sent Free*—write for booklet on how to set posts and erect fence. Every farmer should have it.

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DEALERS EVERYWHERE

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Feeding Corn is like feeding hogs.

The most profitable hog—200 pound hog at six months—is secured by feeding a balanced ration for big gains, good quality and early maturity.

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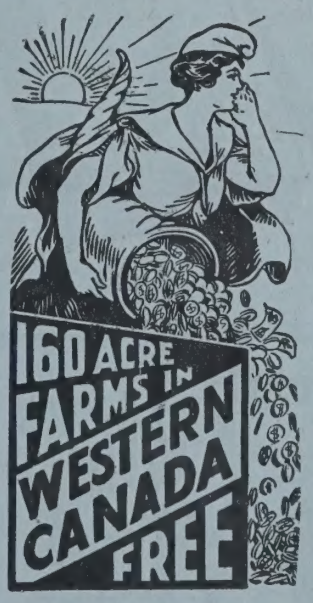

Wanted 50,000 Farm Hands

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To replace the young farmers who have enlisted for the war. Good wages and full season's work assured.

There is no danger or possibility of Conscription in Canada

References required from all applicants. For special railway rates and other information apply to

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Ford Size 4000
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WON HIGHEST AWARD
PANAMA-PACIFIC INTERNATIONAL EXPOSITION SAN FRANCISCO 1915
DEPARTMENT OF AGRICULTURE

Profit from Every Hill

International and C B & Q Planters

NEXT in importance to good, tested seed, every authority on corn raising places good planting. Evenly spaced hills; the same number of kernels dropped in each hill; even depth of planting; a reliable foot drop for finishing the field—these are the features demanded of a planter by every careful corn raiser.

This is the standard to which the builders of **International** and **C B & Q** corn planters work, and excellent planting is the result. Note, first, the substantial frame and wheels—the foundation of the machine. Then see how simple are the arrangements that enable you to drop 2, 3, or 4 kernels in every hill, or to drill in your corn with accurate spacing between the kernels. The use of an **International** or **C B & Q** corn planter gives you assurance that every hill of corn on your farm will produce its full share of corn profit.

Try one this year. Ask the local dealers, who handle these machines, to show you their good points in detail, or write to us for complete information about reliable **International** and **C B & Q** corn planters.

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A good water supply will lighten her work. Bring health, comfort and pleasure for the whole family. Furnish plenty of water for bath, laundry, kitchen and lawn. Goulds Water Systems have been carefully planned for country homes by expert engineers—backed by 65 years' experience. You can draw plenty of water from spring, stream or well with one of

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Figure 1531 "Pyramid" Pump

Auto-Oiled Windmill

ALL WORKING PARTS INCLOSED

and **flooded with oil** from the supply in the gear case, which **needs replenishing only once a year.**

Put your old Aermotor wheel and vane on this self-oiled motor, and have an up-to-date outfit at small cost.

Don't waste your time climbing to oil an old mill. Replace it, on your old tower, with an Auto-Oiled Aermotor which will last you a lifetime and furnish you an abundance of water.

IT NEEDS ATTENTION ONLY ONCE A YEAR.

Write for Folder-Hanger. It tells all about Auto-Oiled Aermotors and Easy-To-Build-Up Towers.

AERMOTOR CO., 1100 S. Campbell Ave., CHICAGO

Look over the advertisements and write for their catalogues. None but reliable advertising is permitted in The Missouri Farmer.

OUR GREAT FARM WASTE

The high prices of potash and acid phosphate at this time are causing much concern among farmers who depend upon commercial fertilizers to supply these constituents for the successful production of their crops.

If the farmers of this country had always fully appreciated the true value of farm manure, and used it on their land, the present situation would be much less acute. The annual loss of fertilizing materials is enormous in this country through careless handling of manure. This loss can be easily prevented in a large measure by proper methods of handling. While many farmers are getting the most from the manure produced on their farms, yet many could well exemplify the European farmer in this matter, who saves carefully and utilizes every pound of manure available.

The farmer who feeds as much live stock as possible may figure that he is receiving a double remuneration from his crops: First, from the marketing of feeds through live stock; and, second, from the fertilizing substances which are left in the manure. Practically all of the nitrogen, phosphorus, and potash which is in the feeds is recovered in the manure from live stock. All landowners, farmers, and tillers of the soil should always be keenly conscious of this fact, and employ methods of management accordingly.

It is a well-known fact that the animal uses the nitrogen, phosphorus, potassium, and other elements of the feedstuffs to build up the body, carry on the work of the body, and to produce milk, work, wool, etc. At the same time we must remember that all of these processes involve the building up and breaking down of body cells, and the component parts of these broken-down cells are thrown off as waste matter.

In this waste matter we have the same elements as were in the feedstuffs consumed. Except in cases of growing animals, whose bodies are increasing in size, practically the same amount of nitrogen, phosphorus, and potassium are voided in the manure as were contained in the feeds eaten. The exact percentage of these substances voided by live stock varies within wide limits, depending largely upon the age and kind of animal, amount of feed eaten, work which the animal is doing, and various other factors. A young and growing animal retains a large part of these elements in the growing tissues of the body. A dairy cow uses a portion of them in the production of milk. A hard-working horse or a mature fattening animal voids from 90 to 100 per cent of them. It is then evident that a large percentage of the elements of plant food removed on the farm where these crops are fed, ,and that the manurial value of feeds is in direct proportion to their composition.

The following table shows the amount of fertilizing constiuents estimated to be in 1,000 pounds pounds of each of a few common feeds:

The following table shows the amount in pounds of the fertilizing constituents estimated to be in 1,000 pounds of each of a few common feeds:

Feed	Nitrogen	Phosphoric acid	Potash
Corn	16.2	6.9	4.0
Wheat bran (all analyses)	25.6	29.5	16.2
Oats	19.8	8.1	5.6
Cottonseed meal (31.6 per cent protein)	60.2	26.6	18.0
Linseed meal (new process)	59.0	17.7	13.0
Corn stover	9.1	4.0	11.5
Oat straw	5.8	2.1	15.0

Under practical methods of feeding live stock all of the fertilizing sub stances shown in the above table can be returned through manure to th soil. Allowances must be made for small waste in feeding operations, th retention of some nitrogen, phospho rous, and potassium in the animal body, and a reasonable amount of los of these elements from the manure be fore it reaches the fields. With suc losses in view it is safe to say tha when the manure is carefully handle 75 per cent of the phosphorous an potassium and 70, per cent of the n trogen originally present in the feed can be returned to the soil.

From these figures and the abov table we can easily compute the actu value of the manure from a give amount of a feed. We will base ou values upon normal prices of fertili ing materials, as follows:

	Cent
Nitrogen, per pound	
Phosphoric acid, per pound	
Potash, per pound	

The following table shows the a tual value of the fertilizing constit ents returned to the soil in the ma ure from 1 ton each of several typic feeds. The percentages of valuab substances saved and the prices fertilibers as indicated above are us to calculate the values in the table.

Following is the value of manure r turned to soil from one ton of ea feed:

Feed	Nitrogen	Phosphoric acid	Potash	Total
Corn	$4.54	$0.41	$0.30	$5
Wheat bran	7.17	1.77	1.21	10
Oats	5.54	.49	.42	6
Cottonseed meal (31.6 per cent protein)	16.86	1.60	1.35	19
Linseed meal (new process)	16.50	1.26	.97	18
Corn stover	2.55	.24	.86	3
Oat straw	1.62	.13	1.32	3

For example, let us say 1 ton ea of corn, cottonseed meal, and co stover has been fed to fattening stee From the above table we find the val of the manure from these feeds to $28.71. This amount represents a proximately one-half the value of t feeds consumed. No allowance h been made for bedding material, whi has some value as a fertilizer, and not too coarse, improves the physi condition of the soil.

This serves to illustrate the po that the farmer who has the requis number of live stock can use fe stuffs grown upon his farm or pu chased to supply those elements plant food needed by the soil to ma tain its fertility; and by following su a practice consistently he can ov come to a large extent the necess of extensive purchase and applicat of commercial fertilizers.

Let it be understood that the ma urial values indicated in the abo table are within the reach of ev farmer, but not without exercis care in handling the manure produ on his farm.

The liquid portions of the man contain about three-fourths of the trogen and nearly all of the pot voided by the animal. Therefore, is highly important that as much the liquid manure be saved as p sible. This is usually accomplish by using a sufficient amount of bl ding to absorb it, or by allowing it drain into a pit or cistern of some s Spreading manure while fresh is g erally most economical. Where t is impracticable, it should be sto under cover or in a concrete pit, a always kept well packed. "Fire-fa ing" can be prevented by keeping quite moist.

Aside from the fertilizing eleme contained in manure, it has benefi mechanical effects upon practically

SPREAD NOW!

SPECIAL PROPOSITION
10,000 GALLOWAY
NO. 8 SPREADERS

This **extra offer** is made with the idea of getting ten or **more Galloway Spreaders** in every **township** in the next few weeks. One Galloway No. 8 Spreader always sells from one to a dozen more in the same community. That's why I make this **new special offer** to distribute **10000 advertising spreaders quickly**

LOOK! Our new 250 page catalog. Tells you all about the **special patented** features on the famous Galloway Manure Spreader; how to make a spreader pay for itself in six months' time; shows why 3 **exclusive Galloway** patented features make the Galloway Spreader worth $50 more than any other spreader, but cost nothing extra on the Galloway; also shows **full line** of other **Galloway implements** and **merchandise.** S-17

NEW SELLING PLANS

Cash or time—**one year** to pay—**installment plan—note settlement—half cash half note—bank deposit or cash**, at prices so low you cannot afford to do without a manure spreader now. We sell direct at **less** than wholesale from factory to farm at the **actual cost** of material, **actual cost** of labor and only one small profit based on tremendous output.

All Steel Beater and V-Rake

Steel Tongue

LOOK! 3 GREAT INVENTIONS

They make the Galloway Spreader in a class by itself, are:

1. **Invincible Roller Feed** worth $25 on any other spreader. **Exclusive** on the Galloway, but costs you nothing extra. One of the secrets of our light draft.
2. **Patented Automatic Stop, Uniform Clean-Out Push-Board** worth $10 on any spreader. Costs nothing extra on the Galloway.
3. **New Steel Everlasting Beater** with **V-Rake** which gives wide spreading and tears the manure into shreds for uniform available **plant-food.** This exclusive feature alone worth $15. Costs nothing extra on the Galloway.

Many other **special 1916 features:** low down; double chain drive; cut-under front wheels; channel steel frame, trussed like a steel bridge; steel tongue; endless force feed apron; top of box only 42 in. high; front wheels under the box, and other special features **make** it easy for two average horses to handle.

SPREADER PRICES LOWER

Get in on this **special distribution advertising offer** from now until **seeding time.**

At the end of twelve months, if the Galloway spreader has not **paid for itself**, if you have hauled out 100 loads of manure or more, and it has not proven everything I say for it, I agree to **take it back**, pay freight **both ways** and **return your money**, no matter on which plan you buy. Could I make this offer if I was not **sure** of my ground? Every sale backed by a **$25,000 bank bond**—an additional guarantee to you! Galloway spreaders have passed a field test in every state and almost every county.

Ask for this new 250-page book and special proposition today.

Spreaders shipped from Waterloo, Kansas City, Council Bluffs, St. Paul and Chicago.

Wm. Galloway Co., Box 299 Waterloo, Iowa
Manure Spreader Manufacturing Specialists

MAKE BIG CROPS!

SPRING HAIR CUT

Fine and Fit

for the warm weather. When the heavy coat that holds the wet sweat and dirt is removed, Horses and Mules are more easily kept clean, look better, get more good from their feed, have more energy and work better. Insist on having the

Stewart Ball-Bearing Clipping Machine

It turns easier, clips faster and closer and stays sharp longer than any other. Gears are all file hard and cut from solid steel bar. They are enclosed, protected and run in oil, little friction, little wear. Has six feet new style easy running flexible shaft and celebrated Stewart single tension clipping head, highest grade. **Get one from your dealer or send $2 and we will ship C.O.D. for balance.**

PRICE $7.50

PRICE $7.50

Clip the Udders and Flanks of your Cows and Get Clean Milk free from the impurities that otherwise drop in and can't be strained out.

CHICAGO FLEXIBLE SHAFT CO.
619 Lasalle Chicago, Ills.

Write for complete new catalog showing world's largest and most modern line of horse clipping and sheep shearing machines.

A RAINY DAY need not be dull

Cheer up! — Get to work in a

TOWER'S FISH BRAND REFLEX SLICKER $3.

A. J. Tower Co. Boston

TOWER'S FISH BRAND

soils. When properly applied, manure improves the physical condition of the soil by increasing its water-holding capacity, aeration, and temperature. While the soluble portion of the manure is at once available for plant use, other plant foods are released as decomposition continues for two or more years. This latter process assists materially in rendering a available for plant use the potash and phosphoric acid which are already present in the soil, but in unavailable forms.

When the farmers of our country thoroughly appreciate the actual amounts of fertilizing constituents which are contained in farm manures, and intelligently care for and utilize the manure produced on their farms, they can save millions of dollars in fertilizer purchases; and the necessity of depending upon the purchase of these fertilizers, followed by the occurrences of crises in the fertilizer situation such as now exists in some sections, will be largely decreased.—Weekly News Letter, Dept. Agriculture.

SPRAYING APPLE TREES PAID WELL

By cooperating with twenty-five orchardists the Missouri College of Agriculture was able to spray each orchard four times a year at a cost of $22.26 per acre. The fruit on the unsprayed trees sold for $18.05 per acre as compared with $187.19 or more than ten times as much after spraying. This makes the average net profit of $136.78 which repays the outlay for spraying and five times as much more in addition. Few farm investments will pay as good returns as this and those who have orchards of any size will be interested in learning the methods which the college advises as a result of its years of experience and experiment.

FIRST SPRAYING.—Just after the first clusters of leaves have opened in spring, but before the blossoms themselves have unfolded, use either Bordeaux mixture (3 pounds copper sulphate, 3 pounds lime, 50 gallons water) or commercial lime sulphur, (1⅓ gallons to 48½ gallons of water.) This controls the apple scab disease, which causes most of the specked and knotty apples found in many orchards.

SECOND SPRAYING.—Immediately after the majority of the blossoms have fallen use 1½ gallons of commercial lime-sulphur in 48⅓ gallons of water. Before filling the barrel with water, add 2 pounds of arsenate of lead paste to poison the insects. Stir the paste thoroly in a bucket of water before pouring into the sprayer, as otherwise it will sink to the bottom of the barrel in a lump. Prevent apple scab and the two worst insects of the apple—codling moth and curculio.

THIRD SPRAYING. — Three weeks after the blossoms fall, use either Bordeaux mixture or lime-sulphur as directed under first application. Also add 2 pounds of arsenate of lead paste. (For the purpose of poisoning the curculio and codling moth insects and preventing apple scab, apple blotch, black rot, and other diseases.)

Under usual conditions, in the latitude of northern Missouri, three sprayings are sufficient. In that of southern Missouri where there is danger of bitter rot two or three additional sprayings will be necessary. The fourth should be given six weeks after the blossoms fall using Bordeaux mixture 4-4-50 or 5-5-50, and if there are signs of a late brood of codling moth add 2 pounds of arsenate of lead. Other sprayings may be given at intervals of two weeks, using only Bordeaux mixture at the rate of 5-5-50. Lime sulphur is not reliable for preventing bitter rot.

SPRAYING OUTFITS. — A barrel sprayer will spray about ten acres of orchard and costs, complete, from $12 to $33. A bucket sprayer costs $3.50 to $8. The small hand compressed air and knapsack outfits are used for spraying potatoes, nusery trees, berries and vineyards. They cost from $5 to $15. All sprayers should have brass working parts which are not injured by Bordeaux mixture.

J. C. Whitten, Missouri Experiment Station.

FERTILIZERS FOR CORN

Increasing interest is being manifested in Missouri and adjacent states in the use of fertilizers for corn. Many of the inquiries received ask for the best methods of applying the fertilizer as well as the best fertilizers to apply.

If properly used, commercial fertilizers are helpful, particularly on certain soils, but it is usually better to keep the soil in good condition by the proper use of barnyard manure, crop rotation, clover, cowpeas and similar crops which build up the soil.

By tests made on the outlying experiment fields in various parts of the state, Missouri Agricultural Experiment Station has found that on the usual medium-to-low-fertility upland soils the highest net return per dollar invested in fertilizers is secured by applying from 75 to 90 pounds per acre of a fertilizer containing about 2 or 3 per cent nitrogen, 8 or 10 per cent available phosphoric acid and from 2 to 5 percent of potash. The same amount of steamed bone meal also gives good results. These recommendations consider only the effect on the corn crop, but leave out of consideration any part of the fertilizer which may remain to benefit later crops.

On very thin lands from 200 to 250 pounds per acre of the same fertilizer should be used. When larger amounts of fertilizer are applied following crops will be benefitted much more, and special care should be taken to apply with a fertilizer grain drill instead of by means of a fertilizer attachment in the hill or drill at the time of planting. The application of from 75 to 90 pounds will usually give the best results if applied in the hill or drill. The application of too much fertilizer in the hill or drill at time of planting is dangerous on a dry season, when it is likely to cause the corn to fire, but in seasons of abundant rainfall as much as 150 pounds may be applied in the hill or drill without danger.

While fertilizers properly used are very valuable on some soils, the good corn grower will not depend upon them to maintain or keep up soil fertility. They are temporary helps in securing or increasing a crop and should always be used with the best rotations for the locality. If fertilizers alone are used year after year the effect on the soil will be very much the same as tho corn had been grown without fertilizers, altho the crops may be larger so long as the fertilizer applications are continued.

M. F. Miller,
Missouri Experiment Station.

Make Your Hens Lay

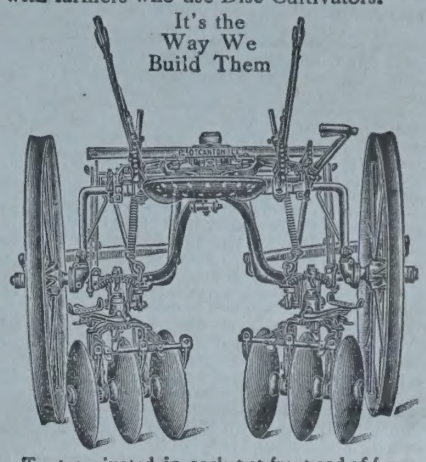
One of the finest tonics on the market to make your hens lay lots of eggs and eggs that will produce vigorous chicks is "Poultry Panacea," put up by Dr. Hess & Clark, at Ashland, Ohio. Drop them a card for full information and mention The Missouri Farmer.

P&O

Wiggletail Disc Cultivator

Pivot tongue type. Wiggletail feature makes it eay to operate. Shovel gangs can be furnished, making it doubly popular with farmers who use Disc Cultivators.

It's the Way We Build Them



Tongue pivoted in socket at front end of frame, and also pivoted on arch. When rear end of tongue is moved sidewise by the shifting of the seat, frame is carried in opposite direction, and with it the arch and gangs. This constitutes the "Wiggletail" feature, and makes this one of the easiest cultivators to ride and operate ever built. An ideal cultivator for use in crooked rows or on hillsides.

Only one lever to operate at ends of the row. It raises both the gangs and maintains balance. Discs can be reversed without using a wrench or removing bolts. Discs easily tilted and angled, as levers are within easy reach. The disc bearings have oil-soaked hard maple bushings. Gangs angled from the seat; each gang is operated by its own lever. High steel wheels; removable dust-proof boxes, sand bands and screw caps for using hard oil.

The operator is always in a good position to see his work, with a clear view ahead. The operator's weight glides on rollers when swinging seat bars in dodging. Telescope axle provides neat and easy means of setting wheels for wide or narrow track.

Knife Leveler, Harrow, Four and Six Shovel, Front Arm and Spring Tooth Attachments can be furnished.

Ask Your Dealer or Write to Nearest P & O House

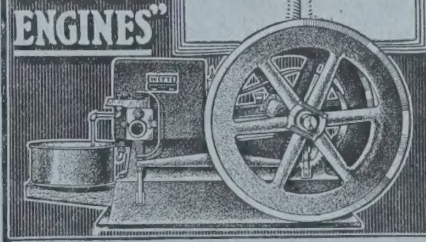
Parlin & Orendorff Co., Canton, Ills.

Branch Houses: Dallas, Tex., Kansas City, Mo., Minneapolis, Minn., Omaha, Neb., St. Louis, Mo., Sioux Falls, S. D., Denver, Col., Oklahoma City Okla., Portland, Ore., Spokane, Wash.

P&O Light Draft Plows Are Backed By An Unqualified Guarantee

"HOW TO JUDGE ENGINES"

A Valuable Book Free!



EVERY man who has any idea of buying a Kerosene or Gasoline Engine should have this book.

Discusses different types of engines; how constructed; how operated; how cylinders and other parts should be made to give greatest efficiency.

It has taken 30 years of engine building experience for me to learn the facts in this book. Yours for the asking.

My 1916 Model Engines are the greatest value I have ever offered. All sizes pull from 30 to 50% over factory rating.

WITTE Engines—built by experts. **Free Trial—Easy Terms.**

ED. H. WITTE, WITTE ENGINE WORKS,
1841 Oakland Avenue, Kansas City, Mo.
1841 Empire Bldg., Pittsburgh, Pa.

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The world's great farm and creamery shoe. Water-proof, rust-proof, light and durable. Warm in winter, cool in summer. Best by test, and you pay less. A postal brings free catalog.

OVERLAND SHOE CO.
Box 79 Racine, Wis.

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Devoted to Better Farming, Better Farm Homes and Better Citizenship.

Vol. VIII March 15, 1916 No. 6

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Geo. B. Ellis - - Managing Editor

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Agents Wanted. We want some one to represent us in every community and make up clubs for which we will pay liberal commissions. Write us for terms and sample copies.

We solicit communications from farmers and members of the family on timely and practical subjects. Photographs illustrating farm life or plans for buildings, live stock, etc., are appreciated.

To render service is our aim and we will endeavor to answer all pertinent questions or have them answered by competent authority. When answer is desired direct always inclose stamp.

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SOME THINGS WORTH WHILE

Along about the end of each year it is a good idea for all of us, farmers or merchants, to make a summing up of what we have done and see where we stand so far as profits are concerned. Then at the beginning of the crop growing season it is important that we take a future survey of probabilities, possible prices and profits, for without profits the farmer cannot get himself and family those things which are really "worth while." The farmer does not need any prodding up about industry for the very nature of his business has through a long line of heredity trained him in industry as few others have ever been trained. In fact the farmer has generally been so busy making a living that he has not taken the time he ought to have taken in order that he might reap his fair reward for his labor.

Before the farmers can enjoy many of the comforts and conveniences of life which are now absent from so many farm homes they must through better business methods find a way to save waste and to change the present system of marketing their products as well as of buying many of the things which are used on the farm. In our last issue we reported the good work done by the club at Carl Junction in Southwest Missouri (by typographical error Carl Junction was located in Northwest Missouri. The location is in Jasper County) and on pages 12 and 13 in this issue the reader will find an excellent report of what the Farmers' Union of Pike County is doing at Bowling Green.

We are very naturally gratified at the showing made by both these clubs because they are along the exact lines The Missouri Farmer has been for six years urging the readers of the paper to take hold and protect themselves. Our readers will notice that neither of these clubs attempted to enter the field of the retail merchant. There are obvious reasons why a farmers' cooperative society should not go into the various retail lines of dry goods, clothing, shoes, drugs, groceries, hardware, etc. In the first place there are already too many of these retail merchants in most towns, and competition is close enough to give in most things reasonable prices. And then experience in the past has shown that when farmers enter this field of retail merchandising most of them fail because they lack both capital and the right kind of training. When farmers believe they are not getting fair prices if they are organized, they can usually make contracts with the best merchants for lower prices by clubbing their purchases. There is no need of any bad feeling between the people of the country and those of the town when both understand each other. Mr. Ingwersen says that the success of the Pike County Club has brought success to the merchants of Bowling Green and why should it be otherwise? There are very few towns in Missouri but what get by far the greater part of their support from the farmers and as a matter of course the town's prosperity is measured by the thrift of the country.

Leading up to the thought we had in mind when we started to write this article the first thing "worth while" for farmers to give serious thought about is to stand together in organization so as to save money in buying and to compel better prices in selling and to cut out all the waste possible in handling. This is the first thing worth while in most farm homes because it takes money and a lot of it to get better roads, better schools, wind mills, running water in the house and barn, gasoline power to save hand power, the automobile for pleasure and recreation, a modern heating plant to take the place of the dust making stove, pictures on the wall and books and magazines on the table and a score of other things any farmer or farmer's wife will vote is "worth while" toward making life in the country what it ought to be and what God has made possible it should be.

THE COST OF BAD ROADS

The last six or eight weeks ought to bring pretty forcibly to the mind of every man living on a poorly kept road something of the cost of bad roads. If the cost of bad roads could be measured in dollars we think much of the trouble would soon be remedied but the greater loss being in the social life of the country men go right along enduring intolerable conditions without doing anything to make them better. Ask the country teacher what is the greatest obstacle in the way of better rural schools and the answer, nine times out of ten, will be bad roads. The country preacher will tell you the greatest thing in the way of prosperous country churches is bad roads. The literary clubs for young people, the social clubs for the women and even the business clubs for the men are all hampered in their full development by the one, always present impediment—bad roads.

The only road dependable 365 days in the year is the well made hard surface road but they cost a lot of money —anywhere from $3,000 to $6,000 a mile and sometimes even more than that but if we would go at road building in a business like way any good agricultural community could have good hard roads without feeling the weight of the extra cost. In the first place we could engage in more profitable lines of farming if we had good roads the year round. Take a community say ten miles square with the railroad station as the center. With a road on every section line there would be 200 miles of road in the district. If the farms were of average Missouri size there would be 500 farms in this district. If one-half this number of farmers would take up dairying and establish a cooperative butter making plant four-fifths the increased profits above what the average farmer now receives for his butter fat would pay the interest on the cost of the 200 miles of good hard roads at $4,000 a mile. You say that is impossible? Well figure it out and see. Reliable reports show that a successfully constructed cooperative butter plant can pay the farmers around 5 cents a pound more for their butter than they get under the old system. This can be done because of the better quality of butter made and the consequent higher price it will bring together with some other savings.

Here are the possibilities. If one-half the 500 farmers took up dairying and averaged 20 cows to the farm we would have 5000 cows furnishing cream for the plant. No good dairyman will keep a cow that will produce less than 200 pounds of butter yearly. This minimum would give a total product of 1,000,000 pounds and the extra profit of 5 cents would give us $50,000 or enough to pay the interest on the cost of the roads and $10,000 besides. Then if we count on the other half of the farmers paying their share of the cost we could build these roads pay for them in 10 or 15 years and not really be out one cent. Is not this "worth while?"

If we want real good roads, business roads, we must try to adopt some sort of farming or any way such business methods in whatever kind of farming we do that will give us the money to pay for them.

The above ideal is not too high for any real first class farm community but if your district is not ready for such an up-to-date program then let us suggest that you fall back on the old reliable King split log drag. Perhaps you can't have a first class road every day in the year but with the constant use of the drag you can have a first class road part of the time and a passable road most of the time and certainly this is a thing "worth while."

LET THE GOOD WORK GO ON

Not since the days of the ascendency of the Grange and Alliance have the farmers shown so much interest in organization as they are showing now and well they may. This interest is wide spread in Missouri and it extends through many states, some of them already much farther along in organization work than we are. No doubt the packers have already seen the handwriting on the wall and have taken their heavy hand off the price of hogs. What other intelligent reason can be given for a fifty per cent advance in the price of hogs in so short a time? Surely demand and supply have not changed so much as that. But anyway let us urge farmers not to let their little school house clubs go down, now, that spring work is on. These clubs should be kept alive and when there is no business matters before the club then the time can be spent in discussing better farming, better roads, better schools, water systems for the house and barn and a hundred other things "worth while" to every wide awake farmer in the state.

After the home club is working well it will be a good idea to get over into adjoining districts and tell the farmers over there what you are doing and what they can do. Remember that while one club acting alone can do things "worth wile" and of great value to its members, there are greater things such as whipping the packers and other combinations that will require the united force of thousands of clubs to win. Let us not rest until every school district in the state is organized and working to do its part.

THE HOG MARKET

Now, after the bulk of the farmers' hogs are in the Packers' hands, hogs have suddenly taken a "flyer," and it is pretty certain that stiff prices will be maintained for some time to come. Has there been any change in the domestic or foreign markets to justify this sudden rise in price? Not at all. The foreign demand was powerful in November, December and January when the Packers were buying hogs at their own price and compelling the farmers of the Corn Belt to sacrifice untold millions of dollars. The same general facts apply to cattle. What does it all mean? First, that with the lion's share of the farmers' hogs in their possession, the Packers know it is safe to be generous for a little while. Secondly, the El Paso convention convinced them that the "woods are afire," and for once in their lives the Packers are really frightened. They are wondering whether, after all, they haven't "overplayed their hand"—and hence they are throwing out a little "sop" to quiet the rumbling of the distant thunder. Will farmers "fall" for it? Time alone will tell. But we don't think so. In the language of McBeth, we believe that from this time on it will be a case of "Lay on McDuff and d—— be he who first cries hold, enough!"

DANGER AHEAD

One would think that after so much had been said about the poor vitality of seed corn of last year's crop there would hardly be a corn grower in the country who would fail to test the seed before planting, but we know of at least a few farmers who have not yet done so. On being asked about the quality of seed corn the other day, a Boone county farmer said, "Well, I guess my seed will grow. I got it shucked out a while before Christmas and I think it has had time to dry out and I am going to risk it." Good luck may favor this man, but why trust to luck when there are ways to find out for sure. The fact is, last year was not favorable for early maturing of the corn and the early freezing injured the vitality of a lot of corn that is now in apparently good condition. Corn, when thoroughly dry, will stand a hard freeze without injury, but corn that is not dry is easily injured by even a moderate freeze.

There are so many disadvantages in a poor stand of corn that it pays to be certain about the quality of the seed planted. With a half stand or better a farmer will usually replant, but the later planting is all the season in the way of the right kind of cultivation and when maturing is injured by the earlier corn. If the field is planted over entirely the weeds will get a start of the corn and will make cultivation difficult. The cost of replanting and the extra seed make the cost of poor seed corn more than it would take to buy first class, guaranteed seed from some reliable grower. Most every farmer is familiar with the different methods of testing which have so often been explained in The Missouri Farmer and other papers and the satisfaction of knowing the seed is good will pay, while the discovery that the seed is bad will pay big. Let us repeat that from reliable sources we have good evidence that a lot of last year's corn crop is very poor in vitality and will not do to plant with safety.

DID YOU SEND A DOLLAR BILL?

Did you send us a dollar bill on subscription between the dates of Feb. 10th and Feb. 18th? We are anxious to trace the number of dollar bills sent us during this period and if any of our subscribers remitted during the above time we will thank them to advise us.

The Missouri Farmer.

BARNYARD GOSSIP

One day last summer I drove by a farm just after the owner had driven into the wheat field to harvest a splendid crop of wheat. The farmer had gone but a round or two and to my surprise when I came within hearing distance the air was blue with profanity and when I got closer I saw the man had stopped because the knotter on the binder was not working, the elevators had been chocking up and in fact pretty near every thing about the machine was giving trouble. Being acquainted with the farmer I accosted him with "What is the matter so early in the day?" You ought to have heard what he had to say about that old reaper. Said it had "only been used two years, had cut only about 160 acres of wheat and oats and now it was played out, absolutely worthless." "Men who make and sell a machine like that ought to be landed in the penitentiary" he said while wiping the prespiration off his face with the greasy end of his shirt slee "If I can get the rust worn off that old machine" he went on to say "maybe I can finish this harvest with it and then I will dump it into a ditch somewhere and that is the last machine of that make any man will ever sell me. I want a binder that will last longer than three years without giving all sorts of trouble and costing enough for repairs to buy a new plow." I saw my friend was in no humor for entertaining visitors so I drove on and when I passed the barn lot I estimated he had about $800 worth of machinery and all standing out in the weather, and had been all the year.

Driving on about a mile I came up beside another wheat field, but what a difference! Several acres were in the shock and the binder, driven by an 18-year-old boy was playing about as sweet music as a harvester ever heard. The boy seemed to have nothing to do save to touch up one of the old mules occasionally, and I suppose every hour he oiled the bearings and tightened up the nuts while the mules "took a little wind." The old farmer just seemed to be taking things "easy like," helping with the shocking, keeping up the corners and looking out that every thing kept moving. When I drove up he seemed in such a good humor, I accepted his invitation to get over the fence and examine his wheat and make a guess on what it might yield, which I concluded was about 27 bushels of 60-pound wheat per acre. Didn't hear any profanity there either, wasn't any need for it, because everbody was in a good humor any every thing working like clock work.

"That old machine" said farmer No. 2 has harvested ten crops for us and I think it is good for two or three more with a little repair. It has paid for itself two or three times, but then you know we never leave it out after a crop is harvested, but it goes right into the shed."

This man had the same size farm as the first man and about the same amount of machinery to run it. As I drove away I figured up about this way: Farmer No. 1 spent $800 for machinery which lasted only about four years, and much time was lost and money spent for repairs, and a heap of worry had to be endured because the machinery was never in good repair. Farmer No. 2 had no worry, spent little for repairs and the machinery gave good service about ten or twelve years. One spent $800 for machinery in 12 years the other three times as much and did not then get as good service.

Something is "out of joint" with farmer No. 1 to the amount of $1600 and the reckless use and failure to house valuable farm machinery is losing the farmers of this country millions of dollars annually that ought to be saved to swell the farmers' bank account. In 1910 when the U. S. census was taken there was more than $50,440,000 invested in farm implements and machinery just for the State of Missouri. The annual interest charge on that amount is $3,000,000 at 6 per cent and the annual depreciation including repairs is probably not far from 20 per cent making the yearly cost of this one item of farm expense about $13,000,000.

Where are your machines brother? Are they in the shed or on the sunny side of a barb-wire fence?

This is the kind of a road that lost a Kansas farmer $1,800 by cutting him off from his market.

The Concrete Road enables the farmer to reach his market in any kind of weather.

A Soft Road Cost Peter Coughlin, of Concordia, Kas., $1,800 in One Week

THE *Kansas Farmer* says: "John W. McCoy, Vice-President of William Volker Co., of Kansas City, recently made a speech in his old home town, Concordia, Kansas, in which he recounted the experience of Peter Coughlin, whose place was about three miles east of town. He said:

'As an excuse for talking good roads I remember an actual case. While employed at the B. & M. depot, the general live-stock agent at the request of a Chicago Commission Company, wired our office to have a feeder ship his cattle on a certain date. Under normal conditions, Mr. Ralston would have driven out and advised this man, *but the roads were impassable for vehicles,* and the message was taken on horseback. This feeder said it would be *impossible to get the cattle to the station,* as he had that morning been to town and knew the condition of the roads. *When they could be traveled, the market had declined $2.50 per 100.* On this lot the farmer suffered a loss on the two cars of nearly $1,800. No doubt a similar loss, or road tax, if you please, has been collected many times during the past 20 years and will be again frequently in the next 20.'"

Conditions not half as bad as this on *your* roads may be costing you hundreds of dollars this year in lost market opportunities, in high haulage costs paid in worn-out horses, harness and wagons, and heavy tax for maintenance of impermanent roads.

A concrete road is permanent, and it is open the year round in every kind of weather. Its first cost is low, approximately $15,000 per mile for a 16-ft. road, and its annual maintenance averages but $30.00 a mile for complete upkeep and repairs. In the end, the concrete road is the cheapest permanent road you can build. It will save you money in haulage and road taxes, and will increase the value of your property.

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A LOYAL READER

The Missouri Farmer:

I have been reading The Missouri Farmer for the last two years and have been much interested in the different subjects discussed from time to time and very much interested in your earnest appeal to the farmers of Missouri for their encouragement and support. I enclose my dollar as per your proposition No. 1 which will tell you better than any words I could write that I am with you.

I want to say for the benefit of any one who is not yet awake that The Missouri Farmer is considered a permanent fixture in our home. The "After Thoughts" articles are alone worth more than what the paper costs.

I am now taking eight different farm journals and two poultry journals and I consider The Missouri Farmer the best one of all — the cream of the bunch. Why? Because it is for Missouri farmers first, last and all the time; because its principles are sound; because it is not afraid to speak out; because it wears a plain business suit, deals with plain facts and is high class in its moral teaching; because it is abreast of the times in its editorial matter; and last, because, it is published in our own state and lives up to its motto: "For better farming, better farm homes, better citizenship." I stand with you always for a greater and better Missouri.

W. H. Stotts, Gibbs, Mo.

THINGS OF PERTINENT INTEREST

Every reader of The Missouri Farmer should drop a line to the International Harvester Co., Chicago, and ask for a copy of the "Almanac"—a book containing a vast fund of invaluable information for the farmer. It has everything about weights, measurements, plans for farm buildings and a hundred other things. It is free for the asking. Please mention this paper.

If you are interested in farm tractors, drop a card to the Avery Co., at Peoria, Ill., or the Emerson-Brantingham Co., at Rockford, Ill., and ask them to send you their big catalogues telling all about these great new labor saving machines. The time isn't far off when tractors will be as plentiful as automobiles.

The William Galloway Co., of Waterloo, Iowa, is making a special price on manure spreaders—and every farmer ought to have one and get the full value of his manure.

If you want to make your hens lay to capacity, try some "Poultry Panacea," put up by Dr. Hess & Clark, of Ashland, Ohio. Ask them for their "Stock Tonic" literature also. It's free.

The Janesville Barb Wire Co., of Janesville, Wis., is putting out a steel fence post whcih is attracting a great deal of attention among farmers. It will last a lifetime.

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Write for Catalog and folder about the value of different feeds and manures.

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The Plunderer

By ROY NORTON

Author of "The Garden of Fate"

(Concluded from last issue.)

THE QUEST SUPREME

It was twilight again, and such a twilight as only the Blue Mountains of that far divide may know. It barred the west with golden bands, painted lavish purples and mauves in the hollows, and reddened the everlasting snows on the summits. It deepend the greens of the tamaracks, and made iridescent the foams of the streams tearing downward joyously to the wide rivers below. It painted the reddish-yellow bars of the cross on the peak above the Croix d'Or, and rendered its outlines a glorified symbol. It lent stateliness to the finger of granite beneath the base that told those who paused that beneath the shaft rested one who had a loyal heart. It swooped down and lingered caressingly on the strong, tender face of the girl who sat on the wall surrounding the graves of Bells Park and "the best woman that ever lived."

"For some reason," Joar said, speaking to the two men beside her, "the ugliness of some of it has gone. There is nothing left but the good and the beautiful. Ah, how I love it—all! All!"

Dick's arm slipped round her, and drew her close, and unresisting, to his side.

"And but for you and Bill," he said softly, "it might never have ended this way."

"Humph!" drawled the deep voice of the grizzled old miner. "Things is just the way they have to be. Nobody can change 'em. The Lord Almighty fixes 'em, and I expect they have to work out about as He wants 'em to. Somehow, up here in the tops of the hills, where it's close to the sky, He seems a heap friendlier and nearer than He does down on the plains. 'Most always I feel sorry for them poor fellers that live down there. They seem like such lonesome, forgotten cusses."

The youthful couple by him did not answer. Their happiness was too new, too sacred, to admit of speech.

"Now," Bill went on argumentatively, "me and Bully Presby are friends. He likes me for standin' up for my own, and told me so to-day. He ain't got over that feller Wolff yet. Says he could have killed him when he found out Wolff had poisoned the water and rolled the bowlder into the shaft to pen us in. I reckon Wolff tried to blackmail him about what he knew, but the Bully didn't approve none of the other things. That ain't his way of fightin'. You can bet on that! He drifted over and got the green lead in the Cross, when others had given it up and squandered money. That shows he was a real miner. We come along, and—well—all he's done is just to help us find it, and then hand over the proceeds, all in the family, as I take it. Nobody's loser. The families gets tangled up, and instead of there bein' two there's just one. The Rattler and the Croix d'Or threatens to be made into one mine, and the two plants consolidated to make it more economical. The green lead's the best ledge in the Blue's, and 'most everybody seems to be gettin' along pretty well. That ain't luck. It's God Almighty arrangin' things for the best."

He sat for a moment, and gave a long sigh, as if there were something else in his mind that had not been uttered. Dick lifted his eyes, and looked at him affectionately, and then whispered into the ear close by his shoulder: "Shall I tell him now?"

"Do!" Joan said, drawing away from him, and looking expectantly at the giant.

Dick fumbled in his pocket with a look of sober enjoyment.

"Oh, by the way, Bill," he said, "I got a letter from Sloan a few days ago. Here it is. Read it."

The latter took it, and frowning as he opened it, held it up to catch the light.

"Great Scott!" he exclaimed. "Gives the Croix d'Or to you. Says he wants you to have it, because the one that made good on it, and he don't need the money! That the deeds are on the way by registered mail, and all he asks is a small bar from the first clean-up!"

He folded the letter, and held it in his hands, looking thoughtfully off into the distance for a time while he absorbed the news.

"Why, Dick," he said, "you're a rich man! Richer'n I ever expected you'd be; but I'm a selfish old feller, after all! It seems to me as if we ain't never goin' to be the same again, as we uster be when all we had was a sack of flour and a side of bacon, and the whole North-west to prospect. It seems as if somethin' mighty dear has gone."

Dick got up and stood before him, with his hands in his pockets, and smiling downward into his eyes.

"I've thought of that, too, Bill," he said, "and I can't afford to lose you. I'd rather lose the Cross. So I'll tell you something that I told Joan, long ago—that if ever the mine made good, and I could give you something beside a debt, you were to have half of what I made. A few days ago it would have been a quarter interest you owned. Now it is a half. We're partners still, Bill, just as we were when there was nothing but a sack of flour and a side of bacon to divide."

They looked at him, expecting him to show some sign of excitement, but he did not. Instead, he reached over, and painstakingly pulled a weed from the foot of the wall, and threw it away. He cleared his throat once or twice, but did not look at them, and then got to his feet and started as if to go down to the camp. Then, as if his feelings were under control again, came back, and took one of Joan's and one of Dick's hands into his toil-worn palms, and said:

"Thanks, Dick! It's more'n I deserve, this knowin' both of you, and havin' you give me a share in the Cross! And I accept it; but conditionally."

He dropped their hands, and turned to look around, as if seeing a very broad world.

"What is the condition?" Joan asked, laying her hand on his arm, and looking up at him. "Can we change it?"

"No," he said; "you can't. I've had a hard hit of my own for a long time now. I'm a-goin' to try to heal it. I'm goin' away on what may be a short, or a long, long trail." His voice dropped until it was scarcely audible. "I'm goin' away to keep goin' till I find The Lily. And when I find her, I'll come back, and bring her with me, if she'll come."

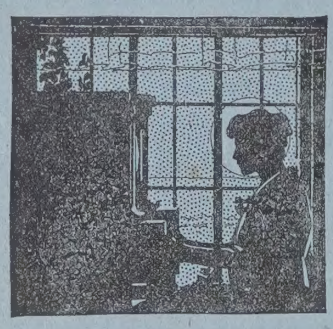
He turned his back toward them, unbuttoned the flap of his flannel shirt, and reached inside. He drew out a sheet of paper wrapped in an old silk handkerchief, as if it were a priceless possession to be carefully preserved, and held it toward them. He did not look at either of them as he spoke.

"I got that a long time ago," he said; "but somehow I could never say anything about it to any one. And I reckon you're the only two in the world that'll ever see it. Read it and give it back to me when—when you come down the mountain."

He turned and stalked away over the trail, his feet planting themselves firmly, as he had walked through life with firmness.

They watched him go, and opened the letter, and read, in a high, strong handwriting:

Dear Mr. Mathews: I am writing you of business, for one thing, and because I feel that I must, for another. I have paid for a tombstone suitable for Bells Park, whom I esteemed more than I have most men. And I have paid for its delivery to you, knowing that you will have it mounted in place. So you must pay nothing for it in any form, as I wish to stand all the expense in memory of an old and tried friend. I have left Goldpan for good and all, and all those old associations of my life. I am starting over again, to make a good and clean fight, in clean surroundings. I am sick to



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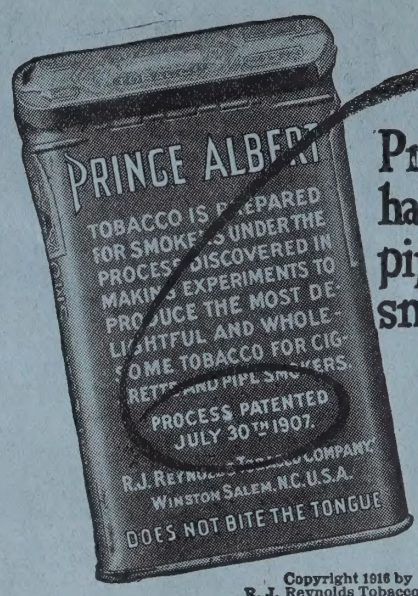

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death of all that has made up my life. I am bitter, knowing that I was handicapped from the start. My father educated me because it was easier to have me in a boarding school in all my girlhood than to have me with him. I never knew my mother. I had no love bestowed upon me in my girlhood. When I came of age my father, who was an adventurer of the discredited gentleman type, gave me to a friend of his. I learned a year after I had been married that I had been sold to my husband—God save the mark! I tried to be patient when he dragged me from camp to camp, and I want to say that whatever else I have been, I have been good. You understand me, I hope, because I am defending myself to you, the only living being for whose esteem I care. I have had two happy moments in my life—one when the news was brought me that my husband had shot himself across a gambling table, and the second when you faced me that night after Bells Park was killed, alone there in the street after your partner had gone on, and said: "Lily, it hurts you as it does me. You're on the level, little pal. I want to stop long enough to tell you I believe in you." Then you went on, and I shall not see you again.

I am writing this from a place I shall leave before it starts to you. You could not find me if you had the desire, and so I say to you that which perhaps I never should have said, if we had remained in sight of each other in the Blue Mountains. You are the only man I have ever met who made me heartsick because I was not worthy of him, and could not aspire to his level. You are the only man I have ever loved so much that it was an ache. You are the only man who told me by the look in his eyes, that he thought my life unworthy, and accused me without words every time we met. I am through with it, and if it will do you any good to know that your reproaches have done more than anything else to cause me to begin all over again, and live a different life, I want you to have that satisfaction. And this shall be my only good-by.

Lily Meredith.

For a long time Joan stood holding the letter in her hands, and then, as if fathoming its cry of loneliness, clutched it tightly to her breast.

"He will find her!" she said. "I know it! He must! It wouldn't be kind of heaven to keep her from him. And he loved her all the time!"

Far across the peaks of the Blue Mountains the last rays of the sunset went out, as an extinguished torch. A bird near by cheeped sleepily, and the new night was coming to its own. Throbbing, rumbling, and grinding in a melody softened by distance, the roar of the Rattler's mills became audible, as it brought the yellow gold, glistening and beautiful, from its sorbid setting of earth. In the camp of the Croix d'Or a chorus was wafted faintly up as men sitting in the dusk sang: "Hearts that are brave and true, my lads, hearts that are brave and true!"

Silently, arm in arm, they gave a last lingering look at the shaft, the peak above, and turned down the trail to the camp which seemed all aglow with rosy light.

(The End.)

CARE OF BIRDS IN BREEDING PEN

During the breeding season it is advisable to pen the best birds in order to hatch from them that the flock may be improved.

It is too often the case that hens are taken from the range and placed in a close pen without proper conditions to make and keep them healthy, happy and profitable.

There is no question but that the hen which has free range where she can select her own food as well as get proper exercise will do better work producing eggs and that the eggs are more fertile and the chicks hatched are stronger than the hen which is penned without proper conditions.

In order to supply the proper conditions for the hens, we should study their natural habits. We know the hens are fond of earth worms and there are many morsels of food selected from fresh earth by the hens; therefore, it is a good plan to turn some earth over in the pen each day with a spade. This should be done each morning as the earth worms come to the surface each night, then go back into the earth when the sun comes up. Therefore, the work should be done between daylight and sunup. If it cannot be done at this time, some boards or an old door should be laid on the ground where the digging is to be done. This protects the worms so they remain near the surface. A space of soil three feet sqare turned over each morning will furnish twenty hens with fresh earth to work in during the day and by moving systematically about the yard it will prevent the soil from becoming contaminated with disease.

Sunshine is one of nature's greatest gifts but "the same sun which melts wax will harden clay." Although sunshine is of great value for it stimulates the birds to greater activity and is Nature's disease destroyer, yet if it is used to excess, it may do great injury. Aside from a sun bath, it seems to be the fowl's inclination to stay in the shade during hot, sunshiny days, and wander into the open only during cloudy days and early and late in the day. If the birds are penned, they should be furnished plenty of shade. If natural shade is not at hand, artificial shade should be furnished. A good plan is to build a platform 18 inches or two feet from the ground, and if it is so it can be removed, the earth can be dug up underneath, making a splendid place for the hens to spend the hot part of the day.

During wet, rainy weather, the hens have an inclination or desire to get up onto something out of the mud. They will get on the woodpile, the fence, a wagon, or in fact anything to be up off the ground. The platform just mentioned makes a splendid rest for them. During hot, dry weather, the hens get under the platform for shade, and during the wet weather, they get on toop of it out of the mud.

The hens appreciate all these little things and show their appreciation by the quantity and quality of eggs produced.

The hens in the Missouri National Egg Laying Contest made good records during February. There were 7462 eggs laid during the month, or an average of 14 eggs per hen. The averages for five years here in the contests have been as follows, fractions omitted:

1912, 10 eggs each; 1913, 12 eggs each; 1914, 13 eggs each; 1915, 14 eggs each; 1916, 14 eggs each.

The ten highest pens to date are as follows:

R. C. Reds, Missouri	399 eggs
White Rocks, Washington	387 eggs
Barred Rocks, Missouri	346 eggs
Black Orpingtons, Indiana	345 eggs
Oregons, Oregon	342 eggs
White Wyandottes, Missouri	338 eggs
White Wyandottes, Michigan	330 eggs
S. C. White Leghorns, Washington	327 eggs
S. C. White Leghorns, Texas	314 eggs
S. C. Reds, Iowa	310 eggs

The five highest pens for February are as follows:

White Rocks, Washington	114 eggs
S. C. White Leghorns, Washington	107 eggs
Barred Rocks, Missouri	105 eggs
White Wyandottes, Missouri	104 eggs
S. C. Reds, Iowa	103 eggs

C. T. Patterson, Missouri Poultry Experiment Station, Mountain Grove.

LYON'S PRACTICAL FARM PAPERS

I sold my 4000 pound tobacco crop to a local dealer at 12 cents per pound, and he sold it over the loose leaf market, in which he is a large stock holder. He told me that his net profit was $6.85, but I have since been told that it was $60. This man I have known all my life, and if I was to go to him today, asking a favor, even to asking him to endorse my note for $1,000 or $2,000 he would do it without a word. If I had his word or opinion on any matter, aside from the purchase of a tobacco crop, I would consider it as correct and final, but I could not believe his oath regarding a tobacco deal

It is just the same here, and elsewhere, with speculators, as another incident will show. A man bought a cheap horse of a cousin by marriage, a horse dealer, and one who had been the recipient of many a favor from the man he sold to. This is what the dealer told the buyer. "I don't know anything about him, except that Bill White says he bred him and he is twelve years old. I know he is a good worker and a good driver, and think that he came from twenty miles north." Ten days later a man from six miles east came along, and said, "Why you bought Prince of Jim. He is an awful good horse, but is subject to colic spells, which I told Jim when I traded him to him for this gray mare I am riding." Now Jim had simply lied to as good a friend as he ever had.

We are told that wagons are $10 higher, walking plows $1 higher, riding plows $3 higher, binders $5 higher, and the other day I paid 25 cents more for an ax, and 25 cents more for a mattock, than the same tools cost a year ago.

It is said that these advances in price are due to the riot among the half civilized people in Europe, but I don't think so. I think that they are due to the fact, that this riot has cut off foreign demand, and that as manufacturers must have just so much profit, they have advanced prices so as to cover the loss from lack of export demand and so if the loss of export trade permits the sale of 5 per cent, or ten per cent less goods, that 5 or 10 per cent must be added to the price of goods sold at home.

Now get at the other side, the price of farm produce. The 1915 tobacco crop is practically all sold; perhaps 95 per cent of it. It has been weighed and found to be a little more than 60 per cent of an average crop, and instead of selling at 40 per cent advance over 1914, the advance was 11 per cent. Now that leaf tobacco is all out of the farmers hands, and a great part of it in the speculators warehouses, prices will soar, but if farmers had held on to even 20 per cent of the crop, prices would not have advanced 10 cents per cwt.

It is known that the 1915 corn crop in five or six great surplus states is a very poor one, both in yield and in grade, millions of bushels of shelled corn in Nebraska and Iowa testing not

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We carry a full line of AMERICAN BEAUTY BUGGIES and ECONOMY ENGINES in the following cities, from which we make immediate shipment.

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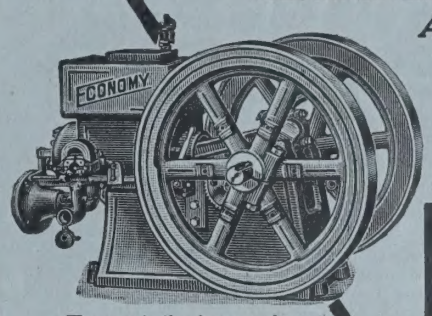
Our wonderful manufacturing facilities, large sales and method of shipping direct to you from a warehouse, enable you to secure a famous American Beauty Buggy or Economy Engine at a price much lower than the same quality buggy or engine would cost elsewhere.



We carry in the above warehouses stationary engines of 1½ to 12-horse power to operate on gasoline, kerosene or gas; also a line of portable engines, saw rigs, grinding and pumping outfits, and an engine to run the binder.

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Belle City Incubator Co., Box 166, Racine, Wis.

over 48 pounds per bushel but there is no great advance in prices, nor will there be until speculators get all the corn in their possession. It is easy to trace the operations of all kinds of speculators and traders, through the rise and fall of markets. No one ever saw wheat sell high in July, August, or corn sell at its worth in October, November.

It has been figured out to within a few days, if when heavy supplies of hogs and cattle will be in market, and their prices go down low enough to suit packers.

Only through organization can farmers ever hope to get the true value of what they sell. I note one thing which pleases me. At a recent meeting of the Nebraska Farmers Union,, 1,000 members of the Society of Equity went into the Union. What we need is, a merger of Grange, Farmers Union and the three divisions of the Equity Society. Such a merger would triple the power of farm organization work, but will the leaders of the various societies stand for it? If not, it can be truthfully said, they do not stand for the welfare of the people.

An eminent agricultural teacher is credited with having made the statement, in a lecture at one of the meetings, that "farm made manures have no value aside from their fertility value."

I did not hear the address, but had it from several men who did hear it, and few of them seemed to agree with the conclusions of the man who made it. For forty years as a writer for the farm press and for thirty years a speaker at farmers' institutes, a user of farm made manures all my life and a user of chemical manures since 1877, I have always believed, and have taught that farm made manures were superior to chemical manures, in that they add humus to the soil and improve its mechanical condition, but here comes a teacher who says I am wrong.

When Sam Jordan spent three days with me last August, and I told him that much of our land had been under cultivation for 120 years, he said "tell me how you have managed to keep up the fertility, and prevent washing on this rolling and hilly land." I told him that we followed a rotation of one year in plow crops, corn and tobacco, one year in small grain, and two years in clover and timothy. Our manure is nearly all used on plow crops, we never trim off weeds or grass, and we use chemical manure on corn, tobacco and small grains.

He then said, "Well C. D., when I consider the fact that much of your land is rough and hilly, that it has been in use 120 years that practically not an acre is abandoned or worn out, and that your crops are as good as I have seen this year, I must say that your farming and your results are hard to beat."

Now, while I am an ardent advocate of chemical manures, I feel certain that our past forty years of steady soil improvement under this use, as a supplement to our farm made manure would not have been as steady or as rapid had we used them independent of farm manure. Until I know more about the matter I will continue to make and apply every load of manure that I possibly can, and when I have done this I will buy and apply all the chemical manures that I feel able to pay for.

C. D. Lyon, Georgetown, O.

THE STORY OF PIKE COUNTY FARMERS' UNION

Almost six years have passed since we started our Farmers' Union. We had been talking about it for several years but all of us held the opinion that it could not be done and that the farmers would not "stick" anyway.

The trusts were holding us up, coming and going; the retailers in our little town also had everything their own way and looked with contempt upon the helpless farmer. It was irksome, almost unendurable for the thinking and more educated of the farmer class. The credit for starting the ball rolling belongs to Mr. Hirt, a drummer who had turned farmer and who most likely saw clearer than the rest of us, that the time to act was opportune. He called a meeting at Excelsior school house, about four miles west of Bowling Green. A large crowd of farmers attended and our grievances were aired as never before. Encouraged by the large attendance and the high spirits of those present, we concluded to hold a meeting in Bowling Green and invite all farmers in that territory. A few weeks later a large and enthusiastic crowd met and the launching of our "Farmers Union" was assured.

We joined a national organization called the "Farmers Equity Union," which at that time just started on new and sound principles. It has its headquarters at Greenville, Ill. From there we received our charter and by-laws. We expected to get help and advise from the national organization, but their plans were too much for the far future and too much for the great western wheat grower. We really desired little benefit from that quarter, and our newly launched Union almost fell asleep. We had no funds, no meeting place of our own, no business place, just a bunch of members who expected great things but were unwilling to put up any cash to carry out our plans.

Through the courtesy of the Pike County Bank we were able to meet in their director's room and there the plans were discussed which we finally carried out. This bank extended to us an almost unlimited credit for which a few of us signed the notes and we began to ship in by the car load everything the farmers needed and wanted. At first coal, then potatoes, cement, corn, oats, salt, bran, shipstuff, woven and barb wire, etc. Then the dry years struck us. Hard times came for the farmer, so that between the trusts and the dry years the farmers' cash and credit melted away like snow in a July sun. But these hard times proved to be boosters for our Union, nothing could ever have boosted more.

The farmers had raised practically nothing. All feed for live stock had to be shipped in. The middlemen immediately took advantage of the farmers' plight, and raised prices on all feeds beyond reason. Then the Farmers Union stepped in with the carload system. The price of bran and shipstuff was lowered at once 5 per cent, that of corn and oats 10 cents per bushel, of potatoes from 60 cents per peck to 80 cents per bushel. And so on along the line. The Union did an immense business. We sometimes had as many as four carloads of corn at a time on track. We sold everything at a very small profit, but we soon earned enough money to build a warehouse on the railroad track which we sorely needed. After that things moved a little easier and faster for the Union. We had now business enough to hire a manager and also start a store in town. We organized the Union as a stock company under the State laws of Missouri, according to the plans of the National Union of Greenville, Ill. By the way, our State Laws are not very friendly towards a cooperative concern. Missouri needs a law in this respect like the State of Kansas has already had for several years. Last year we gave up the store in town and bought a $2,000 property with a large warehouse on the St. Louis & Hannibal R. R. track, opposite the depot. We sold our old warehouse and with the money build a good sized office and meeting hall, adjoining our buildings on our present location, and furnished it.

We extended our business in adding to our stores coal, chicken feed, flour, oil meal,, hay, etc. We handle everything now on a fair margin, that means a profit almost as much as a fair minded merchant expects to make. The net profits at the end of our business year July 1, are refunded to our members as follows. Five per cent is paid on the capital stock, no more, no less. The rest is prorated according to the business that each member has done with the Union. Last year a proration of 6 per cent was declared. Several of our members had done a business of almost $1,000 and received accordingly a rebate of almost $60.00 cash.

To get the benefit of this rebate it is necessary for a member to take at least one share of stock which costs $25.00, no one however is allowed to hold more than four shares or $100.00 of stock. Those who bought less than their allotted four shares will not receive their annual proration or rebate in cash, but in additional stock until they own their four full shares. Thus it is made very easy for the less fortunate to become stockholders and the wealthy ones are constrained from holding a majority of the stock and thus controlling the Union. Right here I wish to mention that under this system our Union has in the past year done a business of over $50,000. Going some? Yes. But it is only the beginning.

Recently our Union purchased a portable Lomestone Pulverizer, which will be moved from one locality to another, where good limestone is located and farmers desire to sweeten their lands for clover and alfalfa. We also have begun to handle eggs, by careful grading and handling. We expect to sell our Union Eggs in St. Louis at a premium. Friday the 17th of March we will have a large meeting in Bowling Green in the moving picture theatre, where Professor H. L. Kempster of the Missouri University will lecture on successful cooperative marketing of eggs and poultry and illustrate his lectures with lantern slides and charts.

We hope to be able to educate the poultry raisers sufficiently that they bring us always fresh eggs and during the summertime unfertile eggs.

The Union provides quite often for such lectures and entertainments. Every 4th of July the Union gives a great picnic and fish fy at which occasion the children are entertained with different games and small presents, local talent is drafted for oratory and the University of Missouri always furnishes a lecturer and as a rule the day is enjoyed by old and young.

The University of Missouri has done much for our Union, always sending their best men to help us out. Twice they held here an extension course which was well attended.

Now the question will naturally arise "What will such an organization do to the local merchant or retailer? Will it ruin him?"

"Will it ruin the home town?"

When we started our Union we met with great opposition from this quarter. We were told that we would send every merchant or retailer to the county farm and kill the home town beyond any possibility of resurrection, if we persisted in our plans.

We however could not see it that way, we believed competition to be the life of trade, we said so and went ahead.

Now let us see how it has come out. Six years ago our town was in as sorry and delapidated a state as I have ever seen a town. About a quarter of her stores or business houses were vacant. The buildings were unpainted and dirty and without repair. The hitching posts around the square had rotted and were broken down only a few remained, and these were sufficient to accommodate the few farmers who occasionally came to the deserted town. Look at the same town today! Not a vacant store to be seen, none for rent for love or money. Several new business buildings erected, old ones remodeled, painted, and cleaned up. New hitching posts and plenty of them around the square and always at a premium. Our business men have not gone to the country to farm, but in spite of the hard times are prosperous and so is the town. No resurrection is required. What has brought about this change?

Several factors.

The retailers and merchants saw the success of the Farmers Union, so they followed our example and also organized. Instead of fighting our Union they invited the farmers to become members of their booster club which a good many did. Now both organizations are working together and any enterprise of merit is boosted by both.

90 bu. per acre from stump land!

When David Bennison of Iowa bought a sixty acre tract of Cypress covered land near New Madrid, in

Southeast Missouri along the Cotton Belt Route

the neighbors laughed at him. But Bennison knew good corn land. He cleared that tract, planted corn, and the first yield—grown among stumps—brought 90 bu. per acre. The wonderful depth and fertility of soil there is amazing. 90 bu. per acre there is better than average but not uncommon. Mr. Mahoney of Dexter, Mo. says "Last year our corn yielded 75 bu. per acre. We have made 90 bu. and it will run above 60 bu. an acre year in and year out". Mr. Hunter of New Madrid says many of his fields of corn average 80, 90 and 100 bu. per acre. There isn't a richer soil in America than that in Southeast Missouri.

There isn't a section anywhere where you can buy rich land so cheap that the first staple, field crop will pay for its cost and clearing (if you buy unimproved). And that rich soil makes wonderful yields of anything. C. D. DeField of East Prairie says "We cut our alfalfa every 28 days; five times a season. It averages a ton per cutting. Clover does well; in fact any kind of feed or pasture, I raised 40 mules last year without doing any winter feeding at all. Cattle and hogs go through winter here without feeding." 90 bu. per acre corn land at $35 will go quick; act!

Free book—illustrated!

A farmer wrote it; and he knows what you want to know about a section new to you. Tells about character and cost of lands, climate, crops raised, etc., and about schools, churches, towns, social conditions. Brimful of actual photograph pictures "taken on the ground." Send today and get this free book.

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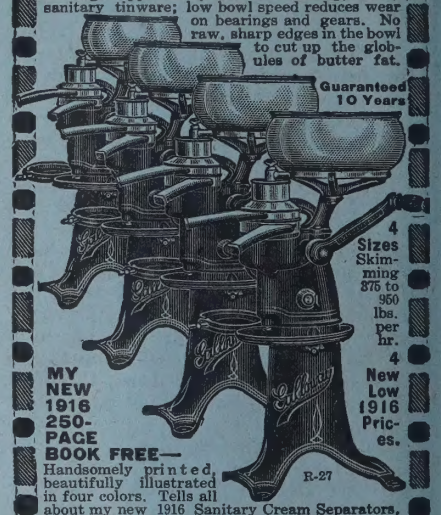
NOTE THIS BUILT-IN QUALITY

Heavy, high carbon steel gear shafts and bowl spindle; extra long bearings; strong, sanitary bowl, discs not fastened together; oil bath lubrication; big, roomy, seamless, pressed steel supply tank; both gear shafts and both spindle bearings supported by one solid casting; heavy sanitary tinware; low bowl speed reduces wear on bearings and gears. No raw, sharp edges in the bowl to cut up the globules of butter fat.



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In this way it has been possible to build a good many gravel roads which enable the farmers to reach Bowling Green easily almost any time of the year; and the low prices at our Union draw the farmers for as many as 20 miles. Now what is the secret of our success? And how do we hold the farmers together? It is the proration system.

We do not force a member to deal with the Union, he is at liberty to buy and sell where he pleases, but if he buys or sells outside the Union he is always sufficiently penalized through our proration system. Let me explain by an example:

One of our members bought corn from a competitor who undersold us 1 cent per bushel. If he had bought from the Union, the corn would have cost him 1 cent per bushel more, but at the end of the year he would have received on this transaction a rebate of 6 per cent. Corn was selling at that time at 80 cents per bushel so the rebate or proration would have been 4.8 cents per bushel, so in fact he penalized himself to the extend of 3.8 cents per bushel. Do you think he will ever do this again? Can you think of any system which will hold the members better than this?

What are the benefits and advantages of our affiliation with the National Union? We receive our constitution and by-laws and this system of proration from there. In organizing our local we were assisted by our able National President, Mr. C. O. Drayton, who is an expert organizer and a convincing orator. The plans of the National Union are to organize a sufficient number of local Unions so that our carload system can be supplanted by a trainload system. A beginning of this has been made in the Dakotas. Train loads of coal have been sent up there and the cars then left for distribution at the different locals. The farmers receive their coal now for almost half of the former price.

Plans are on foot to buy the output of whole factories making mowers, binders, wagons, plows and other farm implements for distribution to the locals at a big discount. It is also planned to own and operate coal mines and flour mills, also to have agents of our own in all large cities to handle all farm produce for the different locals.

Anybody interested in our Equity Union or desirous of organizing a local in his community is advised to correspond with Mr. C. O. Drayton, National President of the Farmers' Equity Union, Greenville, Ill.

T. B. Ingwersen,
Walhalla Farm, Pike County.

By Old Jim Riley

Talkin about fiddlers in hades, they certainly never wus any thicker than the Democratic candidates for guvnor of this imperial commonwealth — an the most of 'em ought to be out sowin' oats or writin' fire insurance and acknowledgin' affidavits in a cross roads town. And I never voted nuthin but the Democrat ticket at that. Don't git so all-fired busy figerin out the submarine question that you fergit to test your seed corn—for it takes ham and bacon to grease the skillet and a barrel of corn in the crib next fall will be wuth more'n a ton of international law, which don't buy no Horseshoe nor pay th' grocery bill.

BUCKSHOT BY THE PROFESSOR

Its time to get busy testing that seed corn. You can't raise a full crop unless you get a full stand.

You can nearly always tell what kind of a fellow a man is by the way he talks about his neighbors.

Why not plant some flowers in the school yard this spring? Why not try to make it look as though it wasn't a corral for young mules?

I believe the good Lord made women so sweet and beautiful and tender just to show the average man what an ornery cuss he really is.

Its either up to farmers to organize or to get wiped off the map. Its time to put on your fighting clothes—for the Lord hates a coward.

A pile of fellows have been so busy discussing international law this winter that the good housewife will have to put in half her time this summer hunting for stove wood.

This is leap year but a pile of girls will do better to leap in the creek than to leap onto a lot of the two footed creatures who are described in Webster's Dictionary as "men."

Help to make March 20 a great "Red Letter" day for The Missouri Farmer by raising a little club of subscribers among your neighbors. At least send in your own dollar.

Many a fellow has knocked big holes in his religion because the old plow which he was too shiftless to put under shelter last fall refuses to scour.

That Jim Riley person can get more "dreams" out of one pipe full of long green than you could corner in any "hop alley" in the country — and to think they would let him tell about them in a respectable paper like this.

I am going to save up all the cigars I get from candidates, grind 'em up and kill the bugs on my tomato vines with them next summer. This will be kind of tough on the bugs but at that its better than going bug house myself.

How about that boy of yours? Have you really tried to make him your friend? Do you enter into his joys and sorrows? Do you ever talk to him about his plans for the future? Why not make him a present of a couple of pigs or sheep and let him have what he can make out of the increase? Why not try to entwine his heart around yours?

What do you suppose your dog really thinks of you? Do you know that dogs are among the best judges of men in the world? Suppose somebody was to write a letter to your mules and ask for a confidential report on the kind of a fellow you really are? What do you suppose the mules would say? Of course if anybody should write to your wife, the chances are—God bless her—she would stand on her "constitutional rights" and refuse to answer.

"Sam" Jordan, the famous Missouri "Corn Man" was pacing up and down the platform of a little railroad station in central Missouri the other day. A couple of fellows were sizing him up and after a while one remarked to the other, "must be a preacher." After a bit a couple of farmers got to discussing "farmin,'. and one of them said, "There ain't no sense in killin time by testin seed corn." "Sam" overheard the remark and when he got through with them the first fellow turned to the other and said sadly, "No, he ain't no preacher."

'POSSUM HOLLER DOINS

The bunch rounded up at "Hez" Browns store the other afternoon and "Chouce" Baker set the ball rolling by slapping "Jep" Thompson on the back and saying, "Good for old Slim Face. He's got his dander up at last and what Funston will do to the "greasers" will be a plenty. He's got a whole lot more backbone than I thought he had. But I don't like the idee of givin "Old Whiskers" Carranzy the right to invade the United States of America. I'd a told him to stay on his own side of the cactus patch or—"Oh, you old fool" said "Jep," that just shows how little sense you'v got. You know about as much about diplomacy as an old blind mule. You couldn't see a joke if a feller was to hog tie you and mash your face down in it. Now here's what really tuck place. When the "greasers" shot up Columbus, Woodrow jumped up in the air, cracked his heels together and said "here's where I lose that watchful waitin stuff"—and then he telegrafed to Fred Funston and told him to wake up th army—that he'd like to borrow it a little while. When old Carranzy heard about it and found out that we was goin to invade the sacred soil of the Republic of Mexico he figgered out that he'd have to do a little invadin himself. He was afraid that Villa would set up a loud holler about that sacred soil bizness and that a lot of greasers would follow him. So he up and lets out a loud roar an tells Uncle Sam that if we are goin to play around in his back yard he's got to have th right to play in ourn—and that if we don't grant it he'll fight us, long as hes got a whisker left. He was just pullin off the same kind of stuff that the politicians feed us on when they git in close quarters. "Chauce" here has stood for the same kind of bunk lots of times from "Teddy," only he didn't have enough sense to know it. Woodrow understood that Old Whiskers was just tryin to square himself—and so he said, "Thats alright old sport, right you are—and so every thing is lovely and th furs goin to fly." "Jep" reeled off this line of talk so fluently and with such an air of assurance that all old "Chauce" could say was, "Well, anyhow wou'd better watch Old Whiskers. I'd ruther trust a sheep killin dog anytime than to trust a greaser."

Every farmer who has an orchard ought to spray his fruit. Write to the Hays Pump & Planter Co., at Galva, Ill., for full information, and mention this paper.

For $7.50 the Chicago Flexible Shaft Co., Chicago, will sell you a clipping machine which will enable you to remove, in a few moments, the coat of winter hair from your work horses—and it will save its cost in the extra work you get out of them this spring.

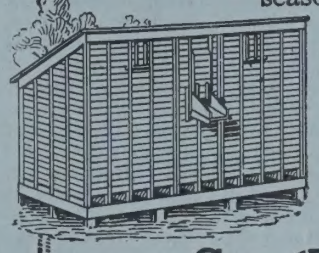
Going to need some new automobile tires? Then you should by all means drop a line to the Firestone Tire & Rubber Co., at Akron, Ohio, and ask them for their latest prices and information on tires. Be sure to mention this paper.

If you like to know what it would cost you to install a farm home furnace, write to Dept. F32, American Radiator Co., Chicago, or to the Monitor Stove & Range Co., 306 Gest St., Cincinnati, and they will send you a lot of very interesting information.

Foresight on the Farm

THIS SPRING—NOW—is the time to prepare for the storage needs for the coming season's crop on your farm.

DON'T WAIT until your corn is in the dent before building a silo—build now, and be prepared for drouth, a short season, or other emergency.



DON'T WAIT until your wheat is ready to thresh before providing bins—you know there's no time to build when the harvest is on, and it's the man prepared to hold his crop who gets the top prices.

YOU CAN get back in one season the building cost of a strong, durable, economical silo or grain bin of

Southern Yellow Pine

The Wood of Service

Prepare for the most prosperous year you ever had—the extra profits from silage—stored feed and wheat held for the top market price are the Cream of the farm income—don't be satisfied with the **Skimmed Milk.**

We will send you, FREE, the best book ever published on building and using silos; and we will send you, also FREE, detailed working plans of servicable, easily constructed grain bins, hog houses, or other farm structures. Use that Foresight and fill out the coupon NOW.

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SOUTHERN PINE ASSOCIATION, 619W Interstate Bank Bldg., New Orleans, La.
Please send me, FREE, your
Silo Book [ ]
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House Plans, (Medium Priced) [ ]
House Plans, (Lowest Priced) [ ]
Miscellaneous Farm Buildings, [ ]

NAME.....

R. R. No..... TOWN.....

Please fill in the Coupon in Pencil. STATE.....

Look at This Bargain

A FINE, big, genuine Oak Kitchen Cabinet, complete in every detail, at a saving of from $5 to $8. Glass front, flour bin, spice jars, tea and coffee jars, aluminum table top and a long list of other conveniences that are only expected in high priced cabinets—yet we ask only

$16.95 For This Beautiful KitchenCabinet

Think of the work and time it will save you. After using it a week you'll wonder how in the world you ever got along without it. And the price—only $16.95. Send for Free copy of big, special circular today. Shows large illustrations and gives complete description of this extraordinary cabinet bargain. Write today.

Montgomery Ward & Co. Dept. D16

New York Chicago Kansas City Ft. Worth Portland
Write to the house most convenient.

REID'S YELLOW DENT SEED CORN Champion at Missouri State Show. Indiana type. The kind that has a deep, meaty grain; small cob; large ears; and yielded this year as high as 115½ bushels to the acre. $2.50 to $3.00 shelled; $3.50 to $4.00 crated in ear. F. O. B. Germination guaranteed. H. G. WINDSOR, Benvenue Farms, Boonville, Mo.

Live Stock Notes

R. P. ROYCE, Fieldman

COMING SALES

POLAND CHINAS
Leonard McMuillin, Sikeston, Mo., May 26

SHORTHORN CATTLE
W. C. Prewitt & Sons, Clarksville, Mo., April 27.

Durocs and Holsteins

The following letter from R. L. Hill will be of interest to our readers:

"We have just about sold out of our gilts bred for early farrow but we have a few real good spring gilts of 1915 farrow that we are breeding for summer litters that should go to buyers wanting big stuff with quality. These gilts are being bred for those purchasers who are not prepared to take care of real early litters.

At the present time we have a good lot of fall gilts for sale that should go to good herds. They are the kind that make for good foundation stock, for these gilts are big and growthy for their age, have lots of quality, plenty of bone, and are going to make big sows at maturity. They are sired by Col. Wonder II., 2nd prize under six months' boar, Missouri State Fair, 1913, the same year his sire was grand champion, and the following year his litter mate was grand champion sow; some are sired by Beauty's Col., a big son of the three times champion Beauty's Model Top; four of them are sired by Rexall Col., the good son of Select Col. II., 2nd prize aged boar at the Missouri State Fair in 1913. These gilts are very attractive and men who want females to add to their herds will make no mistake in getting a few of these fall gilts while they can be bought for the least money, and shipped for the least expense.

We have a few early winter gilts and some boars that are priced very reasonably and these should go to somebody starting in the pure-bred business in a small way. Of these we can furnish a pair or trio unrelated.

We have already booked several orders for pigs from spring litters. There are some herd boars in these litters by these good boars and we are making a special price on these good boar pigs to be shipped May 1. I can heartily recommend these boar pigs to purchasers who are looking for good boar pigs sired by big boars and out of big sows from a prolific strain. By buying them at this time they are priced the cheapest, they can be shipped for very little expense, and they can be grown out on green stuff during the summer and ready for fall service.

I also have one registered Holstein cow, Princess Salatine Bellfee 166873, calved Dec. 18, 1910, for sale. She is sired by Sarcastic College Pontiac and her dam is Bellfee Mechchilde. I also have her bull calf, dropped Oct. 16 1915 weighing about 350 pounds, sired by the 2000 pound bull, Olympus Pontiac Josephine."

Good Poland's at Fair Prices

The attention of our readers is directed to the change in the advertisement of H. O. Linhardt, Lohman, Mo. Mr. Linhardt has sold all his bred sows and gilts and at present can only offer fall gilts. These gilts form a very attractive lot and at the prices asked they should be splendid buys. The breeding back of these gilts is strictly big type blood. Most of them are sired by Giant Mammoth, an extra good son of Expansion Chief. This boar has extreme size and combines scale and quality. In fact, Giant Mammoth is one of the real good herd boars owned in this state.

Mr. Linhardt is prepared to book orders for spring pigs to be shipped at weaning time. Pairs or more of unrelated pigs can be furnished. This spring will afford the first opportunity to secure the get of Chief Big Bone. This boar was purchased from Fred Seviers' noted Iowa herd and is sired by Smooth Big Bone, the 1914 Iowa grand champion.

The writer has been familiar with this herd for several years and can assure our readers that they will like the kind of Polands Mr. Linhardt is producing. Kindly mention this paper when writing.

M. E. Moore & Co's. Holstein Offering

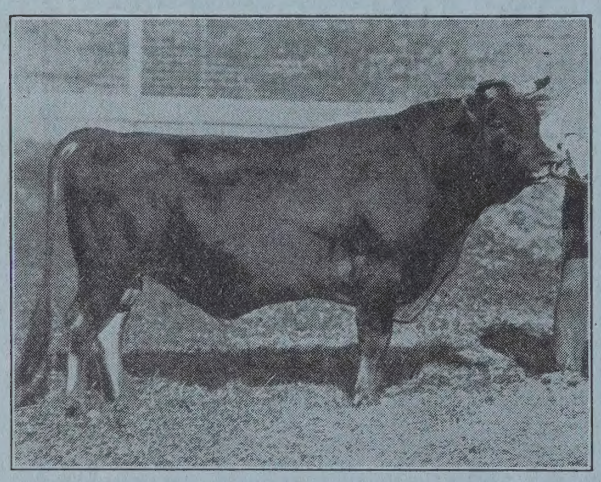
In a recent letter from W. H. Zimmerman, manager of the M. E. Moore & Co., Cameron, Mo., he reports the sale of two of his best cows to Mr. John Hill of Bevier, Mo. This firm, which has been before the public for almost thirty years as breeders of high class Holsteins, now offers ten or twelve head of cows and heifers for sale. Several of the cows listed have A. R. O. records and nearly all are from high producing dams. A number of choice heifer calves are being priced. Most of the calves are by King Ormsby Pearl one of the strongest bred bulls owned in Missouri. Mr. Zimmerman advises that he is very anxious to cut down the herd for summer and is therefore prepared to make an interesting offer to any of our readers who are interested.

Martin's Hampshires

In buying any kind of livestock it is essential that one gets as good blood as the breed affords—blood that has been proven to be right and prepotent. In buying Hampshire swine our readers can feel assured of getting the best when they place their orders with Mr. Isom J. Martin, Lancaster, Mo. Mr. Martin maintains a large herd and can therefore furnish our readers with most anything in Hampshires they may want. Mention this paper.

Smith's Jersey Offering

One of the most attractive offers ever placed before the readers of this paper is the offer now being made by J. B. Smith, Platte City, Mo., one of Missouri's leading breeders of Jersey cattle.



Stockwell's Champion, Premier Jersey Bull

Mr. Smith is now offering a number of highly desirable bull calves, sired by his celebrated bull, Stockwell's Champion.

This bull, aside from the fact that he has been made champion at many of the strongest shows in the country, is proving a sire of exceptional ability. The dams of the young bulls now in offer are among the best cows in the Smith herd, many of them have been winners in the show ring and all are of the type most sought after, and all of them have been bred and developed for heavy production. The prices Mr. Smith is now asking make these young bulls particularly attractive buys and will no doubt move them in a hurry. We therefore urge our readers who are interested to write at once. Mention this paper.

Leonard McMullin to Sell Polands at Sikeston, May 26th.

Our readers, especially those of Southeast Missouri, are reminded that on May 26th, Leonard McMullin will hold a sale of Poland Chinas at Sikeston, Mo. Mr. McMullin has established one of the leading herds of big type Poland Chinas in his section of the state and the coming sale should be kept in mind.

Report of Early & Son's Jack Sale

A great crowd of local farmers and many buyers from a distance attended the dispersion sale of C. H. Early & Son at Centralia, Mo., Friday, Feb. 18th. Col. P. M. Gross sold the jacks. Following is a detailed report of the animals sold. Chandler & Snow of Hardin, Montana, bought the three top jacks of the sale, No. 7, Shanks, $600; No. 4, Arabian, $685, and No. 6, Star King, for $1025, the top of the sale. Fourteen head were sold.

No. 1. Bert Woods, Macon, Mo., "Prince of Monroe," $330

POLAND CHINAS

Smooth Columbus
THE BOAR THAT PUT MISSOURI ON THE MAP. HEADS OUR HERD

SMOOTH COLUMBUS BLOOD has held the record in Missouri for two years—it will do it again next year. Fall pigs, either sex, by this great boar, now offered for sale.
BENNETT BROS. R. 5, LEE'S SUMMIT, MO

Spring Boars by the Grand Champion
A desirable lot of early spring boars by The Giant, acknowledged to be one of the greatest young Poland China boars of the breed. Prices within reach of all.
WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

Poland Chinas & Shorthorns
Bred sows and gilts. The real big kind with bone and quality. A few serviceable boars. Several extra good young bulls and heifers. Satisfaction guaranteed.
H. S. Williamson, Route 6 Centralia, Mo.

BAKER'S REAL BIG-TYPE POLANDS
We have a number of extra good spring boars sired by Big Look that we are offering worth the money. Need the room and must sell. Remember our February 18th sale.
W. A. BAKER & SONS, BUTLER, MO.

BIG TYPE BOARS FOR SALE
Hear we are with the good big type sping boars by SOOTH COLUMBUS and SPOTTED MONSTER out of WONDER and LEADER sows. Crated and on the car at Rocheport, for $25.
HALL & RAPP, ROCHEPORT, MO.

Linhardt's Polands
I have a choice lot of extra good fall gilts sired by outstanding boars. Customers in 26 states. GIANT MAMMOTH 68375 and CHIEF BIG BONE 75856 in service. Priced for farm trade.
H. O. LINHARDT, LOHMAN, MO.

DOOLEY'S SPOTTED POLANDS
Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pair and trios no relation. Also registry furnished. Send check with first letter.
EDGAR DOOLEY. - Etterville, Mo

DUROC JERSEYS

COL. WONDER DUROC BOARS $25
At recent Missouri State Fair my herd won 35 ribbons—3 championships, 15 firsts. Col. Wonder sires my champions—he will sire them for you. Choice bred gilts. Spring boars by Col. Wonder $25 each. Send check in first letter. Nothing but the best sent on mail orders.
CHAS. L. TAYLOR - - - - - - - Olean, Mo.

Durocs With Size and Bone
I am offering a choice lot of early spring pigs with unusual size, bone and quality. Bred right and priced right. Visitors welcome.
A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

Adenhill Durocs Please
Else we would not be sold out of bred gilts. Now offer gilts bred for summer farrow. Booking orders for spring pigs. First come, first served.
R. L. HILL - - Columbia, Mo.

Classified Advertising

BARRED PLYMOUTH ROCK EGGS for hatching, from extra choice, large farm raised stock. Deep clear barring, and free from smutty or brassy color. Big yellow legs and proper shape. Price of eggs, $1 per 15; $2.50 per 45; $5 per 100.
M. D. PORTER, VANDALIA, MO.

FOR SALE—Barred Rock Cockerels. High class fellows with great size. $2 to $5 each. Obadiah Prettyman, Fairfax, Mo.

EGGS—Pure Single Comb Ancona eggs from Mountain Grove trap nested birds. $1.50 for setting of 15. F. A. Heninger, Columbia, Mo.

SEED SWEET POTATOES—Improved Red Nansemond and Yellow Jersey. Pure stock; select seed. Get the best. Bushel $1.00; barrel $2.50. Geo. J. Meister, Affton, Mo. 3-1-2t

FOR SALE—Pure Pearley's Mongol Soy Beans, $3.00 per bu. Sacks furnished. L. G. Snyder, LaMonte, Pettis Co., Mo.

WHITE ORPINGTONS—Eggs $3.00 per 15; utility eggs 80c per 15, $4.50 per 100. Otto W. Oetting, Concordia, Mo.

THOROUGHBRED S. C. REDS—Bred for eggs and standard points; deep red, healthy, fine males. Eggs 15 for 75c, 105 for $4.00. Mrs. Geo. Gerhart, Glensted, Mo. 3-1-5t

BARRED ROCKS—Eggs from big, vigorous stock that will give you some prize winners at $1.00 per setting. Exhibition mating, $2.50 per setting. Mrs. Wm. Heinman, Salisbury, Mo. 3-1-6t

S. C. BROWN LEGHORN EGGS—$1.50 for 30, 4.00 for 100. Also some fine stock. John H. Plassmeyer, Westphalia, Mo. 3-1-4t

R. C. R. I. REDS—Famous Kaufmann & Windheim strain; none better. Keep up with the best stock. Pen eggs $3.00 per setting; range $1.00 per 15, $5.00 per 100. Am booking orders. W. B. Elley, R 2. Columbia, Mo. 3-1-6t

EGGS—Thompson strain Barred Rocks. Eggs from pens, $3 for 15; farm range, $1 for 15; $5 per 100. Mrs. L. H. Elly, Columbia, Mo. Rt 2. Phone 36-B.

BARRED ROCK EGGS for hatching, $1 per 15; $3 per 50; $5 per 100. Winners at Springfied, Vandalia and Louisiana. F. M. Creamer, Louisiana, Mo.

R. C. RED and S. C. W. LEGHORN eggs, $1.00 per 15; $5.00 per 100. Mrs. J. W. Ezell, Houstonia, Mo.

BEE SUPPLIES of all kinds. Low prices; discount for early orders; catalog free. Rouse Co., Mexico, Mo. 3t

Hazelwood Durocs
Seventy choice spring boars and gilts sired by HAZELWOOD CHIEF, by CRIMSON COL., and out of OHIO CHIEF bred sows. Get our prices.
E. P. POWELL & SON, Maryville, Mo.

75 Duroc Spring Boars and Gilts
Seventy-five (75) good boars and gilts. Rich breeding, and plenty of size and bone. Pairs, trios or more. Priced to sell.
J. C. Garrard & Son, McBaine, Mo.

Duroc Gilts---Bred for Spring
I now offer a choice lot of big February and March gilts sired by GOLDEN TA and bred to a grandson of COL. WONDER. Priced to sell. Extra size and bone.
J. E. McPherson, Columbia, Mo.

HAMPSHIRES

BROOKVIEW HAMPSHIRES
Herd headed by GEN. TIPTON and SIR BROOKVIEW, both grand champions. Spring boars and gilts of choice breeding and individuality. Prices reasonable.
ISOM J. MARTIN, R 5 Lancaster, Mo.

RED POLLED

RED POLLED CATTLE
Herd established 16 Years
Young stock for sale. Young bulls sired by LOGAN 13500; Calves sired by KNOCKER 28791. Bred for milk and beef. Also offer spotted Poland China hogs and Rieds Yellow Dent seed corn.
M. L. SNYDER. - POLO, MO.

AUCTIONEERS

THOMAS E. DEEM
AUCTIONEER
Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased.
Dependable service at a reasonable price. Address, Cameron, Mo.

JERSEY CATTLE

JERSEY CATTLE

Bulls ready for service. They are sired by the Owl's Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

JERSEY BULL CALVES

I have three extra fine ones for sale. Sired by Stockwells Champion. He has won 29 first and Champion ribbons at the leading State Fairs. Calves are out of very high producing cows. For breeding, etc., writ.

J. B. SMITH Platte City, Mo.

SUNSET JERSEYS--TRIO

Two fancy heifers (both bred) and a fine bull, all of the famous Blue Belle—Golden Rosebay breeding. I will sell this trio for $250. This price cannot be equalled anywhere for such stock. Send for circular, description of herd, production etc.

The ENNIS STOCK AND DAIRY FARM,
Horine Station, Mo.
(Just south of St. Louis)

For Sale

A few choice Jersey bull calves sired by Kinloch Granville Lad 91520 (grandson of "Golden Fern's Lad"), and out of cows producing over 40 pounds of milk per day. While they last at $20 each.

D. V. VANDIVER, COLUMBIA, MO.

HOLSTEIN CATTLE

Dutchland Sir Hengerveld Rag Apple 99771

A few choice bull calves out of heavy producing dams sired by the above famous bull for sale.

BLACK AND WHITE FARM
Baden Station, Mo.
Tel. Colfax 1812 R. R. 30

IN MISSOURI

Eight bulls, 2 to 8 months, $100 to $175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.

S. W. COOKE & SON, MAYSVILLE, MO.

HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndyke Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

M. E. MOORE & CO., Cameron, Mo.

HOLSTEINS

Bought for you on small commission. What do you want? Price low. Feed short.

H. T. Hook, Janesville, Wis.
(Formerly of Columbia, Mo.)

ANGUS CATTLE

Choice Aberdeen-Angus

Established 30 years. 100 head in herd. We are offering good useful Bulls and Heifers of excellent individual merit and breeding. Price reasonable. Our customers make them popular.

D. L. Sutherland & Sons, Windsor, Mo.

Aberdeen-Angus

I am offering a number of young bul,si cows and heifers — good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.

J. D. Blackwell - Fayette, Mo.

ANGUS CATTLE

Herd founded 1904

Young stock sired by Dean's Eric 139686. Also offer splendid herd bull for sale. Every one the right kind and priced to sell.

V. E. LAWRENCE, SALISBURY, MO.

Angus Bargains

Registered bulls and heifers. The market topping kind. Leading families represented. Priced worth the money and satisfaction guaranteed.

Also Poland China Hogs.

J. M. JONES, R. F. D. 3, EVERTON, MO.

MOLASSES Richest Feed Lowest Cost
St. Louis Molasses Co., Dept. MF.,

2. F. M. Holtsinger, Moberly, Mo., "Wiliam A." 105
3. F. M. Holtsinger, "Dr. Sappington," 100
4. Chandler & Snow, Hardin, Mont., "Arabian," 685
5. J. L. Sappington, Centralia, Mo., "Black Doctor," 150
6. Chandler & Snow, "Star King,"..1025
7. Chandler & Snow, "Shanks,"..... 600
8. F. M. Holtsinger, "Black Dan,"... 150
10. F. M. Holtsinger, "Imp,"..... 115
11. P. M. Gross, Macon, Mo., "Mammoth," 300
12. V. Castleman, Browns Station, Mo., "Major," 90
14. Hamilton Bros., Mexico, Mo., "Tom McGee, Jr." 310
18. John Brink, Hallsville, Mo., "Long Tom," 170

MINERAL SUPPLEMENTS FOR SWINE

Most swine raisers understand that it requires both exercise and a sufficient amount of mineral matter in the feed to develop good bone in hogs but in practice a great many feeders who depend too much on a corn ration fail to supply enough mineral feed to develop good bone. This is not so serious a defect with the man who grows hogs solely for market as it is for the breeder who grows hogs that are kept to much greater age than market hogs are kept. But the shipper who suffers loss by the hogs breaking down in shipping must pass the loss back to the producer and so it is of some importance to all swine growers to see that good bone is developed.

In discussing this subject in a recent Bulletin of the Ohio Experimental Station, Professor E. B. Forbes among other things has this to say:

By killing and cutting up a number of hogs which had been crippled, but which by good care had been cured and sent to the slaughter on their own feet, the writer has found that actual fractures of the bones of the thigh and of ribs are common; and lameness, which may result in loss in shipping and in abbreviated usefulness on the farm, may be caused by weakened and inflamed tendinous attachments, the injuries being caused by lack of density of the bones.

By careful measurement and examination of the bones of hogs we find that the effects of deficiency of bone foods on the bones themselves is to make their structure more porous, and their walls are thinner. Deficiency of bone foods in the ration of a growing animal may reduce the breaking strength of a bone by half without restricting its growth to a noticeable extent; though careful measurements, especially of their volumes, shows that there is some effect of a deficiency of mineral nutriments upon the increase of the bones in size.

After animals have become mature, a deficient supply of mineral nutriment, especially if associated with an unusual demand for it, reveals the capacity of the animal to draw upon the minerals of its skeleton as one draws upon a cash account in a bank. Thus, the sow which is suckling pigs on a ration which is deficient in mineral matter can withdraw minerals from her bones even until they break; and then, during a subsequent period of supply in excess of immediate demands, the whole amount withdrawn may be replaced.

By a liberal allowance of bone foods during the growth of a pig you may cause an almost indefinite deposit of minerals, especially inside his marrow spaces; and the bones will be greatly increased in density and in strength, but will not look the larger on this account.

There are nutritional disorders of swine which are recognized as due to excess of mineral nutrients in the diet. Mineral nutrients in the ration in excess of the requirements are easily disposed of; either they are absorbed, and are then excreted by the kidneys (or returned to the intestine), or they are not absorbed, but are passed off in the feces. The first pathological result of the consumption of an excess of mineral nutriment would usually be a cathartic effect, and, in the use of practical foods, probably no effect more serious would be produced. The only food that I know of which is often fed to hogs, and which is apt to be injuriously laxative on account of its mineral nutrients, is sugar-beet molasses.

There are several mineral supplements which are useful in the feeding of hogs on cereal rations, when they are not on pasture. These are bone flour, wood ashes, corncob charcoal and lime. They all have considerable value as sources of calcium, and the bone flour also furnishes an abundance of phosphorus. The wood ashes and corncob charcoal contain but little phosphorus, and the lime, of course, none at all. Lime may be used as the hydrate, or in an air-slaked condition, or as the carbonate, two available forms of which are whiting and ground limestone. These mineral supplements may be fed to best advantage in self-feeders, preferably mixed with a sufficient amount of salt to insure their consumption; and they have a proper place in the feeding of hogs on cereal rations under any such conditions of restraint as make it impossible for them to "rustle" for their own mineral supplements.

From the foregoing, the reader will naturally deduce the observations that the hog which stands in the greatest need of mineral nutriment is the closely confined, growing shote, and after this one, the sow with pigs. The most useful means of supplying this need, and at the same time the greater need of the corn-fed hog for protein, is through the use of green forages previously mentioned, especially clover or alfalfa, and through the feeding of tankage and skimmilk. Alfalfa and clover hay may also be used to advantage in feeding mature breeding hogs.

Further, our own results in the feeding of hogs in comparatively close confinement lead us to doubt if any system of feeding will produce the maximum density of bone, if the animal be restrained from taking abundant exercise. I believe that the cells of the bone tissue of the hog which runs on pasture are more eager for mineral nutriment than those in the closely confined hog, and that on the same food the hog running at large would produce the denser bone. Perhaps of still greater importance than the mineral matter and the protein, which the hog picks up for himself at pasture, is the fact that under these conditions he has a greater opportunity to get away from his own and other hogs' parasites.

HOGS MAKE GAINS ON FORAGE CROPS

The profits from next year's hog crop depend on getting an early start and a good growth on the spring pigs. Grain feed is likely to be scarce and high-priced next spring and summer on account of the loss of the corn crop last fall caused by early freezing and late corn. Good forage can be made to go a long way toward taking the place of grain in maintaining the brood sow and starting the spring litter of pigs. Records of gains show that an acre of clover will give as large a gain on hogs as 1,400 to 1,500 pounds of shorts.

If good clover pasture can be provided, it will be one of the cheapest substitutes for grain that can be found. If provision for clover pasture or for forage crops has not been made, substitute crops can be grown. One of the best substitues is a mixture of a bushel of oats and one and one-half bushels of Canada field peas. These should be sown just as early as the ground is ready to receive the seed. They will make a good pasture in five or six weeks.

Dwarf Essex rape is also a popular hog forage. This may be sown early, also, though it grows faster when not sown until the ground is reasonably warm. A mixture of half a bushel of oats, three pounds of Dwarf Essex rape and two pounds of medium-red clover sown on an acre of ground about May 1 will make splendid summer feed after the middle of June. To follow this, corn sown in drills 36 inches apart with rape sown broadcast after the corn has been cultivated once or twice will make excellent late summer and early fall feed, especially for the growing pigs.

By the use of these forage crops, very much can be done to stimulate the growth of the pigs and to put them in good condition for fall fattening. If a small amount of shorts and some skim milk can be provided for the young pigs with the forage, excellent gains will be made.—Andrew Boss, College of Agriculture, University of Minnesota.

WAIT!

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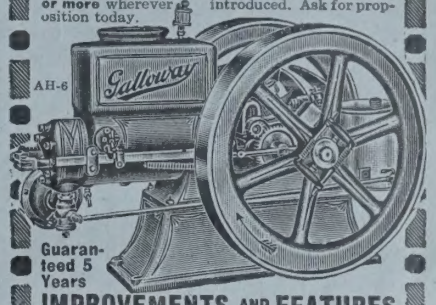
ABOUT BUYING AN ENGINE

Until you have seen this **new 1916 250-p. book** that tells all about **Galloway engines** and explains my **new extra special advertising distribution offer.** If you answered all the engine advertisements ever published you would not find an offer fairer, squarer or more in your favor. You owe it to your **pocket-book** and the **satisfaction** that you demand in the operation of the engine you buy to **answer this advertisement** and learn the particulars of this new 90-day offer to distribute 10,000 more Galloway Masterpiece Engines from 1 3-4 h. p. to 16 h. p.

The **great Galloway chain of factories** are running **day and night.** We are turning out more **Masterpiece engines** than ever and the reason is that we are building this engine **so good** from such a highly perfected design, of such good materials, and by such thoroughly skilled workmen, that every Galloway Masterpiece sells **one or more** wherever introduced. Ask for proposition today.



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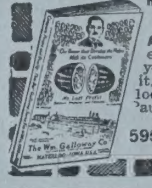
IMPROVEMENTS AND FEATURES include valves in the head; extra cooling surfaces, large water pot; frost-proof cylinder; adjustable bearings, economy carburetor; uses any fuel; large perfectly balanced fly wheels; built-in magneto; Hercules water-cooled cylinder head, cannot blow off; easy to start, no cranking; needs no batteries; independent of weather, hot or cold, wet or dry. **A mechanical masterpiece!** These features and many others make Masterpiece engines power kings in their field. **Ask today for this new book** printed in four colors. It will solve your power problems. A postal gets it. Engines shipped from Waterloo, Council Bluffs, Kansas City, St. Paul, Chicago. **Wm. Galloway, Pres.**



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THE "EASY MONEY CROP"

Wonderful forage crop. Easy to grow everywhere. Produces finest hay. Seed for an acre only costs 50c and will produce 5 to 7 tons of hay worth $50 to $75. Can't beat it as a profit maker. Our seed is new crop, **Iowa grown**, cleaned, tested and strictly pure. Write for sample and free booklet, prices, etc.

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We Make Lowest Wholesale Prices on "Hi-Quality" Pure Tested Seed Corn, Alfalfa, Clover and other field seeds; also Garden and Flower Seeds, Small Fruit, Shrubbery and Nursery Stock at very low prices. My **1916 Planting Guide and Pure Seed Book,** 116 pages, printed in four colors, hundreds illustrations, authority on field crops, gardener's encyclopedia, orchardist's and berry-grower's manual. Get it.

GALLOWAY BROS. & CO.,
592 Galloway Sta. Waterloo, Iowa

REID'S YELLOW DENT CORN

SEED CORN—Reid's Yellow Dent, bred right, carefully selected, shipped subject to your approval. Nubbed, shelled and graded at $2.50 jer bu.; choice corn in the ear $3.50 per bu. Also some Golden Surprise—just the thing to plant for early feeding. Also fine for late planting. Deep grain, small cob. Nubbed, shelled and graded, $3.00 per bu. f. o. b. Centralia. B. P. Smoot, R 5, Centralia, Mo.

SEED OATS---SEED CORN

Early Lincoln—A large white oat. The best oat for feed. 65c per bu. Sacks free.

Pride of Saline—A yellow Dent seed corn. Heavy ears, very deep kernel, shells immensely. $2.25 per bu., shelled, tested.

K. H. BROWN, Bolivar, Mo.

Choice Seed Corn for Sale

I have 500 bushels sound, heavy Johnson County White Seed Corn for sale at $1.50 per bushel.

GEO. V. SAFFARRANS,
Marion Farms Palmyra, Mo.

SEED CORN

Johnson County White, the best I ever grew and all in crib by Nov. 1. Price low this year, $2.25 single bushel, $4 for two bushel bag shelled. Crated $3 a bushel, extra selected ears. Order early.

C. D. Lyon, R. 1 Georgetown, Ohio

ARE YOU GROWING SCRUB CORN?

So much has already been said on the 1916 seed corn situation that it would seem useless to say more, but in the face of all that has been said from the platform and through the press, the cold facts remain that there are vast numbers who will again plant seed of not only poor breeding but low in vitality.

Others are going to plant some well bred corn that is low in vitality.

Some again will "send off" and buy shelled seed, and some will get their seed from the common crib.

Knowing these things, one can readily see one of the reasons why our corn yield is not better than it is.

In many fields the scrub stalks will average six per cent "and up".

Why the scrub, you ask? The two chief reasons are easy. One is that a scrub is commonly bred by a scrub, and the other may lack vitality in the seed grain.

In this last case it may not be a scrub, but a runt, the same as a well bred pig may be a runt.

But in the corn, how does the runt happen? It may happen through weak vitality caused by a lack of proper plant food, but more likely on account of the freezing while both grain and cobs are yet full of moisture.

Is your corn "mellow"? I do not know what other term to use, but try some of the ears by pressing hard on the ends of the grains and see if the grains sink lightly into the cob. If "mellow", the feeling is much the same as when you try an apple to find if it is mellow.

If we were sure of the cause of this condition we might be more sure of what damage, if any, there may be.

One cause may be the wet cob shrinking away from the grain—but this would be doubtful since this condition is not found much in the tight grained ears. It may be more likely that it is caused by heavy frost while the cobs are yet very wet, causing the grains to "heave" out like a post in wet soil, or as clover heaves out. Since there was so much moisture late last fall, also early frost, it might readily be inferred that this last theory is the right one. It is true that there is an abundance of "mellow" corn.

No data is available now to show to what extent such grains may be injured, but it would seem wise to make a careful test to make sure.

If three grains are given an equal chance, and two have good vitality and one low vitality, the three may grow—but the two good ones start first, and have an advantage over the other one, and one scrub or runt will be the result.

Plant runts and scrubs—and runts and scrubs will likely be the result.

Get rid of the scrub by breeding and selection. Get rid of the runt by selection and care. Sam Jordan.

Send No Money

—In Advance on This Great 60 Days Feeding Offer.

I want every farmer and stockman to see for himself, **before he pays,** what SAL-VET will do for his own farm animals. I want you to see how it will destroy the ravenous destructive worms that are eating the high priced feed which should go to nourish your animals—how it will stop your losses from worms—how it will aid digestion making your stock thrive better—grow faster—gain in weight and value. I want to prove my claims right on your own farm before you pay me a cent. You take no risk whatever.

The Great Worm Destroyer **SAL-VET** ***The Great Live Stock Conditioner***

TRADE MARK — REG. U.S. PAT. OFF.

SAL-VET is not only superior to other preparations for ridding stock of worms and aiding digestion, but is also the cheapest; costing only $\frac{1}{12}$ of a cent a day for each sheep or hog and only $\frac{1}{3}$ of a cent a day for each horse or head of cattle. Requires no dosing—no drenching—no starving—no trouble to feed. It is a medicated salt but without antimony. Simply give your farm animals free access to it and THEY DOCTOR THEMSELVES. I want to send you enough to last all your stock 60 days. I want to show you results before you pay a penny. I get thousands of letters like these:

"When I began feeding SAL-VET to my pigs, they were very wormy, coughed a great deal, and some were runts. I have now fed SAL-VET for about seventy days, and I assure you these pigs look different. They are all in fine condition, and there is not a scrub in the bunch."
GEORGE THORNTON, Rt. No. 2, Brooklyn, Wis.

"Our sheep became infested with stomach worms and were dying almost daily. Reading of the remarkable cures accomplished by SAL-VET I decided to try it. Much to my surprise I have not had the loss of a single sheep since. SAL-VET does exactly as you claim."
JOHN E. TEMPLIN, Blanchester, Ohio

(247)

Send No Money—Just the Coupon

Now fill out the coupon—tell me how many head of stock you have and I will supply you enough to last all your stock 60 days; you pay the freight charges when it arrives and feed it according to directions. If SAL-VET does not do what I claim and you make a specific report in 60 days, I'll cancel the charge; you won't owe me a penny. Address **SIDNEY R. FEIL, Pres.,**

THE FEIL MFG. CO., Chemists, Dept. 82 . CLEVELAND, O.

Prices

Each 40 lb. pkge.	$2.25
Each 100 lb. pkge.	5.00
Each 200 lb. pkge.	9.00
Each 300 lb. pkge.	13.00
500 lbs.	21.12

No orders filled for less than 40 lbs. on this 60-day trial offer. Shipments for 60 days' trial are based on 1 lb. of SAL-VET for each sheep or hog and 4 lbs. for each horse or head of cattle. Thousands of dealers sell SAL-VET at above prices but in the far West and South the prices are a little higher on account of the extra freight charges.

"I have not lost a hog since I began feeding Sal Vet. My neighbors all arounnd me have had their hogs die. I will never do without it."—J. T. Deatherage, Ink, Mo.

"Sal Vet" is the best worm destroyer for colts and hogs I have ever used. Am very well pleased with it."—E. J. Douglass, McBaine, Mo.

"Just as you claimed, Sal-Vet is the best worm destroyer one can use. It expelled worms from my horses after other remedies had failed."—R. B. Gaines, Braggodocio, Mo.

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Dept. 82-1-15-16 [Cleveland, Ohio

Supply me enough SAL-VET to last my stock sixty days. I agree to pay the freight, feed it as directed, and will then pay for it if it does what you claim. If it fails and I so report specifically in 60 days, you are to cancel the charge and I will owe you nothing.

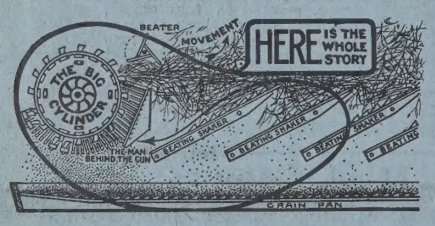
I have.....hogs.....sheep.....horses.....cattle

Name.....

P. O......

Ship. Sta......*State*.....

WAR ON WASTE WITH THE Man Behind the Gun



You grow your grain for profit.
Wasteful threshing means that both grain and profit are being thrown away.

Buy or Hire a Red River Special

To do your threshing this year, and get all of the grain that you raise and all of the profit that it will bring.

Everything that will do fast, clean and perfect threshing is to be found in this machine: the Big Cylinder, the Man Behind the Gun, the Beating Shakers, all are there to take all of the grain from the straw.

The patented features of a Nichols-Shepard Red River Special will alone thresh and save more grain than other machines can secure with their entire mechanism.

Get the Big Run and Save the Farmer's Thresh Bill

NICHOLS & SHEPARD CO.
(In Continuous Business Since 1848)
BUILDERS *EXCLUSIVELY* OF
THRESHING MACHINERY
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BATTLE CREEK, - - MICHIGAN

OILING EARTH ROADS

Many extravagant statements have been made by those interested in the sale of oil as well as by those enthusiastic road boosters who are willing to accept most any proposition for road betterment without question, about the value of oil in maintaining a good earth road. Engineers of experience in oiling roads generally agree that the most important factor in the use of oil on earth roads is for dust prevention. True anything that will prevent dust will to a certain extent prevent mud because when rain falls on a dust laden road much of the water penetrates the road bed, whereas if the surface was smoothe and free from dust most of the water would find its way to the ditches and the road would dry out quickly and no deep ruts would be formed.

Earth streets in small towns where there is no very heavy traffic may profitably be oiled to keep down the dust and prevent mud but on streets with a very heavy usage and on country roads we doubt the economy of oiling as a permanent or profitable improvement.

The Illinois Highway Department has just issued a report on the surface oiling of earth roads in which they estimate the cost of oiling a road at from $150 to $475 a mile. "With average conditions and with a medium priced oil, the average cost of oiling alone per application may be from $200 to $250 per mile of road 15 feet wide." And on the durability of an oiled road the report has this to say: "It is predicted by some enthusiastic users that a road will not require oiling after it has qeen oiled for two or three years and the surface has become throughly saturated with oil. The writer has visited some twenty different towns that have oiled their streets for a period of more than five years and the present condition of such streets indicates that the oiling will have to be repeated each year indefinitely to secure the desired results. The quality or quantity of oil usd in the twenty towns referred to is not known. It may be that if a high grade of asphaltic oil is used that some annual application may be omitted after a few years of treatment. With the best oil, however, it is hardly expected that more than one year could elapse without some attention."

The annual cost of $200 to $250 is too great for the possible benefits on most of our country roads and we think that money can be used to better purpose than to use that amount of money for improvements lasting for only a season. Those who are interested in the subject should write the Illinois State Highway Department, Springfield, Ill., and get a copy of Bulletin No. 11—Surface Oiling of Earth Roads, prepared by B. H. Piepmeier.

THINGS OF PERTINENT INTEREST

Darling & Co., Dept. 54, Union Stock Yards, Chicago, will be glad to send you full information and prices on all kinds of commercial fertilizers.

If you are going to need a new corn planter, write to the Hays Pump & Planter Co., at Galva, Ill., and mention this paper. They are said to be putting out one of the best corn planters on the market.

The Ohio Carriage Co., of Columbus, Ohio, are putting out a great line of powerfully built farm buggies and carriages at a low price. If you are needing a new vehicle, better get in touch with them.

Not too late yet to order that incubator—and the M. M. Johnson Co., of Clay Center, Neb., and the Belle City Incubator Co., Box 166, Racine, Wis., are among the best. Write them at once.

Why not pull up the stumps and make your land earn money? The Hercules Co., at 191 24th St., Centerville, Iowa, put out the best stump puller on the market. A postal card will bring you complete information.

For $10 you can attach a "Shock Absorber" to your Ford car that will make it ride a great deal easier and more comfortably. Write to the H. & D. Co., 94 Marion St., Goodland, Ind., for information.

If you are thinking of sowing alfalfa or clover, write to the Earp-Thomas Co., at Bloomfield, N. J., and ask them to send you their literature on "Farmogerm"—the great legume fertilizer.

Why Pay War Prices for Nitrate of Soda Fertilizer? Legume Crops Inoculated with

THE STANDARD INOCULATION
FARMOGERM
HIGH BRED NITROGEN GATHERING BACTERIA for CLOVERS, ALFALFA, BEANS, and OTHER LEGUMES

High Bred Nitrogen-Gathering Bacteria for Clover, Alfalfa, Beans and Other Legumes will add the free Nitrogen in the air to your soil at the rate of $40 per acre at a cost of only $2.

Nitrate of Soda is now $80 a ton, a prohibitive price for the farmer.

You can inoculate 5 acres of Peas, Beans, or other legumes with FARMOGERM for $6. That means 5,000 lbs. of Nitrate Nitrogen going to enrich your soil. Bought as Nitrate of Soda it would cost $200.

And in addition to all this FARMOGERM produces best and biggest crops of Peas, Beans, Alfalfa, Clover and all legumes, at lowest cost.

100 acres (in 5 acre size bottles).. 100
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The Demagogue

Once more the voice of the petty politician is abroad in the land and as he ambles along he leaves a trail of campaign cards, cheap cigars and still cheaper talk in his wake. With many men the hunger for public office is a disease rather than a worthy desire to render useful public service. From time out of mind a sort of glamour has attached to the holding of public office and once the germ gets a firm foothold the victim follows the game with the persistence of a gambler and frequently plays it with even greater skill—and hence, even as the gambler, there are few tricks to which he will not resort to gain his end. Again, there is another class of men who, having been failures at everything else, seek to gain a living by contracting a sudden desire to serve the people and who, though they failed in running the 'corner grocery'' assume to be able to pass upon the larger and more complicated affairs of the community with an equanimity and assurance that would be amusing if it were not dangerous. Then there is still another class—those who have succeeded in acquiring some bank stock and other of this worlds goods in goodly quantity and who covet the honor that goes with public preferment much as they would covet a string of pearls or a degenerated foreign title.

But, after all, these are the pigmies of the game and it matters little to the public who among them wins when the votes are counted. You might put the whole bunch of them in a sack, shake them up and then grab the first one your hand touched and have no regrets over your choice. But there is an individual sometimes referred to as the ''demagogue'' who plays for the larger stakes in the game of politics and who is truly dangerous because he is a seeker after power which often affects the well-being of a whole commonwealth—or possibly even the Nation. Frequently possessed in no mean degree of the art of oratory, he cultivates the mien and manner of the profouned statesman and in a fine rage tears a passion to tatters. He is above everything elsethe ''peoples friend.'' While he does not say so in so many words, he thinks the public would be in a pitiful fix were it not for his guardianship. He is a watch dog who bays long and loud against anybody but himself and his friends having access to the public treasury. He is an implacable enemy of the ''interests''—always taking care however not to tread on the toes of that particular interest which might be able to heave a rock in the path of his political progress. His raven locks are storm tossed and he moves among common men as a sort of superior being—does this demagogue my friend who above everything else is a consummate ass and who is responsible for much of the miscarriage in American government and for the chaos which rules in the world of American industry and business. Since, as a mere boy I listened to my first political tirades he has been with us even as he is with us to-day. Then, as now, he roared like a lion in the highway and yet the wolves of American industry have gone on their way undisturbed while men who had committed no wrong were hauled like so many horsethieves before the bar of a public justice which they had not offended.

With the demagogue it is not a question of what is right or wrong but solely a question of what policy will procure the most votes and make it possible for him to continue in public office. To him political parties are mere instruments to an end. What they fundamentally stand for is of no concern for he is willing to swear that the world is round or flat—which ever suits the wind of the passing hour. And you and I, my friend, are responsible for this political mountebank for from time out of mind we have permitted him to play upon our prejudices. We have applauded his cheap dramatic rage and laughed at his stale humor. We have failed to discriminate between the clown and the statesman—and until we exercise more intelligence as citizens his raucus voice will continue to rule in our halls of state.

—By the Author of After-Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

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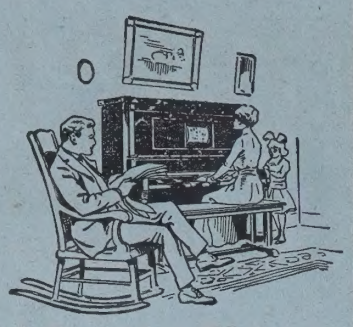
WILLIAM HIRTH
PUBLISHER



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After the day's work is done and the family gather for the evening hour—what can be so restful and entertaining as music, particularly if played upon the

Bent Player-Piano

The Bent Player-Piano can be played easily, conveniently, and with expression. It is never out of practice, never too tired to play, never has to be coaxed, and can be played by every member of your family. "Old Black Joe," "Suwanee River," "Tenting Tonight," "The Star Spangled Banner"—you can play them all, night after night, if you wish.

Free—Valuable Booklets. Send for our booklets which explain piano value, also what to look for in the selection of an instrument for your home. These booklets contain real piano information and guided by them you are sure to select a good piano. They are FREE for the asking. Mail coupon Today.

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Please send me without charge the booklets before which I have marked X.
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WAIT! Get my 1916 price! Don't buy an engine of any make or kind or price until you first get my low 1916 prices and easy buying plans, including easy terms. I build these Masterpiece engines in my great chain of factories and sell them direct to farm and shop with only one small profit added to actual cost. My New 1916, 250-Page Book illustrates and describes all sizes from 1 3-4 H. P. light work engines to 16 H. P. moguls for biggest, toughest, heaviest jobs. All Galloway Masterpiece engines are large bore, long stroke, heavy weight and low speeded. Built for lifetime service and satisfaction.

1916 FEATURES Include valves in the head, (worth $15 alone, but costs nothing extra), extra large cooling surfaces, perfected oiling system, economy carburet or (a fuel and money saver, worth $10 more—costs nothing extra on the Galloway), built-in magneto and Hercules water-cooled cylinder head, an arch of strength, mechanically perfect in design, (worth $25 extra, but costs you nothing!)

AK-6

LOOK! This new 1916, 250-page Book tells all about these features and many others that make Masterpiece engines superior engines and power kings in every field. Don't do a thing about buying an engine until you first get my book! Every sale backed by $25,000 bank bond guarantee, for every customer's satisfaction! Shipped from Waterloo, Council Bluffs, Kansas City, St. Paul and Chicago. Ask for my SPECIAL PROPOSITION on 10,000 engines and new book today. Address
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Engine Manufacturing Specialists

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RID-OF-RATS

Non-Poisonous. Guaranteed to destroy the rat and mouse pest from cornerbs, bins, poultry houses, stables, etc. No results, no pay. Box 10c; Doz. boxes $1 east of Miss.; $1.20 west of Miss. If your dealer can't supply you order direct. *Write for catalog, it tells the story.*
Berger & Board Mfg. Co. 61 Fleet Pl., B'klyn., N. Y.

MAINTAINING A STAND OF CLOVER

The Missouri Farmer:

I notice the credit on the label of my copy of The Missouri Farmer is back and I have a feeling that it will look better to have it moved up three years, so send the dollar.

I appreciate the good paper you are giving us. I had thought I would do some experimenting or at least try some of the things you tell us about but I am one of those unfortunate ones who never have the ready money to buy fertilizers and seed in proper season.

I thought to buy some orchard grass, meadow fescue, brome grass and other grasses and some of the legumes but I bought another piece of land this spring and my experiments will have to go over another year.

I missed your first article on clover but read your second and let me say that is the kind of matter I take the paper to get. I hope you will follow the clover article with a series of articles on the grasses and I think others as well as myself will appreciate it.

A friend of mine who lives on a white oak ridge farm—which land by the way is the best clover land we have—complained to me some years ago that he could not maintain a stand of clover and I suggested to him not to pasture his meadow after cutting before freezing weather. He was growing clover and timothy mixed and as soon as he made his hay he fenced his stacks and turned his stock off the meadow.

By keeping the stock off the meadow until after freezing weather the clover had time to mature a seed crop which of course kept the land re-seeded all the time. This friend followed my suggestion and since that has experienced no more difficulty in maintaining a stand of clover.

Joseph Stewart,
Mill Grove, Mo.

Editorial Comment: We appreciate the above expressions of approval from so good a friend as Mr. Stewart has proven himself to be. We will endeavor from time to time to cover the questions mentioned with special articles. The plan mentioned for maintaining a stand of clover with timothy is about the only successful one. Clover is a biennial plant and must have a chance to reseed in a natural way or it will die out. The clover that is sown this spring will not under ordinary conditions produce any seed or at most very little seed this year. Then next year it will do its full work in the production of two crops the first a hay crop, the next a seed crop. However, in very wet or favorable clover years there may be a lot of seed produced the first year. It is seldom though that this crop will pay to harvest though in exceptional cases it may. If this first crop seeds heavily the second year will find as a rule a thin stand and a weakened condition of the plants and so it is generally better to keep the first year's crop back either by pasturing or by clipping so that it can do its best the second year.

Mr. Stewart's plan of letting the clover have time to seed in mixed meadows is the best practice for two reasons. First, because it allows the clover to reseed the ground and perhaps of greater importance is that the extra growth of timothy will protect it through the winter and the grass will start earlier the next spring. Two things every farmer should strictly observe if he wants good grass either in meadow or pasture are first not to pasture the grass too close late in the fall; second, let the grass have a good start before it is turned on in the spring

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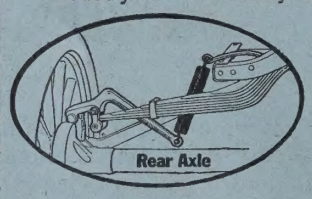

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Sudan Grass Hog Pasture

Please let me know if the second crop of Sudan grass would make good grazing for hogs!

A. C. Brockman,
Audrian County.

Sudan grass is rather a new crop in the Corn Belt and so far as we know no extended experiments have been made with it. Personally we have had no experience with pasturing it but from the nature and composition of the plant we would expect about the same results from pasturing Sudan grass as we would get from sorghum. We would expect the land to pay a good rental by pasturing a crop of Sudan grass but we would expect a much better profit from rape, clover, sweet clover or alfalfa. If any of our readers have tried Sudan grass for pasture we would be very glad to have them report their experience to The Missouri Farmer.

Says Some Are Politically Blind

The Missouri Farmer:

After reading "It's Up to You" in March 1 issue of The Missouri Farmer I opened my eyes and now send you a dollar to help you out in your undertaking and if you need another dollar from me let me know—I am with you. I sincerely trust enough Missouri farmers will send in a dollar to put you entirely to the good.

I have liked the paper ever since the first issue which came to me through the courtesy of the Polk County Bank.

I am having a hard row to hoe of my own for I have a big mortgage and a big family to support and I feel the need of your help in many ways. So far I have not been able to get my neighbors together in an organization. I am for the Garner Land Bank and all good reform measures but I find some so politically blind that they see nothing good unless it comes from their own political party. If 49,999 other farmers will do as I am doing, The Missouri Farmer can become a great force for the good of us farmers.

F. P. Hendershot, Bolivar.

RED LETTER DAY LETTER.

The Missouri Farmer:

Having read your plea, "It's Up to You!" we wish to be counted among the 50,000 loyal ones, and are enclosing our renewal, although our subscription is marked up to "Aug. '16."

Wish we could send a club or at least another, but will have to let our "own dollar" suffice this time.

We have enjoyed your paper very much and think every farmer in Missouri should be a subscriber.

During the past year we tried canning eggs by your water glass directions also tried your "Douglas Mixture" as a tonic for turkeys—think both fine, and worth the $1.00 subscription to us.

We are using the last dozen of eggs canned last June, which are perfectly good, and have made delicious custards this week.

Our eggs were put up in 2 qt. Mason jars with tops kept on, and liquid apparently has not evaporated any—we did not use rubber rings, but set the jars in 3 lb. coffee tins and kept in cellar.

We would like to know if the canning fluid can be used again? We have always used a sterilized silver spoon to dip the eggs out. If you can give us this information in some future issue would greatly appreciate it.

We wouldn't part with our copy of "The Missouri Farmer's Hand-Book" for the price of the paper.

Yours for "Red Letter Day" success.

Mrs. S. E. Shelley,
St. Louis, Mo.

Reply: We have asked the agricultural chemist of the University about using the water-glass solution again and it is his opinion that when the solution has been kept clean it will be all right to use it again by adding about one-third as much water-glass as was used the first time. Some of the material has been used up and to have the solution of proper strength some more of the water-glass should be added.

Whitewash the Outbuildings

This is a good time of year to clean up and make things look tidy and then it helps prevent disease, particularly about the hen houses and hog houses. When these buildings and the fences are of native lumber and it is too expensive to paint them a mighty good substitute is a good whitewash. An old tested formula for a durable whitewash used on some of the government buildings is as follows:

Slack one-half bushel fresh lime with boiling water, covering it to keep in the steam. Strain liquid through a fine sieve and add seven pounds of fine salt, previously dissolved in warm water; three pounds of ground rice, boiled to a thin paste and stirred in, boiling hot; one-half pound bolted gilders' whiting; one pound white glue, soaked first in cold water until swollen, then carefully melted over fire. To this mixture add five gallons of hot water and let it stand covered a few days.

A pint of the whitewash will serve to cover nearly a square yard. It is very white and will last well when used on outside jobs.

The Missouri Farmer

OLUME VIII APRIL 1, 1916 NUMBER 7

A State Farm Market Bureau

By William Hirth, Publisher

As this issue of The Farmer is being tten ready for the press, farmers are sy sowing oats and soon they will ell off their coats for the annual ttle in the fields upon which so much pends during each recurring year. therefore realize that we are on the reshhold of a period when the aver-e farmer will be too tired to do uch reading after he comes home om his days work—and yet I want send this final message to our read-s on the Farm Club question in or-r that they may think it over as they llow the plow, harrow and cultivator ring the next few weeks. Then we ill let matters stand until the rush spring work is over when I trust e may get into the fight again with reater zeal than ever before.

What I wish to make the burden of is article is a plan which has recent-been conceived in the office of The issouri Farmer and which contem-lates the creation of a State Farm larket Bureau with an active general ecretary in charge. As our readers o doubt recall, a farm marketing con-erence was held in Columbia during he recent Farmers' Week and in the ear future the Executive Committee ill get down to a working basis—but he idea which is here advanced will, believe, be an absolutely essential eature of any program that may be dopted by the above Committee while, n the other hand, it is a plan which an be carried into effect independent-y and hence we place it before our eaders at this time for their careful onsideration.

Simplifying Co-Operative Effort

That even a small school district Farm Club with 15 or 20 members can save a lot of money for the farmers who belong to it has been demonstrat-ed time and again and numerous splen-did instances have been cited in re-cent issues of the paper. A reference is made to the Wade Club of Boone county elsewhere in this issue. Now, if a small school district club can give such a good account of itself when acting single handed and alone it naturally follows that 25 or 30 clubs in the same county working through a strong county organization could still do much better—and it is for this reason that we have so strongly urged the organization of County Farm Asso-ciations as soon as there are a suffi-cient number of clubs within a given county to warrant it. But still more powerful and absolutely necessary to this great movement is a State Farm Bureau in charge of a high class Sec-retary who can be at the constant beck and call of every farm organiza-tion in the state. Even with the pres-ent movement just getting fairly well started I already realize the crying need of some one whose entire time is devoted to the work of helping the different farm clubs solve their prob-lems—and this is true whether it be just a small shool district club or a County Farm Association. Surely such a man would tremendously sim-plify the work we have in hand and when the members of a farm club are in need of a car load of bran, ship-stuff, hay, oats, cotton seed meal, fer-tilizers, coal or other like commodities the Secretary of the local club could make his wants known to the Secre-tary of the State Bureau—and by cen-tering orders from all over the state in this one mans hands he would be able to drive a bargain which would be impossible for the smaller organiza-tion units. Just think of the buying and selling power which would be concentrated in this mans hands if he bought and sold for one thousand Mis-souri farm clubs?

Just A Few Items

In many parts of Missouri, far re-moved from coal mines, the farmer is compelled to pay an unnecessary trib-ute on coal. If through the State Market Bureau—which could buy on the lowest basis direct from the big mines—a saving of only 50c a ton was affected on 200,000 tons it would mean a saving of $100,000 to the farm club memebrs who purchased it. As a mat-ter of fact, however, more than double this sum in all probability would be saved on this one item alone during the course of the average year.

In the buying of feed it is no exag-geration to say that a million dollars could be saved during the average season—the amount depending very much of course upon conditions and the amount purchased. Likewise, the purchasing of many kinds of farm seeds could pass through the State Bureau to advantage.

In an average year the farmers of this state purchase 75,000 tons of fer-tilizer—and if the State Bureau placed orders for 50,000 tons and only saved $1 per ton it would mean $50,000. Like-wise there are other items such as tankage, cotton seed meal, etc.

That even the small school district farm club can save a lot of money by co-operating in the purchase of the above commodities is undoubtedly true as we have pointed out in numerous articles during the past winter—but what we have in mind in this brief outline of a State Farm Market Bureau is, first, to bunch these orders from the different farm organizations in order that the rock bottom price may be ob-tained in every instance and secondly, by means of this Bureau to create a "right hand man" for the officers of every local farm club in the state—a man whose entire time is devoted to serving them—who can find out where the best commodities can be had at the lowest price and whose help would tremendously facilitate and simplify the work ahead of every farmers or-ganization in Missouri. Instead of every farm club having to ferret out these things for itself, this man in charge of the State Bureau could do this work for all of them—and do it at a big saving over what the small club could save by acting single hand-ed and alone—a saving which would pay the expense of maintaining the Bureau many times over.

The Selling End

But the buying of things would be only a part of the State Bureaus' work. Its services would be equally as val-uable in the selling of many things produced on the farm. Of course, while the Packers control the meat industry as absolutely as they do at this time, little can be done in this field until this ruthless Combine is broken up—and yet, in the selling of eggs, poultry, apples and many other farm commodi-ties, the time would not be far distant when the State Bureau would make itself powerfully felt and when it would be able to affect a saving for the farm club members of the state run-ning into hundreds of thousands of dollars annually. If the Bureau sold 500,000,000 lbs. of wool direct to the big wholesale dealers and only saved two cents per pound it would mean $100,000. Thus, can't you see, my friend, how splendid are the possibili-ties back of this idea?

As to the cost of maintaining such a Bureau, it is safe to say that a high class man with aptitude for the work and with a good business training could be had for a salary of $3000 per year. But suppose that the total cost of the Secretary's salary, stenograph-ers, office rent, stationary, postage, etc., ran up to $10,000 per year—could the farmers of this state possibly make a better expenditure? I trust that this article may be read to the members of every farm club in the state at an early date and that we may have an expression from the Secretary as to what the members think of the plan.

A Great Fight

In passing, I want to say that The Missouri Farmer has enlisted in this great fight because it believes that present marketing conditions are im-possible—that they gravely menace the future of the American farm and the well-being of the entire Nation. What other farm paper that circulates in Missouri has done as much—or, for that matter, what other farm paper anywhere in the country has gone af-ter these conditions with so much fear-lessness and candor as has The Mis-souri Farmer? We will let the reader make his own answer. All we ask in return is that the farmers of Missouri give us sufficient support to make our efforts effective—for upon this every-thing depends. I am deeply grateful to those who have gone to their neigh-bors and asked them to back the fight the paper is making by subscribing for it—often refusing to take enough out of the subscription money received to cover postage of sending them in. Likewise I am thankful to those who have sent in their renewals—but in any event those behind The Missouri Farmer are going to do their best to cary to a successful conclusion the great task they have undertaken. That our labors are not unappreciated is evidenced by the fact that many farm clubs have sent in a club of subscrip-tions including that of every member—and so, after the rush of spring work is over, I trust that the fight may be taken up anew and that we will not cease in our efforts until farm clubs have been perfected from one end of the state to the other. In this con-nection, I hope the farm clubs of the different counties will plan a big two days County Farmers' Picnic — and with several good speakers provided for this occasion, perfect plans for a County Farmers Association, and the further extension of school district clubs.

Good Farming Methods

In conclusion, standing as we are on the threshhold of another years crop, I hope tha every farmer who reads this paper will resolve to make his fields give a good account of them-selves and that to this end he will ex-ercise more care than ever before in the selection of his seed, the prepara-tion of his seed bed and methods of cultivation — for this is an essetnial part of the creed of every good farm-er and upon the care and thorough-ness with which we execute these things depends the harvest.

ATTENTION FARM CLUBS

We are going to open a "Farm Club Dep't" in The Missouri Farmer and under this head the Secretaries of the different farm organizations in Missouri may tell their experiences or ask questions which other Secretaries may be in position to answer. In other words, we want to make this Dep't a sort of "Clearing House" for the Farm Clubs of the state and trust that our friends will help us to make it thoroughly worth while. If your Club has done some particularly successful thing, all the other clubs will be glad to know of it and vice versa. We trust that we may be able to start this Dep't off in fine fashion in the next issue and therefore trust to have a report from a lot of secretaries on an early mail. Just tell us a few words about your organization, what you have accomplished or what you hope to accom-plish.

SOY BEANS AND COWPEAS WITH CORN

The crops that are most commonly used as supplements to corn are cowpeas, soy beans, rape, wheat, rye or barley. When wheat, rye or barley is used, they are sown either just ahead of the last cultivation or later in the season with a one-horse drill. The latter is possible only when the corn stands up well. This practice is perhaps successful two or three times out of five. Dwarf Essex rape is often sown ahead of the cultivator at the last plowing. The success of this plan depends upon the season as well as upon other conditions. If the season is favorable, with plenty of rain, the rape will make a good growth. It will not thrive, however, in hot, dry weather. If the stand of corn is thick and heavy the rape will be shaded too much to grow well.

The most common practice with cowpeas and soy beans is to plant them in the hill with the corn at the time of planting the corn. Where this is done the number of peas used per hill should be about the same as the number of grains of corn per hill, both to be determined by the varieties of corn and the quality of the soil. Soy beans appear to stand a little more cold than cowpeas and in many localities soy beans seem to be preferred to cowpeas.

Another practice has been to drill the "New Era" cowpeas between the rows at the time the corn is laid by, laying the corn by a little earlier than is commonly done in order to give the cowpeas a start before the corn shades them too much. The success of this last plan will be measured very largely by the time we get them planted, the quality of the soil and the season. The plan should prove successful perhaps three times out of five. Where it does succeed and the cowpeas are gathering plenty of nitrogen and where they can be pastured off by turning pigs or lambs into the field, the benefits to the soil are very great, in addition to a large amount of feed that sometimes may equal in value half of the corn crop growing on the ground. For sowing cowpeas as above described it takes from one-fourth to one-half a bushel per acre, and if the work is done with a one-horse grain drill, made for such purposes, it is usually advisable to stop up at least two of the drill holes and plant not to exceed three rows of peas. If soy beans were used in this way perhaps two rows might be better than three since soy beans will not stand crowding as much as will cowpeas. By planting the peas or beans in the hill with the corn, which is the most common method, a bushel should plant from twelve to thirty acres, depending on the number of beans or peas per hill, the distance apart of the rows and the size of the grains of the beans or peas planted. The size of soy beans vary greatly. The Mammoth Yellow, being large, one bushel will plant from twelve to fifteen acres, while the Peking will plant from twenty-five to thirty acres. These rates are on a basis of three per hill, three and one-half feet apart each way. The depth of planting has an important influence upon the stand. Many persons secure a poor stand when planting with the corn by planting too deep. We are accustomed to letting the corn planter down pretty well, which is perhaps safe enough for the corn, but it is risky for beans, especially if planted early. Much, of course, will depend on the conditions of the seed bed and the warmth and moisture of the soil.

The soy bean is meeting with great favor for all the purposes that we formerly used cowpeas. Soy beans do not vine but stand well, interfering less with the cultivator and in cutting the corn for silage or fodder. When they are to be pastured with lambs or pigs they are preferred to the cowpeas, because soy beans produce seed or grain much more heavily than do cowpeas. Where we desire to make hay of them or grow them for seed they have the advantage of cowpeas in being a little easier to cure. They produce as much hay and usually much more seed, and weevil do not molest the seeds. Soy beans or cowpeas are grown in corn for three purposes. One is to add fertility to the soil, another to furnish a crop to be pastured off in the field, and another to put into the silo or for fodder. It should be kept in mind that soy beans do not seem to gather nitrogen in new soil quite so readily as do cowpeas. For this reason, when we are using soy beans for the first time I believe it would be highly profitable to inoculate the seed with bacterial cultures. If no nodules are being produced on the roots of the soy beans they are not benefiting the soil any more than a weed might do. It should be remembered that the soy bean seems to get its nitrogen and grow the nodules to the greatest extent up to the time the beans blossom. If we make no examination until the beans ripened we are not likely to find any nodules, since they have disappeared usually, and we might naturally conclude that there had been none.

The use we desire to make of the growth will determine very largely the variety that might be best to grow. Where we desire them for silage or to cut up for fodder with the corn, the Mammoth Yellow, the Medium Yellow and the Jets or Wilson give ve y good results, since they all attain good height. The Mammoth Yellow, a very late-maturing variety, frequently will not mature seed as far north as Central Missouri, but the other varieties named will ripen seed under average conditions. Where the object is to turn pigs or lambs into the cornfield, the Mongol perhaps heads the list for Central Missouri. The Mikado is a very good one. There are a vast number of varieties, and in this discussion only those are mentioned that have been given a trial.

The Ito-San has been the earliest tried and the Peking seems to thrive better on poor soil than some of the others. The Medium Green produces seed heavily, but the plants were very short and the seeds shattered badly. This one, however, would be very good where pigs are used for the pasture.

Another item in favor of the soy bean is that stock seem to relish the green soy beans better than they do the green cowpeas. A most excellent practice to get the best results would be to fatten lambs or sheep in the cornfield planted to the beans or peas and then fence off a small section at a time and allow the hogs to gather the corn. If we do not have sheep for the purpose, hogs will clean them up perfectly, but are likely to destroy a little corn; however, they will not bother the corn much as long as there are plenty of beans.

Where we pasture off both the corn and beans as indicated we will find that the succeeding crop on such land will act about the same as if the land had been well manured. This is plain for the reason that the animals fed on the land carry very little away from it, except the fat that they have put on their bodies, and it should be remembered that animal fat is not soil fertility. This method is a great saving of labor in the way of harvesting the crop, of feeding it and hauling manures back to the field. Some people have referred to such methods as being the lazy man's way. There is a vast number who can testify that it is not a "fool's" way. It simply indicates that a man has been mixing a little brains with his muscle, and brains and muscle, with the addition of plenty of hustle, is the best combination in the world.

Soy bean and corn silage has a greater feeding value than corn alone, and on the ground that commonly produces twenty to twenty-five bushels per acre of corn there may be grown from one to three tons per acre of bean silage in addition to the corn crop. It often happens that the pasture remaining after the corn and beans have been put into the silo is worth $1.00 to $2.00 per acre. If there were nothing left, however, but corn stubble, we couldn't brag very much on the pasture.

Sometimes in the spring we may plow under a field of rye that we have been using for pasture, and at times, when chinch bugs are bad, if we should follow the rye with corn we are likely to get into serious trouble from the bugs. In an event of this kind soy beans could nicely follow instead of corn, since chinch bugs do not molest the soy beans. These things are urged for the reasons cited through this discourse, but for fear they might have been overlooked it might be well to sum them up again.

Our acreage yield of corn on an average is so small that it is a large question whether by growing corn alone we could pay for the land; consequently we must not only get more out of the soil, but we must maintain its fertility at the same time, a great amount of labor may be saved and a greater amount of live stock necessarily used on the farm are the primary objects to be kept in view.

S. M. Jordan,
State Board of Agriculture.

SOW RAPE FOR HOGS

Forage crops furnish the best possible way of cheapening the cost of pork production if we can trust the experience of the Missouri Agricultural Experiment Station and of numerous hog feeders. High priced grain must be used to a certain extent, but cheaper crops may be substituted for a part of it. The Missouri Station experiments show that the five pounds of grain required to produce a pound of pork in dry lots may be reduced to three pounds if the hogs are running on alfalfa, rape, clover, sorghum, or blue grass. The average return per bushel of corn fed was 66 cents a bushel in case of dry lot feeding as compared with $1.10 when the hogs fed were running on pasture.

Economy of work and better effect on the fertility of the soil are also secured by hogging down, so the forty per cent saving in grain feed does not tell the whole story. Hogs on pasture nearly always drop the manure where it will do some good, but this is rarely the case if dry lot feeding is practiced. The grain feed keeps the animal in better health and free range gives him a chance to keep himself more nearly free from lice and worms.

Among the forage crops tested for pork production, alfalfa stands at the very top because, (1) its long growing season enables it to furnish both early and late pasture, (2) it is drought resistant and does very well on the driest soils and the driest parts of th growing season in Missouri, (3) it high protein content makes it especial ly good for balancing the corn in th ration.

Clover ranks next to alfalfa and fit into corn-belt rotations much bette It is similar in composition, but doe not furnish pasture as early or kee as many hogs per acre.

Dwarf Essex rape is the best of th crops that must be sown each yea It may be sown alone or broadcast a the rate of six pounds per acre afte which a bushel of oats per acre ca be drilled in. Sorghum is also to b recommended and blue grass is ex cellent, especially for early and lat pasture, but it is likely to take a res during a hot, dry summer. At suc times the green succulent sorghu will be very acceptable.

L. A. Weaver,
Missouri College of Agricultur

STATE AID FOR RURAL CREDITS

Many in this country are oppose to State action on the ground that th State is incompetent and that all thi should be left to private enterprise There is much meaningless talk abou what can be done through cooperation A conclusive answer to this is the suc cess of those Rural Credit system operated with funds provided by th State in countries with conditions an needs like ours, and the absence of a single successful system of land set tlement through either private or co operative rural credit where the con ditions are like ours. Germany with that thoroughness and business sagac ity so characteristic of the nation did not attempt to employ the Landschaft or any other cooperative system in aid ing German farmers to become land owners in Poland or Southwest Africa. Instead it adopted direct State action, identical in its working features with the system of New Zealand and the Australian States.

The Only Adequate Authority

The State is the proper authority to provide the money. It is the only authority in a developing district where all men are borrowers, where values are being created, where the people are new to each other and where they are strongly inclined to be individualistic, that can provide cheap money. And the State has reasons for doing this that do not prevail with either private or corporate enterprises. The basis of State action is the general welfare, the creation of better conditions in rural life, the bringing into cultivation of unoccupied land, the increase in taxable wealth and trade and commerce. All these things are gains for the public, of which the State is the representative. The Federal Government and the States own much of the land to be peopled. The Federal Government has about $100,000,000 invested in irrigation works. The financial return from those works and the welfare of the settlers living under them can in no way be so effectively helped as through the establishment of a State or Government Rural Credit system like that of Australia. The money for these loans in Australia comes almost entirely from savings banks. If the Federal Postal Savings Bank system in this country was changed so as to make the interest rate 3½ per cent and the limit of deposits $2,000, there would be an ample fund in this country with which to carry out this work.

In addition the State has already in its experiment stations and the officers appointed under the Smith-Lever bill a body of expert advisers familiar with

al conditions. It would only need increase in their number to do all t is being done by the advisers of Rural Credit system of Australia, l with the power that this system uld give them their influence would far more potent than it now is, and progress of agriculture correspongly accelerated.

The Duty of the State

f we adopt this system we will have experience of a number of couns to guide us; we do not have to ak any new trails. It will be in sense an experiment. It will be rusting the creation of new comnities and the shaping of their sol and industrial life by the only hority which should exercise that ver and the only one that has the ources, the continuity of existence, disinterestedness needed to insure results desired. There need be no r of the ability of a State to render irect service to the people and to do s with economy and efficiency, if management is made non-political l placed in the hands of competent n who have a long tenure of office. ring the last 30 years I have worked private enterprise and for the te, and it is my conviction that men l work harder for the State and in interest of public welfare than y will for a corporation whose mo- is profit. I am quite sure that re is no corporation in this country ose employes worked harder for ger hours or took keener interest their work than did the officers of Victoria connected with the manment of its Rural Credit system. If s system is made non-political and in its working methods there is inporated the safe-guards that have de the Australian system so conuous and so conspicuous a success, those incorporated in the British lumbia law, or outlined in the report the Wisconsin State Board of Pub- Affairs, there need be no misgivgs as to the results.

Dr. Elwood Mead,
University of California.

ANOTHER BREED OF HORSES

Alfalfa has increased the value of ery acre of land thus cropped from to 100 per cent, and yet people are w to adopt it. I am wondering if same mistake is not made by the mers of the Corn Belt, contenting emselves with horses too small to profitable on the farms, not needed the roads since the invention of automobile and paying exorbitant ices for ton draft stallions shipped m foreign countries. The draft rse has his place, but his place is t the only one on the farm. The actors are now doing the plowing. a recent tractor exhibit in which actically all tractors were reprented, I made inquiry as to what prosions were being made for cultivatg the corn crops. The reply was his will have to be done with rses" and yet we have no pure bred rses of the right size.

I should like to have this subject scussed by the readers of The Misuri Farmer. Do we need an Assoation for the breeding of wagon rses? The object of this Association ould be to co-operate with the farms and horsemen in establishing a w breed of horses to fill the missing nk between the automobile and the ft horse.

The Wagon-horse from a farmer's andpoint must have weight enough pull the plow and not be too heavy r the harrow and cultivator on soft round; active for the mowing machine and wagon, and to take the place of the automobile on muddy or rough roads. Above all, it must have flesh-carrying qualities, thus having the commercial value at any time the farm can spare it.

Wagon-horses for city use would include a group of horses used principally where the business requires a quick delivery. Such horses must be closely coupled, compactly built with plenty of constitution and stamina. They must be good actors, have a good, clean set of limbs with good quality of bone and foot that will stand the wear of paved streets. In this class are express, delivery wagon, artillery and fire horses. All of these must have depth and rotundity of body, smoothness and finish of conformation and be of rich solid color (star in the forehead and one white foot preferable). Height 15 to 16 hands, weight 1100 to 1400 pounds (horses weighing 1250, standing 15-2 preferable). Stallions to weigh 300 pounds more than mares, 1400 to 1700 pounds; height 15-2 to 16-2 (preferably weight 1550 and 16 hands high). Stallions must be registered Percherons. Mares' offsprings thus registered will be eligible when mated with registered Percherons of this quality. No ancestry requirements will be made in selecting dams for registration; it is quality that we want. It has been said that with horses very much depends on the dam, far more so than with any other breed of stock, hence we are particular in getting good quality with the dams.

W. B. Carpenter, Kansas City, Mo.

Editorial comment: The above article by Col. Carpenter raises a many sided subject—at least as many sided as we have classes of work for farm horses. On the farm where the tractor has made its appearance there is undoubtedly some change in the work demanded of the horse but is this difference sufficient to demand a different type of horses? Were it not for the fact that the good weighty horse will bring the top price when sold off the farm it is quite probable that a large majority of farmers would prefer the 1250-pound horse with good endurance, style and action. Even as it is now we think a majority of farmers prefer the all-round horse. A few years ago the writer when associated with the State Board of Agriculture obtained the opinion of several hundred farmers on their preference of the heavy draft horse or the 1100 to 1400 horse for farm work and approximately two-thirds of the farmers giving their opinions preferred the lighter horse.

A new suggestion in Col. Carpenter's article is that we develop our light farm horse from the light type of Percheron rather than take one of the coach horses or do as the U. S. Government has done in its effort to establish a breed of American carriage horses. Heretofore we think one of the great difficulties in breeding of the farm horse is that no established breed exactly filled the bill and the further fact that farmers have as a rule had no definite purpose in mind when breeding their mares. This is one of the things that better farm organization could help along for only by community horse breeding clubs can very much be accomplished.

Anyway this opens up a very interesting subject and we would like to hear from our readers as to what they think about it.

WHEN TO SOW REDTOP AND ORCHARD GRASS.

I am writing to ask if this is a good time to sow redtop and orchard grass seed? How much seed to the acre? R., Cedar County.

Redtop and orchard grass may be sown in the fall or spring. Ordinarily when sown in the spring early seeding is best if the land is in good condition and if we should have plenty of rain they may be sown most any time in April or even the first half of May. The reader will understand that the late sowing is at a much greater risk of getting a stand. The seeding of these grasses should be done very much like timothy is seeded.

Neither orchard grass nor redtop make a first class meadow grass but on land not adapted to timothy they will make a fair quality of hay if cut before they are ripe. You will get better results by sowing a mixture than by sowing either one alone. If the land is low or is inclined to be wet we would sow mostly redtop but if upland and dry we would make the heavier seeding of orchard grass.

For full seeding 10 pounds of recleaned seed or 20 to 25 pounds of seed in the chaff will be required of redtop and about 20 pounds of orchard grass. For a good pasture mixture we would recommend 5 pounds recleaned or 10 pounds chaff redtop, 8 or 10 pounds orchard grass, 2 pounds alsike clover and 3 to 5 pounds mammoth clover. A little blue grass added to the above will help if the land is adapted to its growth.

There is no more important subject before practical farmers to-day, than that of seeding and fertilizing grasses either for pasture or hay and we will be very glad to have any of our readers write us about both their successes and failures with any of the grasses. A grass crop that will give a lower net return may in the end be more profitable than a cultivated crop because of the very great loss on rolling lands from soil washing.

Phosphate Fertilizer For Corn

What is your opinion as to the profitableness of broadcasting 150 to 200 pounds acid phospate and disking in before checking the corn?

Gideon Borschlen, Linn County.

This question is discussed more completely than we have space for it here on page 6 of this issue,and every reader contemplating using fertilizers on their corn this spring should turn and read Professor Millers article.

Have balmy spring at home during cold, raw weather!

Early spring chills and colds are inevitable with old-fashioned, drafty, uneven heating methods

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Real spring rarely sets in "for good" until it is nearly summer. The cold, damp, chilly days cause a lot of sickness and discomfort in homes which are not properly heated.

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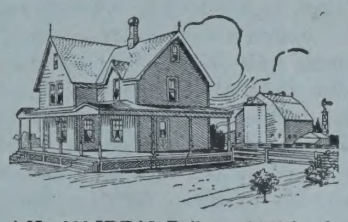

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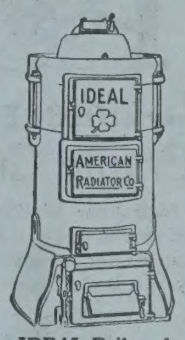

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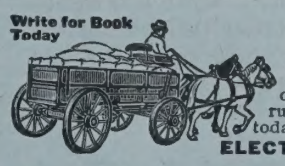

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THE USE OF FERTILIZERS ON CORN

A reader writes that he wants to increase his yield of corn and would like to buy commercial fertilizers and wants to know how and what to use. The following reply is by Professor M. F. Miller of the Department of Soils, Missouri University:

It is not an easy matter to give absolute directions regarding the fertilization of any crop, since the return secured from fertilizers depends upon the weather and the way the land is handled, as well as upon the soil. Lands which respond with excellent return to fertilizers in seasons of normal or abundant rainfall may give absolutely no return in dry seasons, when moisture and not plant food becomes the limiting factor. The only thing that can be done regarding the use of fertilizers is to recommend those applications which usually bring returns. The Missouri Experiment Station has been conducting for a number of years a series of soil experiment fields throughout the state and have arrived at some rather definite conclusions regarding the fertilization of the more important crops. The statements which follow are based on these experiments.

In the fertilization of corn there are two systems which may be followed. The first is what might be called a temporary system of fertilization. It consists of applying a small amount of fertilizer, preferably a highly phosphatic fertilizer, in the hill or drill at the time the corn is planted, using a fertilizer attachment to the corn planter for this purpose. This plan does not seek to supply any large amount of plant food, but merely to give some readily available material near the roots of the crop in the young stage in order to give it a quick and thrifty start. It has been found also that if large amounts of fertilizer are used in this way and the season turns dry during July and August the corn will almost certainly be fired. In seasons of abundant rainfall, however, as much as 150 or 175 pounds of fertilizer can be used in the hill or drill safely. Normally it is safer to use less than 100 pounds. In our experiments on the northeast Missouri level prairies, of the same character as that on which the correspondent is located, we have found that 50 pounds of bone meal or a 2-8-2 fertilizer have given greater returns than larger amounts. I am sending the correspondent a copy of our bulletin No. 126 which among other things discusses the use of fertilizers for corn and gives the results of these experiments. With reference to the effect of the season upon the return from hill or drill fertilization, I will say that our most strikingly different returns have been secured at Carthage on the level prairies of that region, where in 1910 75 pounds of a 2-8-2 applied in the drill gave a net return of $7.13 while 100 pounds brought $9.41 per acre. In the same season 100 pounds of bone meal brought $4.27 and 125 pounds brought $7.60 per acre. In 1912, a dry year, on the same field 75 pounds of 2-8-2 brought a net return of $4 while 100 pounds brought only $2.70. No bone meal was used in the hill or drill in that particular season.

In general it seems that mixed fertilizers even of rather low or medium grade, such as a 2-10-2 or a 2-8-2, applied in amounts ranging from 50 to 100 pounds give better returns than does bone meal, although probably we have not had enough comparisons to draw very accurate conclusions. The high price of potash this year makes it impossible to get a fertilizer containing as much as 2 per cent, practically all the companies are limiting the amount of potash in the fertilizers to 1 per cent or one-half of 1 per cent. Consequenty a 2-8-1 or a 2-10-1 is about as high as can be recommended in the mixture, which we believe to be more satisfactory in hill or drill fertilization, where only small amounts are used or where a small expenditure of money is desirable. It is possible that later experiments may show that acid phosphate, which is a cheaper form of fertilizer than the others mentioned and which contains somewhat more available phosphates, is a better hill application than mixed fertilizers or bone meal.

The second method of fertilizing corn is that of applying enough fertilizer to materially increase the amount of plant food at the disposal of the crop; in other words this plan is based on feeding the crop a considerable per cent of the plant food it needs by means of the commercial fertilizers. In this case from 200 to 300 pounds of a high grade fertilizer should be applied, putting it on with a fertilizer grain drill ahead of the corn planter. It may be sown broadcast and worked in thoroughly, but this is not a good practice because so much of it remains in the surface inch or two which dries out and in which the roots do not penetrate thoroughly. The important ingredient again in this fertilizer is phosphates. We have found bone meal to give very good returns in this way, but the increased price of bone meal is making this application uneconomical. A good application for this purpose is that of a mixed fertilizer containing two or three per cent nitrogen, about ten per cent available phosphoric acid and around three per cent of potash. This is our opinion from the results of experiments to date. As to the lands on which this can be most economically applied the results show that the thinnest lands are those which give best results with heavy fertilization. On the better lands of the state such fertilization would not pay. On medium fertile land or on lands that have begun to show a need of fertilization but which are not thin, the hill or drill method of fertilization is the most certain to bring paying returns. The heavier fertilization may be used but it will usually be economical only with rather intensive systems of farming including thorough drainage, liming of the soil and a very careful preparation of the seed bed. Naturally there is some variation in the demands of different soils regarding the fertilizer need, but so far as corn fertilization is concerned the statements which have been made as to thin, medium and good lands will apply rather generally over the state.

A caution should be given regarding the use of commercial fertilizers for corn. This is particularly true with reference to the hill or drill fertilization. Too often farmers will try fertilization in this way and find it to pay and they will continue its use, depending very largely upon the fertilizer to bring a remunerative crop. As a matter of fact, the best system of handling land in Missouri, for the man who is not a renter and who has time and means for keeping up his land in fertility, should include a proper crop rotation, together with the systematic use of barnyard manure and green manures, in maintaining the supply of fertilizers merely as an adjunct to this system. Fertilizers are of great value when properly used but they do not keep up land, and they can only be used in connection with soil building and soil maitaining operations, if the land is to remain permanently fertile.

There is too great a tendency among farmers who are just beginning to use fertilizers to depend upon them largely for a crop. Many men expect too much of fertilizers. They seem to feel that they are a sort of universal panacea for all the ills of a worn soil. As a matter of fact, the use of fertilizers is but one of the things to which a man should give attention in handling worn land. The greatest difficulty with all worn soils is a lack of organic matter, and the man who will build up this material in the soil may postpone for some time the use of fertilizers. Where fertilizers are used, however, as a permanent thing, keeping up the supply of organic matter is essential to continued profits. The time is here when farmers can well afford to study carefully systems of green manuring for the purpose of building up organic matter in addition to the careful saving of such barnyard manure as is available. On those farms where much grain is sold and where stable manure is scarce, green manures must find a large place. Under such circumstances a combination of green manuring with the use of fertilizer will bring the greatest total profits.

God Almighty divided men into two great classes—the kind who, when confronted by a difficult problem say "We will" and the other kind who say, "What's the use?" "It can't be done," etc.—and if you belong to the latter class, my friend, the World isn't going to shed any more tears at your funeral than common decency and politeness absolutely demand.

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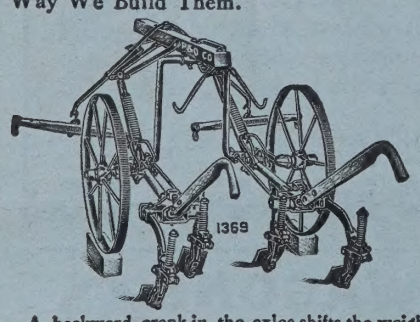
A high grade Walking Cultivator, capable of results that will satisfy the most particular farmer in any section. "It's the Way We Build Them."



A backward crank in the axles shifts the weight of the machine forward sufficiently to overcome any tendency of the tongue to fly up when gangs are raised. Parallel beams. Cone pivots on the beam couplings for taking up wear. Low hitch with perfect equalizer. Adjustable arch gives 34 to 44 inch wheel track. Heavy springs make it easy to raise gangs, and to handle them while at work. Adjustment provided for working close to or away from corn. Easy to set gangs up or down for different depths of shovels. Dust proof wheel boxes with hard oil screw caps. Staggered spokes. Gangs can be tilted to fit side of row when hilling. Handles adjustable to desired position. Very light of draft and adaptable to all soil conditions and to work in corn or cotton.

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Note the dove-tailed joint that makes this silo absolutely air-tight. See the pin that anchors the reinforcing steel bands to the individual blocks. Each is a separate, sealed, heat and cold resisting unit of vitrified tile.

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This is the one successful binder engine. Thousands are in use every harvest. Fits any binder. Engine drives sickle and all machinery. Since horses have only to pull machine, two horses will easily handle 8-ft. binder in heavy grain. In a wet harvest Cushman Engine saves the crop, as it keeps sickle going when bull wheel slips—it never clogs. After harvest Cushman engine does all other work. Very light weight and easy to move around, yet runs more steadily than most heavy engines, because of Throttle Governor and perfect balance. 4 H. P. weighs only 190 lbs.; when stripped for binder only 167 lbs. 8 H. P only 320 lbs. Force water cooling system prevents overheating. Equipped with Friction Clutch Pulley.

Iver A. Madson, Wheatland, N. D., writes: "I have six engines and the Cushman is the best. It does not jump like a heavy engine. On the binder it is a great saver of horse flesh. It will do all you claim and more too." E. W. Gasser, Sidney, Ill., says: "With a Cushman I cut 10 acres more a day with less horses. A binder will last 3 or 4 years longer with this engine." Ask for free Engine Book.

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A BOONE COUNTY CLUB AT WORK

Oftentimes when a farmer is approached on the subject of farm organization or neighborhood cooperation he has a kind of far distant look and replies, "Oh, 'taint no use, we've tried it before and it didn't work. Farmers won't stick together and it's just no use to try any more." Just why a farmer who has met with failure after failure with a corn crop on account of drouth or flood or maybe insects is not at all discouraged but will plant again with as much faith as though he had never met with failure and then when he turns his back to the enemy and says its "no use to try because some one has failed trying to do the same thing" when he is asked to protect himself or his neighbor by organization, I cannot for the life of me explain. Yet we know with many of us this is what happens.

A few weeks ago a hard working Boone County farmer getting encouragement from the articles in The Missouri Farmer started out to talk "farm club" to his neighbors but at first met with poor encouragement. At first when a meeting was called at the little school house the leader tried to interest the men in matters about better farming, the Land Bank and similar questions, but these questions which ought to be the very life of every community created little enthusiasm and it looked like a successful farm club was out of the question for that neighborhood. And just there many clubs would have failed before they had even started but not so here because at least one man saw the possibilities of the good a live club could do and so he turned his guns in another direction with grim determination that the club should live and now it is doing things that save them money and everybody wonders why they could not have done it long ago.

Most of the farmers of this district buy their flour from local dealers, 100 pounds or so at a time although there is one of the best flour mills in the state at the county seat only six or seven miles away. Through the club arrangements were made at the mill to buy their flour direct. And this mill like all other mills should do, made the same cash wholesale prices to the members of the club that were made to dealers. And why shouldn't they? Are not millers more interested in the welfare of the men who furnish them their raw material than they are in any one else? Well any way when this arrangement was made with the mill a list of the names of the members were certified to the mill by the secretary of the club and now the members are buying their flour at a saving of 40 cents a hundred pounds. If this saving were applied to all the flour used by Missouri farmers it would mean more than a million dollars saved annually. A million dollars in the hands of a wise committee of farmers would pay the expenses of a good state farm organization for quite a while don't you think? Yet how many farmers in the state are saving this forty cents a hundred? Are you? If not why not?

The members of this club pooled their order for 1200 rods of woven wire fence at a saving of 2 cents a rod, clover and timothy seed were bought at a saving of $1 on the bushel and seed potatoes at a discount of 10 cents a bushel. A clubbing arrangement was made with the local papers and $1.45 was saved to each member on his reading matter.

At the next meeting of the club talks will be made on soybeans and cowpeas and when the amount of seed desired by the members is ascertained they will be bought in club orders at a considerable saving. Considerable wool is produced in this section and the secretary will be furnished with the amount and grade and then the wool will be sold all together. An increased price of 2 cents a pound is not unreasonable to expect by selling the wool by the club and possibly it may be more but an increased price of 2 cents a pound is worth while when it comes without any extra cost.

The above are some of the things a farm club in a community where the farms are small and the people are not wealthy has been able to accomplish and this is only a beginning. There are now forty enthusiastic members and no one is lagging back saying "it's no use — farmers won't stick." The officers of the club are J. J. Fenton, president and D. P. Feely, secretary.

SOME CLOVER TROUBLES

It often occurs that even after good germination we have difficulty in maintaining a stand. The most frequent causes of the death of young clover are the drought and heat to which the plants are subjected upon the removal of the grain crop. The amount of injury caused will, of course, depend on the season. The summer of 1915 was very favorable to young clover, as there was plenty of rain throughout most of the clover belt, but such seasons are exceptional. Injury will also be worse on soils deficient in humus since these run together and dry out more than soils having plenty of organic matter. Top dressing the fields with manure during late winter is as good a preventive of this danger as can be suggested. The manure will not only prevent loss of moisture but will furnish plant food for the young clover making stronger plants, better able to withstand drought. It is also advisable to leave the grain stubble as long as possible to afford shelter to the young plants.

If there is a good stand of clover on a field in September and October there is every reason to expect a good stand in spring, barring, of course, most unusual weather conditions. If, however, the soil is deficient in lime the plant, though appearing fair in the fall, may lack the vigor to go through even a reasonably mild winter. Two mistakes are often made and these should be guarded against. The young clover should not be pastured closely in the fall, nor should it be allowed to seed. Last fall, owing to the favorable summer young clover was found blossoming and seeding in many fields. This is bad because it weakens the plants and increases the number of clover-seed insects, the late broods finding these flower heads a fine place in which to lay eggs which hatch into larvae, many of which may live over winter.

Provided there is lime and phosphorus enough in the land, second-year clover should give little trouble unless attacked by root borers or other insects. There are leaf-eating insects that do damage locally and some fungi have been known to kill whole fields or to reduce yields, but the insects working on the roots probably give more trouble than other insects or than diseases. When a field becomes infested with root-eating insects there is nothing to do but plow it up.

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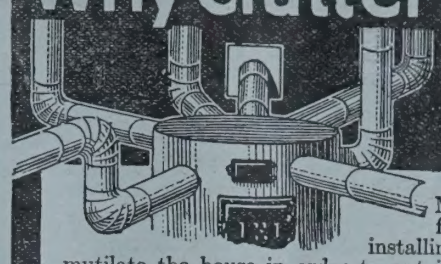

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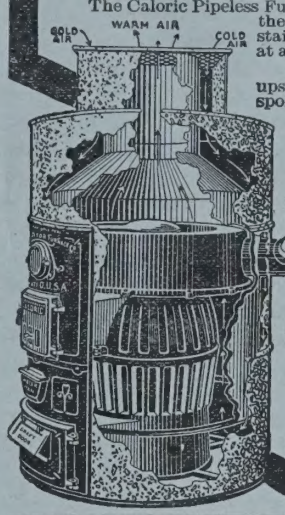

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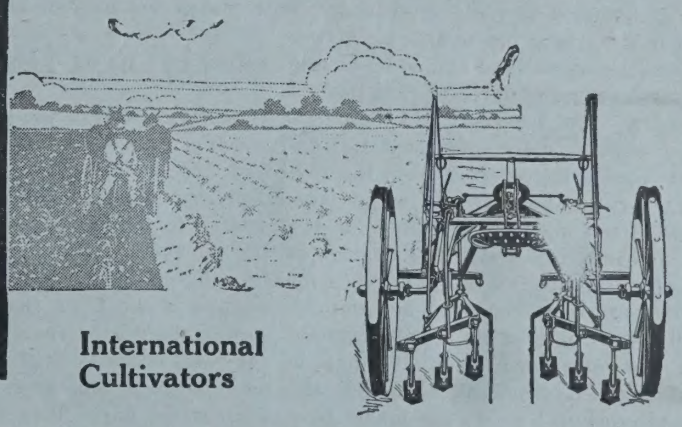

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Geo. B. Ellis - - Managing Editor

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WHY NOT CHANGE OUR TAXING SYSTEM?

We are so closely wedded to custom and precedent in this country that it is hard to get away from any practice long established however much we may criticise that practice. No one will defend our present taxing system and yet it seems impossible to change it. One reason for this is because some schemes are proposed that are so radical that the average, or conservative citizen makes up his mind that we had better hold on to what we have rather than try to make any change at all.

Quite a number of years ago a rich Irish landlord saw an opportunity to greatly increase his wealth by investing in American land and so he bought several thousand acres of rich Illinois' prairie. He leased these lands to American farmers and used the annual profits he received from the rentals for the purchase of more land. He did not spend any money for improvements for under his system of leasing the tenant must provide for whatever improvements he wanted. Out of the profits of his first investment he has purchased large holdings in Nebraska, Kansas and Missouri, and in the mean time these lands have doubled and quadrupled in value. What did the Irishman do to earn all this wealth? Nothing at all for he was not a citizen of the country until these states passed alien land laws which compelled him to move to New York and become a citizen of the United States. This instance of unearned wealth is typical of a condition that has furnished the principal argument for the single tax. We hardly believe that any one would attempt to defend a system that permits land to be monopolized in this way.

The single tax advocate would try to reach such cases as the above by raising all taxes on land values but they would release from any responsibility to the Government, State or Municipality all other industries no matter how renumerative they might be. In order to catch a few men who have become wealthy on the unearned increment of land they are willing to place an extra burden on every home owner in the country. For a time this plan might work, so long as the country is progressing from a new or undeveloped condition but when it reached a static position in land values the burden of keeping up the Government from top to bottom would fall upon land owners alone whether great or small, whether home owner or speculator. And this alone is sufficient reason for oppossing the single tax theory of raising revenue.

Most all countries levy certain license or privilege taxes as well as tariff duties but the principle underlying these is regulation and not revenue although we do now use this form of taxation to raise large sums of revenue for the state and nation.

Land and its improvements can not be hidden and hence is about the easiest thing we have to tax and the hardest to evade. And very naturally land has always borne the heavy burden of taxation. Of our direct taxes in Missouri we now get 79.2 per cent from land and improvements if we include railroads with the land. It is a generally conceded fact that millions of intangible property subject to taxation under present laws escape taxation and no state has found a way to get hold of this hidden property.

To get our readers to thinking about the subject we are going to suggest what we think would be a fair and just system of taxation that would put the burden more evenly according to the ability of men to pay it and would place all on the same level. It will correct the evils the single taxer complains of without imposing the unjust features of that system.

Our plan would be to adopt in lieu of all property taxes now collected the income and the inheritance tax. The United States Government has already proved the practicability of the income tax and a number of states are collecting taxes on inheritances. By exempting very small incomes and placing the tax on all incomes above that exemption the average man and the wealthy would share the burden in proportion to their ability to pay it.

THE LAND BANK AND SINGLE TAX

Special interests and demagogic politicians who have not been able to find any good argument against the proposed Missouri Land Bank are resorting to the old political methods of the tricksters and are trying to confuse the minds of voters by crying out, beware of the Land Bank as the first step to the Single Tax. A correspondent from Bates County writes that his neighborhood has been circurlarized against the Land Bank and that some of the local newspapers have published veiled threats against the measure purporting to come from some farmers' organization. The claim is also made that other farm organizations are soon to adopt resolutions condeming the Missouri Land Bank. Our correspondent need not be worried about such underhanded attacks although he says he has reason to believe that a big trust company which does a very large business in farm loans is really back of the attack.

The strongest as well as the most conservative of farm organizations in this country is the National Grange and at their National meeting held in San Francisco last summer that great organization of farmers endorsed the principles of the Missouri Land Bank. In this state the president of the Missouri State Grange, Hon. C. O. Raine, is one of the ablest advocates of the Land Bank. Mr. Raine is a farmer and has always stood for their interests and would be the last man to defend any measure akin to the Single Tax idea of Henry George.

The false statement is made that the Gardner Land Bank exempts all farm mortgages from taxation and is therefore a single tax measure. In reply let us say the only exemption under this Act is the assets of the Land Bank which include the debenture bonds issued by the Land Bank. The Constitutional Amendment which is to be voted on next November makes no provision whatever for the exemption of all farm mortgages as every one who has read the amendment knows. This is the exact language of that section of the amenddment: "Section 3. The General Assembly is hereby authorized and empowered to enact a law exempting from state, county and municipal taxes the assets of said Missouri State Land Bank and debenture bonds issued by it." It will be readily seen by those who want to get at the facts that while this amendment gives the General Assembly power to exempt these bonds issued by the Land Bank the alternative is also true that the bonds may be taxed by the General Assembly, should the majority think it wise to do so. And as the General Assembly is supposed to reflect public sentiment we see no danger whatever in this proposition.

Looking at the practical side of what will be the result if the Legislature should exempt the debenture bonds at the Land Bank from taxes we have only to turn to the last auditors report to see about what difference it would make. The latest report of the state auditor made public is for the taxes of 1914 but relatively the figures will vary little for the present year. The total taxable wealth of Missouri for that year was $1,818, 992, 249. Approximately 70 per cent of this total was levied on real estate including the improvements. The cities paid on real estate about 62 cents for every 38 cents paid on farm lands. The railroads, telegraph and telephone property paid taxes on approximately $195,000,000. Corporate companies and banks on approximately $84,000,000 Live stock about $5,700,000; Money, notes and bonds $116,679,706. An analysis of these figures show that all the money, notes and bonds that the assessors of the state are able to find amount to only about 6½ per cent of the total taxable wealth. A bank statement would show several times as much money on hand the first of every month in the year as the amount the assessors find under the three heads, money, notes and bonds. There are millions of dollars represented in notes both secured and unsecured by mortgage and millions of dollars in bonds but the assessors taking a list of property under oath find only $116,679,706 or about 6½ per cent of the total taxable property. In practice then if we should exempt all farm mortgages it would not make a difference of more than one or two per cent of the total while the exemptions under the Land Bank Bill would only be a fraction of one per cent. The notes and mortgages held by the people of other states and the farm mortgages they represent are a large part of the whole and as a matter of courses these can not be reached by our assessors.

The writer believes that every dollar of property as nearly as possible should pay its rightful share of taxes but we do not think it right to tax any class of property twice but that is exactly what we do when we tax farm mortgages. The man who owns a farm worth $10,000 and is owing $5,000 on it is in fact the owner of only his equity or one-half the farm but the assessor makes no difference and lists him for the full amount. Then if we tax the mortgage which represents the other half we have the farm taxed for $15,000 or 50 per cent more than it is worth.

The important thing for voters to do is to get rid of both their prejudices and the political demagogue. If we were to exempt all notes, bonds and mortgages from taxation but require them to pay a small registration tax which would exempt them during the time they run we would get a great deal more revenue from this class of property than we do now and certainly it is the number of dollars paid into the public treasury that count.

GOOD WORK BY THE GOVERMENT

The Federal Department of Agriculture announces that the long fight against foot-and-mouth disease is over and that on March 31 all quarantines and restrictions were removed. The last quarantine was in Illinois but that territory is now all cleaned up.

The losses from foot-and-mouth disease during this last outbreak has been many millions of dollars sustained by the U. S. Government, the various states and the live stock owners. Farmers who had stock killed by order of official veterinarians were reimbursed in part at least for their loss but the live stock interests all over the country suffered heavy losses because of restrictions in moving the stock. The disease was found in 22 states and in 269 different counties. The following statement is made by the Department of Agriculture:

"As a result of better understanding between the State and National Governments, representatives of the Department believe that many of the obstacles which confronted the authorities in the past outbreak would not be encountered in dealing with any future occurrence of the disease. The veterinarians, however, will not abate their watchfulness for some time. Examination of animals and animal products offered for import will continue to be unusually strict. The Department, moreover, particularly urges all farmers and cattle handlers to notify their State veterinarians and the Department of any suspicious cases of sore mouth combined with lameness in their animals. Those in charge of the eradication work are confident that the disease is wiped out, but they wish to use every precaution to detect and control any sporadic cases that may develop in remote districts."

"The importance to the stock raising industry of eradicating foot-and-mouth disease may be judged from the results of this plague in Denmark, where the disease appeared at about the same time that it broke out in the United States. The area of Denmark is ap-

WE THANK OUR FRIENDS

While the response to our recent appeal was not in the aggregate what we had hoped for, yet we take this opportunity to thank our many friends for what they so unselfishly did and this is merely to say that the men who carry the burden of the great fight which The Missouri Farmer is waging for a "square deal" for the farmers of this state will never lay that burden down until sheer necessity compels them to do so.

That, in the meantime, the sun is shining just a little way ahead and that the time is not far distant when the farmers of Missouri will awake to the true significance of the great movement which this paper has inaugurated is my ardent hope. With their heartfelt sympathy and help nothing is impossible. Without that we cannot hope to win.

William Hirth, Publisher.

proximately equal to that of the three NewEngland States— Massachusetts, Connecticut and Rhode Island. It is, however, a great dairying country, and it has been estimated that the losses in milk in one year caused by the foot-and-mouth disease have amounted to approximately one-third of the total cost of eradicating the pestilence in 22 states of this country. The Danish authorities were unable to carry out their former policy of slaughter, and were compelled to resort to such measures of control as could be established by quarantines and other restrictions.

BARNYARD GOSSIP

Have you ever met up with the fellow who was just "dead certain" that he knew it all about some things and a lot about most everything? Well I met him the other day and he told me how to grow oats, big oats, oats 100 bushels to the acre, and more. "Why," he said, "I don't see why farmers fool away their time plowing the land for oats. Then the practice of seeding oats with a grain drill is expensive and is unnecessary to grow a good crop. You know," he continued, "I have raised more than 100 bushels per acre and all I did was to sow the seed down on corn land and plow them under then smooth the ground over with a harrow. When that is done there is nothing more to do until harvest when you are sure of a good crop. No sir, I have never failed to raise oats when I plowed them under—put the seed down where it could get hold of moisture, and I can not understand why the slip-shod farmers of Missouri lose time plowing and disking and harrowing and drilling when they can raise better oats by my method of plowing them under." Now this was an intelligent looking man so I thought I had discovered a big million dollar story for our readers because the man spoke as one speaking with authority—as one who knew what he was talking about and just could not possibly be mistaken.

I asked him where he had farmed and he told me it was in Iowa. Then I ask him if he did not know that the average yield of oats in Iowa was less than one-third of a hundred bushels per acre and that the highest average yield in ten years was less than 38 bushels per acre? I said:, I thought the man who could show the farmers of Iowa or Missouri an easy way to grow an average of 100 bushels of oats an acre ought not bury his talent by living in town on the interest of money made largely by the increased value of land he was fortunate enough to buy very low and sell very high.

The story I learned from this retired farmer, who was dead certain Missouri farmer's did not know how to grow 100 bushels to the acre as an average, was about this: He was the son of a prosperous Ohio farmer and in 1870 when the son reached his majority his father bought for him a quarter section of rich, unimproved prairie in Southern Iowa. Starting with this land made rich by the forces of Nature this young man made money enough to improve his farm and to buy an adjoining quarter section. Some three years ago he sold this land for $40,000,—$125 an acre— and came down into Central Missouri to retire and live in one of our good towns. Now, this man who is typical of thousands of others who located in Illinois, Iowa, Missouri, Nebraska and Kansas, 40 to 60 years ago is sure that his wealth came from good farming and from his own industry. But is that altogether true? Is it not a fact that about three-fourths the value of his present bank account came to him as a gift—without any effort on his part—just came to him as a wind fall but no argument you could offer would convince him that every dollar he has is not the fruit of his own industry and superior intelligence.

I merely mention this incident because this man represents a class of men in this country who do not realize the changed conditions a half century has brought about in agriculture. These men because of their age and property interests exert a powerful influence but I fear that fifty years hence those living then will see that this influence was thrown against progress and improvement. It was not the slip-shod way of sowing oats that produced 100 bushels an acre, but it was the fine physical condition and the great store of virgin fertility. The fellow who is farming the well-worn soil of to-day knows that even the best methods of cultivation that fifty years of experience have shown to be necessary will not produce 100 bushels of oats on an acre of depleted soil.

The young men to-day are facing another difficulty not known to those of a half century ago Then with $1500 to $2000 he could get a choice quarter section of the best prairie, today the same land not counting improvements will cost four to five times as much. I believe the farmers of today, that is the progressive class at least—are doing the very best that can be done under present conditions. These old fellows who were favored, not of choice nor of intelligence, but by accident in time of their birth, with cheap lands and rich lands, should stop, think and understand that it costs more labor now to cultivate an acre of average land than it did when they were farming; that the land itself costs a great deal more; that it costs a lot in both time and money to restore the fertility that they have taken from the soil; that under these conditions the yield of crops is proportionately less.

One thing we can do and these well-fixed and retired farmers can help us do to balance up present conditions with the men who are trying to get a living out of land their forefathers wore out and that is to lend our aid for a system of rural credits that will give farmers more capital at a lower rate of interest. This is only one thing that is needed but it is a very important one.

By Old Jim Riley

When "Teddy" says he wouldn't refuse another nomination for President, what he really meant is that he would like to kick the daylight out of anybody that ain't in favor of him havin it.

BUCKSHOT BY THE PROFESSOR

I think the average hog has a kick coming on being butchered and cut up by as big hogs as the Packers are.

There are a pile of hens in Missouri who make more real money than the "hound dog" fellows who own them.

Watch that seed corn and be sure that its sound. It takes a full crop to land a full stand.

They'r at it again all over the state—raking the corn stalks into wind rows and then burning them. While some farmers are trying to build up fertility others are deliberately destroying it.

When I see a big tobacco or patent medicine sign painted on the outside of a farmer's barn I never expect to find any high class live stock on the inside. Furthermore, you can bet that his self-binder and other farm implements are standing just where he used them last.

Suppose you fix the garden this time just like your wife wants it? There is no patch of ground on the farm that pays bigger dividends—and your wife ought not to have to break her back tending it.

Why didn't somebody think to give "Teddy" the job to catch Villa? When a man's just literally spoiling to fight all the time its downright inhuman not to give him a chance.

There are a pile of farmer wives who ought not to be afraid of Hades—for the average farm kitchen has the lower regions skinned a mile when it comes to warmth.

The Packers are not the only fellows who deal in Pork. The average Congressman or Senator for instance loves it.

I am not exactly for a big army or navy—and yet I want ours to be big enough so nobody can pull Uncle Sam's whiskers as if he was a billy goat.

It's none of my business if a fellow won't curry his hair or his whiskers but that's no reason why he shouldn't curry his horses.

I see where Willard got $50,000 for licking Moran. Moran got the licking and $25,000. At that rate, I'd be willing to get licked at least once.

I noticed the other day where a bunch of German soldiers chased a bunch of English soldiers. Then they ran into a bunch of Irish who had taken refuge in an old tumble down building—and when the brick bats began to fly the Germans took to their heels. No use trying to ever invent a gun that will lick an Irishman as long as the brick bats last.

POSSUM HOLLER DOINS

The bunch gathered at "Hez" Brown's store the other afternoon and found old "Hez" in an ugly humor. "I don't mind you fellers congregatin around here and spittin on the stove but I ain't gona stand fer this eatin my dried appels no more. Why it would break up John D. Rockyfeller keepin you fellers in dried apples." Thus quoth old "Hez." "Well," said "Hump" Lewis, "I am gettin kinda sore on em myself, so you might trot out some dried raisins for a change." "Hez," said old "Chouce" Baker, "don't you know you ain't never goin to git to heaven? You know everybody that goes to heaven has got to be a angel—and you'd make just about the same kind of a angel as my old blind mule. Why the average old gorilla has got you skined a mile when it comes to havin a sweet disposition. Now give me a quarters wuth o' Horseshoe and shut up"—and as old "Hez" clinked the quarter on the cover of the old spice box to see whether it was counterfeit or not, he soon forgot his dried apple wrath and the conversation turned into other directions. Old "Chouce" bit off a big hunk of Horseshoe and then said: "Well, I see where a dozen of our soldiers got smashed up in a railroad wreck down in Mexico tother day—an if they keep on at that rate they'll all be crippled up before they git to Villa. Then I see where one of our airship fellers got lost and another got all bunged up." "How'd he git bunged up? Did Villa shoot him?" asked "Hump" Lewis. "Naw, he run into the side of a mountain with his contraption" responded "Chouce" disgustedly. "And then the wireless business won't work. I reckon a feller could have jist about as much luck telegraffin on a clothesline"—"Well, if the army don't suit you" roared "Jep" Thompson who had stood it as long as he could, "why in thunder don't you git up one of your own? There are a pile of people in this country that are runnin down the army and criticisin th' government that can't pay their grocery bills." "Well if I wus to make up an army" replied "Chouce," "it would do some shootin. It wouldn't git all crippled up in a railroad wreck." "Naw you wouldn't" said "Jep". The only shootin you'd do would be with your mouth—just like a lot of other fellers. If you wus to meet up with Villa he'd just laff—and you'd spoil a lot of cactus plants and sage brush gitten away." At this junction "Josh" Simpson dropped in to buy some fish hooks and the whole bunch wanted to know how they were "bitin."

Too Late to Classify

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EXPERIENCE A COSTLY TEACHER

S. M. Jordan.

A lot of us do not always profit even by our own experience. Many of us refuse to take the word of the other fellow unless the other fellow's notions coincide with our own. You know we usually think a fellow smart in so far as his ideas agree with ours. The world has made more progress in the last fifty years than it made in any other five hundred years that I have heard about. This may be due in part to the fact that we are getting to the point of civilization that most any one now can understand that one man in one lifetime cannot know very much in proportion to the amount of knowledge that the "ould world" contains. When we get this far along we are able to think that it may be the other fellow who is right and that, strange as it may seem, we ourselves may be wrong. Just in proportion as we can see this will the world make big headway.

The following letters show what might have been saved had this man been willing to listen to the other fellow, or had taken the time to investigate. At practically every farmers' institute where I have lectured for many years this very subject has been discussed very fully, as I have always considered it the very first in importance. On this matter of soil betterment there is no longer any room for doubt, and there are at this time vast numbers who are reaping the rewards of correct soil building methods, but there are as yet all too few.

This man lost three or four years of the best part possibly of his life finding out the simple plans of soil building that he now, and rightly too, so strongly endorses.

I find in so many instances men who refuse to listen to a farm talk, and who seem to think that it would reflect on their intelligence if they should be found at a farmers meeting. It also often happens that such a person is the one most sorely in need of more information. It would seem that the man with a poor soil should be the first to seek all the information that is possible for him to secure.

Through this man's letters his experience brought him correct conclusions, and they are just the same as we have been preaching for years and are just as many others have worked them out. In one short hour all the plans that he has found out through his experience could have been outlined to him, in such a clear way that he would have easily understood, and thus saved him perhaps three "bitter years."

I would by no means say that this man lost three years, for his letter alone will be a help to some one else, and his winning in the end may lend hope to some who may be discouraged. And lastly it is just one more testimonial to the already long list that correct methods will win whether we learn them through hard experience or whether we learn them from the other fellow.

When we come to count up, I guess we have learned most that we know from the other fellow any way.

It has been my observation that those who have given the legumes that are mentioned in the letters an intelligent trial have never given up their use. This is especially true with the soybean. It is also true that cowpeas will make some growth on soil too poor for soys to grow. This fact has been known by most of us so long that it scarcely seems that it should be again repeated. Usually those who have been growing soybeans have almost abandoned the cowpeas except for pasture or green manure.

Letter Number One

Richards, Mo., March 2, 1916.

Sam M. Jordan,
Columbia, Missouri.

Dear Sir:

I read your article in the Year Book of 1915 which is a good one. But my experience has been when soil is very bad soybeans will not grow, while cow peas will always make some growth. In this respect they (the cowpeas) are better, and the stems of the cowpeas are much softer and easier to eat than the soybeans and for that reason cows eat them better.

Before buying my farm it had been rented 23 years and when I took it seven years ago it was so poor it would not grow either corn, oats, wheat or grass of any kind. Last year I raised better than 40 bushels of corn per acre and 4 tons of alfalfa per acre.

Cowpeas did the business. My record for a 13-acre field is as follows:

1909 8 bushels per acre (corn).
1910 7 bushels per acre (corn).
1911 3 wagon loads of oats (bundles) on the 13 acres.
1912 48 bushels wheat on the 13 acres.
1913 cowpeas (pastured).
1914 cowpeas, 24 loads hay (big ones) Very dry season.
1915 40 bushels corn per acre.

And on account of the wet weather I was able to cultivate only twice.

When land gets as poor as this farm was your soybeans will not grow, at least I could not make them grow. My land will now grow them and I think the nodules much larger and grow more of them than cowpeas.

It took me 4 years to find out the above, and I lost the 4 years. It may save someone else to know this. I have paid as high as $3.05 per bushel, but it paid me to do it. I sow with a grain drill. One bushel and a peck.

K. F. U.

My Reply

Richards, Missouri.

Dear Sir:—

I have received your very interesting letter of the 16th ultimo and desire to say that your conclusion relative to cowpeas doing much better on poor land than soybeans will do is entirely correct. I am glad to note the success that you have made in building up a piece of worn out land, as it is just one more piece of evidence supporting me in my contention that correct methods will build up worn out land both quickly and cheaply. I assume that you would have no objections to my using at least a part of your letter in a newspaper article, since I believe there is some high class information in it.

Yours truly,
S. M. Jordan.

March 4, 1916.

Letter Number Two

Richards, Mo., March 6, 1916.

Mr. S. M. Jordan,
Columbia, Missouri.

Dear Sir:

I did not write my letter with the idea of having any part of it published but if it will do any one any good you may do so. I wrote the letter believing you did not go far enough in your article. I feel that the hay, while very good, is only about one-half the profit. In fact, one can hardly figure out the good to the soil in dollars. **My reason for feeling so strong on this point is if I had known about it I would have saved three years.**

In another two fields I have been trying to get alfalfa. In one I used manure and tile and I have been trying for seven years and have failed. In the other I used cowpeas and wherever the peas grew rank and of a good color I put in the alfalfa. This field is now well set and did it in three years. Last year I cut it four times. The first field mentioned has been a big expense while the last has shown a profit.

I have had even worse experience than the article in the 1915 Book on clover, for I have failed each time. But this year I am going to put the field I gave you a record of back into peas and follow up with clover and I feel sure I will succeed. K. F. U.

FERTILIZERS AND LIME NEEDED FOR GROWING CLOVER

It is a great mistake for farmers to allow the annual acreage of legume crops to run down because without the use of these crops it is rather a difficult proposition to keep up the fertility of the farm. Sometimes we hear a man say that when his land is too poor to grow grain he can grow clover on it but that is a mistaken notion. When land is too poor to grow a good crop of corn it will not grow a big crop of clover. Clover may grow on some poor land but it will not make a profitable crop. In discussing the use of lime and commercial fertilizers in clover growing the U. S. Department of Agriculture says it is not easy to tell when a soil has enough lime.

There are several methods for testing the "lime requirement" of soils; but for practical purposes, this may be roughly determined by the kind of plants growing on the land. If trouble has been experienced with red clover but if a fair growth of timothy and of alsike clover can be gotten, the land probably needs some lime, say 1,000 pounds of ground limestone per acre; if timothy and alsike clover are crowded out by redtop or if such weeds as sorrel are abundant the land needs plenty of lime, at least a ton of ground limestone to the acre, and probably more. While the functions of lime both in the soil and in the plant are not thoroughly understood, we can confidently say that the clover plant is healthier when there is plenty of lime than when the soil is sour, and being healthier the young plants will withstand a dry spell better, and the old plants will come through the winter better than plants growing on sour soil. To sow red clover seed on so-called acid soils is usually to waste time and money.

The addition of phosphates has also been found to be very beneficial, but here again there is no way to tell how much is needed without trying. If clover has not done well on a farm, the need of lime or phosphorus or perhaps both is indicated and the farmer would do well to buy a bag or two of ground bone or of superphosphate and a ton of fine ground limestone and apply separately or in combination to a part of the field. The growth of the clover during the following season will tell the story of the needs of his soil. The bone meal and phosphate may be ap-

Cave Life or Civilization

Civilized man is distinguished from the cave man by his habit of co-operation.

The cave man lived for and by himself; independent of others, but always in danger from natural laws.

To the extent that we assist one another, dividing up the tasks, we increase our capacity for production, and attain the advantages of civilization.

We may sometimes disregard our dependence on others. But suppose the farmer, for example, undertook to live strictly by his own efforts. He might eke out an existence, but it would not be a civilized existence nor would it satisfy him.

He needs better food and clothes and shelter and implements than he could provide unassisted. He requires a market for his surplus products, and the means of transportation and exchange.

He should not forget who makes his clothes, his shoes, his tools, his vehicles and his tableware, or who mines his metals, or who provides his pepper and salt, his books and papers, or who furnishes the ready means of transportation and exchange whereby his myriad wants are supplied.

Neither should he forget that the more he assists others the more they can assist him.

Take the telephone specialists of the Bell System: the more efficient they are, the more effectively the farmer and every other human factor of civilization can provide for their own needs and comforts.

Or take our government, entrusted with the task of regulating, controlling and protecting a hundred million people. It is to the advantage of everyone that the government shall be so efficient in its special task that all of us may perform our duties under the most favorable conditions. Interdependence means civilized existence.

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plied at the rate of 200 or 300 pounds per acre. Of course if there is time and opportunity it will be well worth while to try different rates of application so as to find what rate will give best returns at smallest expense. On sandy clover plant then, lime, phosphorus and potash must be present; the presence of nitrogen is of minor importance, though, of course, the young plants will do better if nitrates are available. If clover has not been on the land for many years it will be wise to scatter dirt from a clover field or to inoculate the seed with the nitrogen germ. When this is present the clover plant can draw on the nitrogen of the air.

The principles of seccessful clover growing may be summarized as follows:

Give the clover a chance to make a healthy plant by adding lime, phosphorus and potash to soils that need them. In some way add vegetable matter to the soil and keep up the supply by turning under clover often enough.

Give the seed a fair chance by placing it in mellow soil and covering it from one-half to one inch deep.

If sown with a nurse crop, give the young plants a chance by not seeding the grain crop too thickly, by top dressing with manure if practicable, and by cutting the stubble as high as possible.

For further information the reader is referred to Farmers' Bulletin No. 455.

SELECTION OF BREEDING FOWLS

The secret of successful poultry raising is to cull. Breeding stock should undergo a most rigid selection not only for type but for constitutional vigor for unless a bird has a good, strong constitution it cannot be an economical producer. Weak chicks are more liable to disease; they are not as good egg producers, nor do the birds grow and fatten as economically.

A good constitution is indicated by a broad, deep chest, long body, active disposition, keen bright eye, a broad head and bright colored comb, glossy plumage and a very well-curved beak. Birds which have any tendency toward the elongated heads, commonly known as "crow heads" should be eliminated from the breeding pens. Females that have heavy abdomens and excessive fat so that they bag down behind should be sent to the market for they are generally poor breeders and always poor producers. The bird which is the first off the roost in the morning and the last to go on to the roost at night should be used.

Any bird which has been sick at any time should not be used in the breeding pen. The time to begin to select breeders for the next season is when the chicks are hatched. Those birds which show a tendency towards weakness should be marked at the time that this weakness is noticed in order that they may never find their way into the breeding pens. A system of marking the birds should be used to enable the owner to tell the age of his chickens. This can be done by toe-marking the chicks with a punch when hatched; or the mature birds may be leg-banded in the fall. The fowls for the breeding pen should be selected from the one and two-year-old stock in order to secure the largest and best eggs for hatching. In fact the experience of the Missouri Agricultural Experiment Station shows that in economical egg-production few hens over two years old should ever be retained.

The breeding stock should be separated from the general flock. It is an unnecessary expense to breed from the entire flock because some of the birds do not come up to the keepers' ideal of chickens, and for that reason should not be used. The worst fault of the usual method of breeding are (1) the use of inferior males; (2) the breeding of immature or poorly developed stock; (3) the breeding from the entire flock, poor as well as good; and (4) the selection of eggs from the general egg basket. The farmer should aim to select a few of the best females and then mate to them a good, vigorous male. A few hens properly handled will produce all of the eggs necessary for hatching purposes, will eliminate the need of using additional males and will produce much better progeny. H. L. Kempster,
Missouri College of Agriculture.

THE WATER-GLASS METHOD

For the benefit of other readers who may not know about the water-glass method we will give it again. There is no good reason why farmers should not preserve enough eggs when they are cheap and plentiful to supply their own use during times of scarcity.

A dry, dark, cool cellar where the temperature never gets above 60 degrees is the best place to keep the eggs. The eggs must be gathered daily, using only clean eggs and put those gathered each day right into the solution.

The best or at least the most economical vessels to use are clean stone jars of any size convenient but of course when only a few eggs are to be preserved the glass fruit jars as described in the above letter are very convenient and satisfactory. To make the preserving solution buy the water-glass from the drug store. Take water that has been boiled a few minutes and let it cool, then use one part of water-glass to nine parts of water and fill the jar about one-half full. Put the eggs in daily as gathered and fill so the fluid will cover the top eggs an inch or more. Then place a tight cover to prevent evaporation. A good piece of wrapping or paraffin paper with a board over it should make a satisfactory cover. The jars should be scalded out well before using to make them sterile.

Use Incubator Eggs at Home

The eggs removed from an incubator because they are infertile, while not fit after such heating for keeping, and not good for boiling or poaching, may, if used at once, be fried, and are good for cake and certain other baked foods. Such infertile eggs, moreover, make one of the best feeds for early chicks and many poultrymen use all their infertile eggs from incubators for this purpose. The farmer, therefore, would be wise to use such eggs immediately at home and not to mix them with his spring eggs. He should send only fresh eggs to market and should try to sell to the country collector, or store, on a strict quality basis. Incubator eggs when they reach market are classified as "Low Grade No. 2," and the presence of any number of them in a case reacts unfavorably on the grading of the entire 30 dozen at the hands of the first wholesaler.

To Rid Flock and House Of Lice

Grease baby chicks on top of heads.

Dust all sitting hens at least three times during hatching period.

Use blue ointment or other grease on all other hens.

Provide a good dust wallow.

Of Mites

Remove all litter in which the pests could hide.

Spray the house thoroughly.

Fumigate if the house can be made air tight.

Paint the roosts and nests with a good wood preservative.

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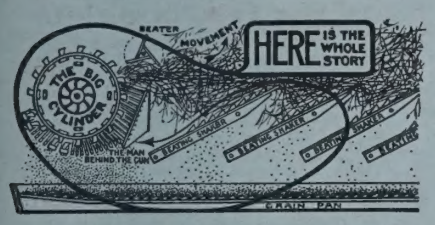

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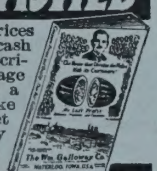

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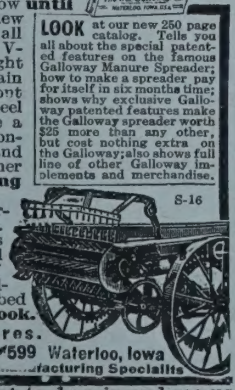

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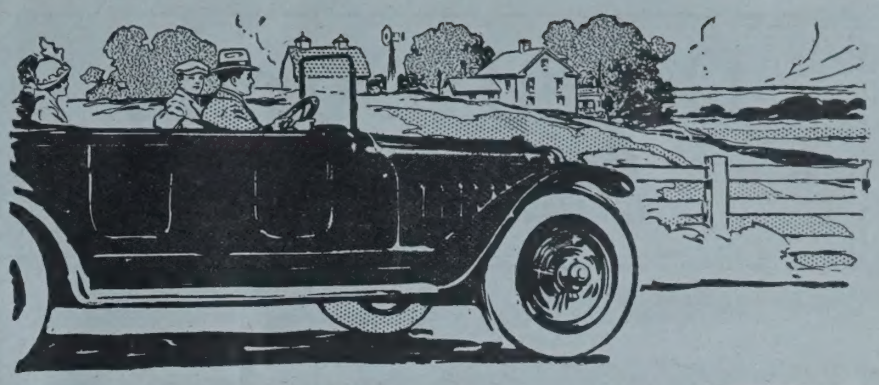

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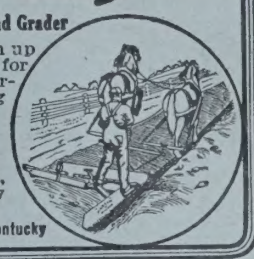

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David Dunne

A Romance of the Middle West

By BELLE KANARIS MANIATES

CHAPTER I

Across lots to the Brumble farm came the Dusty apparition of a boy, a tousle-headed, freckle-faced, gaunt-eyed little fellow, clad in a sort of combination suit fashioned from a pair of overalls and a woman's shirt-waist. In scarch of "M'iss M'ri," he looked into the kitchen, the henhouse, the dairy, and the flower garden. Not finding her in any of these accustomed places, he stood still in perplexity.

"Miss M'ri" rang out his youthful, vibrant treble.

There was a note of promise in the pleasant voice that came back in subterranean response.

"Here, David, in the cellar."

The lad set down the tin pail he was carrying and eagerly sped to the cellar. His fondest hopes were realized. M'ri Brumble, thirty odd years of age, blue of eye, slightly gray of hair, and sweet of heart, was lifting the cover from the ice-cream freezer.

"Well, David Dunne, you came in the nick of time," she said, looking up with kindly eyes. "It's just frozen. I'll dish you up some now, if you will run up to the pantry and fetch two saucers—biggest you can find."

Fleetly David footed the stairs and returned with two soup plates.

"These were the handiest," he explained apologetically as he handed them to her.

"Just the thing," promptly reassured M'ri, transferring a heaping ladle of yellow cream to one of the plates. "Easy to eat out of, too."

"My, but you are giving me a whole lot," he said, watching her approvingly and encouragingly. "I hope you ain't robbing yourself."

"Oh, no; I always make plenty," she replied, dishing a smaller portion for herself. "Here's enough for our dinner and some for you to carry home to your mother."

"I haven't had any since last Fourth of July," he observed in plaintive reminiscence as they went upstairs.

"Why, David Dunne, how you talk! You just come over here whenever you feel like eating ice cream, and I'll make you some. It's no trouble."

They sat down on the west, vine-clad porch to enjoy their feast in leisure and shade. M'ri had never lost her childish appreciation of the delicacy, and to David the partaking thereof was little short of ectasy. He lingered longingly over the repast, and when the soup plate would admit of no more scraping he came back with a sigh to sordid cares.

"Mother couldn't get the washing done noways to-day. She ain't feeling well, but you can have the clothes tomorrow, sure. She sent you some sorghum," pointing to the pail.

M'ri took the donation into the kitchen. When she brought back the pail it was filled with eggs. Not to send something in return would have been an unpardonable breach of country etiquette.

"Your mother said your hens weren't laying," she said.

The boy's eyes brightened.

"Thank you, Miss M'ri; these will come in good. Our hens won't lay nor set. Mother says they have formed a union. But 'most forgot to tell you—when I came past Winterses, Ziny told me to ask you to come over as soon as you could."

"I suppose Zine has got one of her low spells," said Barnabas Brumble, who had just come up from the barn. "Most likely Bill's bin gittin' tight agin. He—"

"Oh, no!" interrupted his sister hastily. "Bill has quit drinking."

"So that's how I am known around with Bill is, he can't stay quit. I see him yesterday comin' down the road zig-zaggin' like a rail fence. Fust she knows, she'll hev to be takin' washin' to support him. Sometimes I think 't would be a good idee to let him git over the road onct. Mebby 't would learn him a lesson—"

He stopped short, noticing the significant look in M'ri's eyes and the two patches of color spreading over David's thin cheeks. He recalled that four years ago the boy's father had died in state prison.

"You'd better go right over to Zine's," he added abruptly.

"I'll wait till after dinner. We'll have it early."

"Hev it now," suggested Barnabas.

"Now!" ejaculated David. "It's only halfpast ten."

"I could eat it now jest as well as I could at twelve," argued the philosophical Barnabas. "Jest as leave as not."

There were no ironclad rules in this comfortable household, especially when Pennyroyal, the help, was away.

"All right," assented M'ri with alacrity. "If I am going to do anything, I like to do it right off quick and get it over with. You stay, David, if you can eat dinner so early."

"Yes, I can," he assured her, recalling his scanty breakfast and the freezer of cream that was to furnish the desert. "I'll help you get it, Miss M'ri."

He brought a pail of water from the well, filled the teakettle, and then pared the potatoes for her.

"When will Jud and Janey get their dinner?" he asked Barnabas.

"They kerried their dinner to-day. The scholars air goin' to hev a picnic down to Spicely's grove. How comes it you ain't to school, Dave?"

"I have to help my mother with the washing," he replied, a slow flush coming to his face. "She ain't strong enough to do it alone."

"What on airth kin you do about a washin', Dave?"

"I can draw the water, turn the wringer, hang up the clothes, empty the tubs, fetch and carry the washings, and mop."

Barnabas puffed fiercely at his pipe for a moment.

"You're a good boy, Dave, a mighty good boy. I don't know what your ma would do without you. I hed to leave school when I wa'n't as old as you, and git out and hustle so the younger children could git eddicated. By the time I wuz foot-loose from farm work, I wuz too old to git any larnin'. You'd orter manage someway, though, to git eddicated."

"Mother's taught me to read and write and spell. When I get old enough to work for good wages I can go into town to the night school."

In a short time M'ri had cooked a dinner that would have tempted less hearty appetites than those possessed by her brother and David.

"You ain't what might be called a delikit feeder, Dave," remarked Barnabas, as he replenished the boy's plate for the third time. "You're so lean I don't see where you put it all.

David might have responded that the vacuum was due to the fact that his breakfast had consisted of a piece of bread and his last night's supper of a dish of soup, but the Dunne pride inclined to reservation on family and personal matters. He speared another small potato and paused, with fork suspended between mouth and plate.

"Mother says she thinks I am hollow inside like a stovepipe."

"Well, I dunno. Stovepipes git filled sometimes," ruminated his host.

"Leave room for the ice cream, David," cautioned M'ri, as she descended to the cellar.

The lad's eyes brightened as he beheld the golden pyramid. Another period of lingering bliss, and then with a sigh of mingled content and regret, David rose from the table.

"Want me to hook up for you, Mr. Brumble?" he asked, moved to show his gratitude for the hospitality extended.

"Why, yes, Dave; wish you would. My back is sorter lame to-day. Land o' livin'," he commented after David had gone to the barn, "but that boy swallered them potatoes like they wuz so many pills!"

"Poor Mrs. Dunne!" sighed M'ri. "I am afraid it's all she can do to keep a very small pot boiling. I am glad she sent the sorghum, so I could have an excuse for sending the eggs."

"She hain't poor so long as she hez a young sprout like Dave a-growin' up. We used to call Peter Dunne 'Old Hickory,' but Dave, he's second-growth hickory. He's the kind to bend and not break. Jest you wait till he's seasoned onct."

After she had packed a pail of ice cream for David, gathered some flowers for Ziny, and made out a memorandum of supplies for Barnabas to get in town, M'ri set out on her errand of mercy.

The "hooking up" accomplished, David laden with a tin pail in each hand and carrying in his pocket a drawing of black tea for his mother to sample, made his way through sheep-dotted pastures to Beechum's woods, and thence along the bank of the River Rood. Presently he spied a young man standing knee-deep in the stream in the patient pose peculiar to fishermen.

"Catch anything?" called David eagerly.

The man turned and came to shore. He wore rubber hip boots, dark trousers, a blue flannel shirt, and a wide-brimmed hat. His eyes, blue and straight-gazing, rested reminiscently upon the lad.

"No," he replied calmly. "I didn't intend to catch anything. What is your name?"

"David Dunne."

"You must be about twelve years old."

The man mediated.

"How did you know?"

"I am a good guesser. What have you got in your pail?"

"Which one?"

"Both."

"Thought you were a good guesser."

The youth laughed.

"You'll do, David. Let me think—where did you come from just now?"

"From Brumble's"

"It's ice cream you've got in your pail," he said assuredly.

"That's just what it is!" cried the boy in astonishment, "and there's eggs in the other pail."

"Let's have a look at the ice cream."

David lifted the cover.

"It looks like butter," declared the stranger.

"It don't taste like butter," was the indignant rejoinder. "Miss M'ri makes the best cream of any one in the country."

"I knew that, my young friend, before you did' It's a long time since I had any, though. Will you sell it to me, David? I will give you half a dollar for it."

Half a dollar! His mother had to work all day to earn that amount. The ice cream was not his—not entirely. Mis M'ri had sent it to his mother. Still—

"'T will melt anyway before I get home," he argued aloud and persuasively.

"Of course it will," asserted the would-be purchaser.

David surrendered the pail, and after much protestation consented to receive the piece of money which the young man pressed upon him.

"You'll have to help me eat it now; there's no pleasure in eating ice cream alone."

"We haven't any spoons," commented the boy dubiously.

"We will go to my house and eat it."

"Where do you live?" asked David in surprise.

David's freckles darkened. He did not like to be made game of by older people, for then there was no redress.

"There isn't any house within two miles of here," he said shortly.

"What'll you bet? Half a dollar?"

"No," replied David resolutely.

"Well, come and see."

David followed his new acqaintance around the wooded bank. The river was full full of surprises to-day. In midstream he saw what looked like a big raft supporting a small house.

"That's my shanty boat," explained the young man, as he shoved a rowboat from shore. "Jump in my boy."

"Do you live in it all the time?" asked David, watching with admiration the easy but forceful pull on the oars.

"No; I am on a little fishing and hunting expedition."

"Can't kill anything now," said the boy, a derisive smile flickering over his features.

"Never failed on corn or wheat"

"I never failed on either corn or wheat" — says Neeley Scranton, whose farm is near Pryor, in

Eastern Oklahoma
along the M., K. & T. Ry.

"I came to Mayes County 5 years ago and paid $35 per acre for my farm of 120 acres. My principal crop is wheat and I raise from 17 to 30 bushels per acre **every year.** What I am doing others near me are doing. I came here from Missouri and never regretted coming"

It's easy to understand why the farmers there make good money when you consider the good climate. First, there s a long growing season; plowing begins in February and harvests extend into December (yet summer temperatures are no higher than up north.) Second, short winters, so mild that stock can graze nearly the whole year and need little or no shelter—that brings winter expenses **way down.** And remember, **Eastern Oklahoma** is in the rich, level land section where the rainfall is as **great** as in Missouri, Iowa or Illinois—40 to 45 inches, well distributed through the growing season. As the U. S. Gov't says, "Eastern Oklahoma is **exceptionally** favorable for agriculture" and farmers who **go** there **prove** that this statement is **true.**

Send for free booklets

published by the Eastern Oklahoma Farm Bureau, composed of bankers and business men who have no land to sell but are interested solely in inducing practical, substantial farmers to settle and develop the fine farm lands there—lands at $10 to $60 per acre, which will raise as high as 30 bu. of wheat, 75 bu of corn, 80 bu. of oats and 6 tons of alfalfa a season. Write for these booklets now!

R. W Hockaday,
Colonization Agent, M. K. & T. Ry.
1535 Railway Exchange. St. Louis, Mo

"I am not hunting to kill, my lad. I am hunting old scenes and memories of other days. I used to live about here. I ran away eight years ago when I was just your age."

"What is your name?" asked David interestedly.

"Joe Forbes."

"Oh," was the eager rejoinder. "I know. You are Deacon Forbes' wild son that ran away."

"So that's how a am known around here, is it? Well, I've come back, to settle up my father's estate."

"What did you run away for?" inquired David.

"Combination of too much stepmother and a roving spirit, I guess. Here we are."

He sprang on the platform of the shanty boat and helped David on board. The boy inspected this novel house in wonder while his host set saucers and spoons on the table.

"Would you mind," asked David in an embarrassed manner as he wistfully eyed the coveted luxury, "if I took my dishful home?"

"What's the matter?" asked Forbes, his eyes twinkling. "Eaten too much already?"

"No; but you see my mother likes it and she hasn't had any since last summer. I'd rather take mine to her."

"There's plenty left for your mother. I'll put this pail in a bigger one and pack ice about it. Then it won't melt."

"But you paid me for it," protseted David.

"That's all right. Your mother was pretty good to me when I was a boy. She dried my mop of hair for me once so my stepmother would not know I'd been in swimming. Tell her I sent the cream to her. Say, you were right about Miss M'ri making the best ice cream in the country. It used to be a chronic pastime with her. Thats how I guessed what you had when you said you came from there. Whenever there was a picnic or a surprise party in the country she always furnished the ice cream. Isn't she married yet?"

"No."

"Doesn't she keep company with some lucky man?"

"No," again denied the boy emphatically.

"What's the matter? She used to be awfully pretty and sweet."

"She is now, but she don't want any man."

"Well, now, David, that isn't quite natural, you know. Why do you think she doesn't want one?"

"I heard say she was crossed once."

"Crossed, David? And what might that be?" asked Forbes in a delighted feint of perplexity.

"Disappointed in love, you know."

"Yes; it all comes back now—the gossip of my boyhood days. She was going with a man when Barnabas' wife died and left two children—one a baby—and Miss M'ri gave up her lover to do her duty by her brother's family. So Barnabas never married again?"

"No; Miss M'ri keeps house and brings up Jud and Janey."

"I remember Jud—mean little shaver. Janey must be the baby."

"She's eight now."

"I remember you, David. You were a little toddler of four—all eyes. Your folks had a place right on the edge of town."

"We left it when I was six years old and came out here," informed David.

Forbes' groping memory recalled the gossip that had reached him in the Far West. "Dunne went to prison," he mussed, "and the farm was mortgaged to defray the expenses of the trial." He hastened back to safer channel.

"Miss M'ri was foolish to spoil her life and the man's for fancied duty," he observed.

David bridled.

"Barnabas couldn't go to school when he was a boy because he had to work so she and the other children could go. She'd ought to have stood by him."

"I see you have a sense of duty, too. This county was always strong on duty. I suppose they've got it in for me because I ran away?"

"Mr. Brumble says it was a wise thing for you to do. Uncle Larimy says you were a brick of a boy. Miss Rhody says she had no worry about her woodpile getting low when you were here."

"Poor Miss Rhody! Does she still live alone Does she still live alone? And Uncle Larimy—is he uncle to the whole community? What fishing days I had with him! I must look him up and tell him all my adventures. I have planned a round of calls for to-night—Miss M'ri, Miss Rhody, Uncle Larimy—"

"Tell me about your adventures," demanded David breathlessly.

He listened to a wondrous tale of western life, and never did narrator get into so close relation with his auditor as did this young ranchman with David Dunne.

"I must go home," said the boy reluctantly when Joe had concluded.

"Come down to-morrow, David, and we'll go fishing."

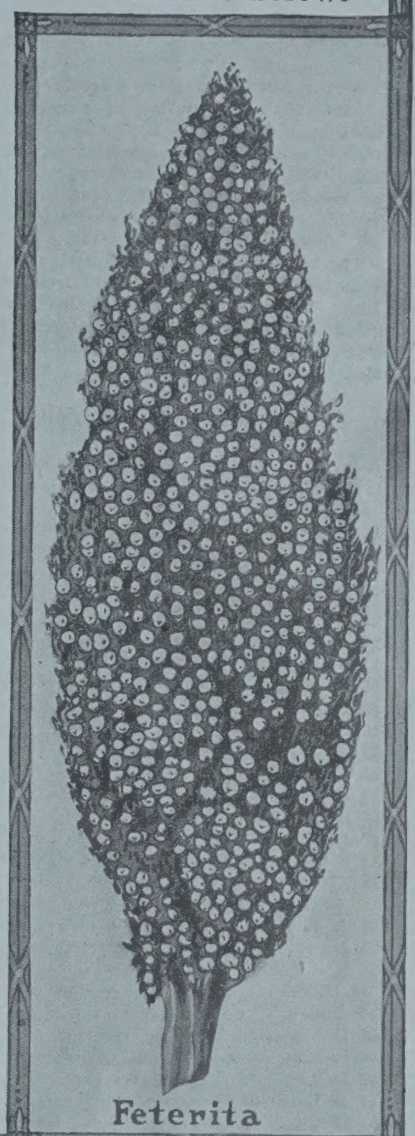
"All right. Thank you, sir."

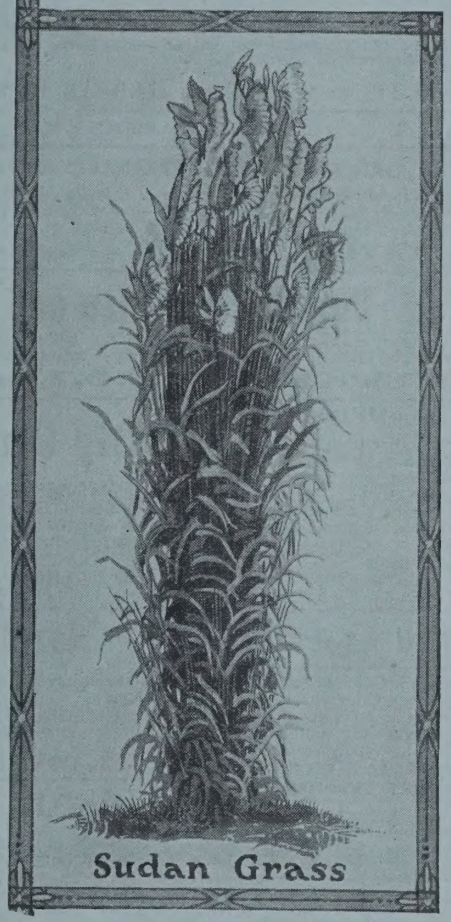
With heart as light as air, David sped through the woods. He had found his Hero.

(To be continued.)

Will you try the new Grains, Feterita and Sudan Grass at our expense, with the Flower Garden, as shown above, thrown in for good measure? See our offer below.

Feterita, the new cereal. This new grain is proving itself to be of wonderful value in times of drouth. It will grow and mature a crop of seed in from 75 to 90 days time. One single seed will make a plant having from five to ten stalks and each stalk will grow a head of seed, the larger ones weighing about one pound. These heads of grain are easily gathered and stored and have a variety of valuable uses. Crush the grains and cook them and you have a nice breakfast cereal. The grain when ground into flour makes a very fair substitute for wheat flour. Feterita is very much like Kafir in chemical composition and of all its different uses perhaps the greatest is its value as a food for poultry. A small field will grow enough seed for a good size flock of chickens and the fodder is readily eaten by horses and cattle. We want to send you a package of seed large enough to plant a 2 rod square patch of ground. This will give you a chance to try it as a breakfast cereal and enough to see what it will do as a poultry feed. If you like it you can save eough seed from this trial planting to plant a large acreage next year. See our offer below.





Sudan Grass. This wonderful new hay crop is succeeding in all parts of the country. It grows from seven to nine feet tall and stools out very thickly, a single seed producing a plant that will throw up from thirty to sixty stems. Sudan Grass does not lodge and go down after rain and wind storms as does millet and other grains. Horses, cattle and other stock like it and thrive on it in all stages, green or cured. A small patch will grow enough extra fine hay to provide for a horse and cow. The plant is an annual and dies root and branch in fall or after maturing a crop of seed. Usually makes from two to three cuttings of hay per season. Succeeds in dry season where most of other crops would be burned out.

We want to send you a package of Sudan Grass seed sufficient to plant a 2 rod square patch of ground. From this trial patch you can raise enough seed to plant a large acreage another year. See our offer below.

Our Flower Garden. We always did admire a nice flower garden and in this special bed we have over 150 different varieties of our choicest annuals that will commence to bloom early in season and continue until stopped by frosts in fall. This flower bed will be a constant source of pleasure and delight to you as the different varieties come into bloom.

We want to send you a large package of seed, enough to plant a bed a rod long.

Our Offer.—Send us a dollar to renew your subschiption to **The Missouri Farmer**—or if your subscription is paid up send us a new subscription at three years for one dollar, when we will send you postpaid a package of **Feterita** sufficient to sow a two rod square patch of ground and a package of **Sudan Grass sufficient for a bed a rod long.** With the seeds will be full directions for sowing, etc., and from these plots you will derive enough seed to furnish you with a supply for future use. **Cut out and mail the coupon to-day.**

THE MISSOURI FARMER, - COLUMBIA, MO.

Gentlement:—For the inclosed Dollar please send **The Missouri Farmer** for three years and the FETERITA, SUDAN GRASS and FLOWER SEEDS as per your offer, to the name below.

Name .....

P. O. .....

R. F. D. ..... State.....

REAL HELPS FOR FARM BUILDERS

"Service" is the slogan of the Southern Pine Association, an organization of southern lumber manufacturers who are working together to promote the proper use of wood in building. One important feature of the Association "service" is the free distribution of informative booklets dealing with building and repair work on the farm. Included in this literature is a booklet on "How To Choose and How To Use a Silo," "Lumber Pointers," and other publications that give much valuable information to farmers while advocating the use of southern yellow pine as the most economical and durable wood for farm building. Supplementing the booklets sent out by the Association are detailed working plans, with lumber bills complete, for various priced homes, barns, garages, granaries, feed shed and numerous smaller farm buildings. The plans also are free.

This material, intended to stimulate building and thereby improve living and working conditions on the farm, is distinctly helpful to the rural resident, whether or not he lives in a locality where southern yellow pine may be obtained. The building helps are prepared by experts, and the booklets are written by authorities on the various subjects treated. The distribution of the Southern Pine Association's free "Service" material affords one of those rare opportunities to get for nothing something really worth while, and every farmer contemplating building improvements should send for such of the literature and plans as treat of his requirements. There is absolutely no cost involved in requesting this material—the Southern Pine Association has nothing to sell to you. The service is free. Requests, stating your needs, should be addressed to the Southern Pine Association, 619 W. Interstate Bank Building, New Orleans, La.

We would like to have our boy readers write us and tell us what they think of the new serial "David Dunne."

A BANKER FRIEND

Marshall, Mo., Mar. 18, 1916.
The Missouri Farmer,
Columbia, Mo.
Dear Sirs:
Here is my "It's Up to You" two dollars, on subscription. I am a banker in a farming community and I think THE MISSOURI FARMER the best paper published for Missouri farmers. W. S. Huston.

We would like to have our poultry raisers write us stories of their success in finding other markets than the ordinary store trade for their eggs and chickens. Two cents added to the price obtained for a dozen eggs or two cents a pound added to the price received for poultry will add a great many thousands to the income of Missouri poultry raisers.

Live Stock Notes

R. P. ROYCE, Fieldman

COMING SALES

ANGUS CATTLE

Aberdeen-Angus Ass'n Sale, St. Joseph, Mo., April 25.

Aberdeen-Angus Ass'n Sale, Omaha, Nebr., April 26.

Aberdeen-Angus Ass'n Sale, Sioux City, Iowa, April 27.

Aberdeen-Angus Breeders Sale, St. Louis, Mo., May 2.

E. H. Salisbury, Kirksville, Mo., May 26.

SHORTHORN CATTLE

W. C. Prewitt & Sons, Clarksville, Mo., April 27.

POLAND CHINA HOGS

Leonard McMullin, Sekeston, Mo., May 26.

Angus Average $130 at East St. Louis

The two days auction of Angus cattle held at East St. Louis, March 15th and 16th, under the management of M. A. Judy, resulted in the fair average of $130 on the 99 head sold. The first sale, held Wednesday, was a breeders sale, in which the general average was $138.

The second day was occupied with the dispersion of the Durrstein Bros'. herd from Scales Mound, Ill. In this sale 41 head sold for $5465.00 an average of $133. The major portion of the two offerings went to Arkansas, Tennessee, Missouri, Mississippi and Souteast.

Wednesday's Sales in Full

COWS

No. 7 E. Dalton, Pocahontas, Ark....$195
8 E. Bacon, Poplar Bluff, Mo..... 175
9 E. Bacon 160
10 J. Garrett Tolan, Farmingdale, Ill. 175
11 H. H. Hughes, Hendersonville, Tennessee 210
12 Price Smith, Prairie, Mo..... 195
13 Price Smith 125
15 Price Smith 170
17 R. L. Block, Wynne, Ark..... 130
18 E. Dalton 100
19 Price Smith 110
20 R. L. Block 90
21 R. L. Block 90
24 H. H. Hughes 110
25 R. L. Block 105
26 R. L. Block 110
27 H. H. Hughes 135
31 Block 100
33 E. Dalton 115
34Block 110
38 J. L. Pringle, Corning, Ark..... 75
39 D. W. Tyrrell, Belle, Mo..... 110
41 Mississippi 100
43 Block 100
4 3 Block 100
45 Dalton 105
46 Dalton 90
47 Dalton 75
48 J. L. Pringle 75
51 Block 100
52 Dalton 90
54 M. F. Frazer, Paris, Tenn..... 100
56 Block 125
57 M. G. Smith, Owensville, Ind ... 125
59 H. H. Hughes 150

BULLS

No. 1 S. Melvin, Greenfield, Ill.....$265
2 W. H. Hurdle, Holly Springs, Miss. 300
3 W. B. Armstrong, Lake City, Ark. 295
4 S. Sondat, Swedeborg, Mo..... 200
5 G. W. Wynn, Corning, Ark..... 175
6 E. Dalton, Pocahontas, Ark..... 310
16 A. R. Bentley, Pearl, Ill..... 180
22 A. S. B. Smith, Dexter, Mo..... 185
-- W. B. Adams, Poplar Bluff, Mo.... 150
28 R. Keene, Keenes, Ill..... 140
32 F. B. Voils, Irving, Ill..... 110
35 J. L. Pringle, Corning, Ark..... 130
40 S. A. Davis, Mineola, Mo..... 150
49 ——— 95
50 Dewett Tyrrell 160
53 ——— 65
55 M. F. Frazier, Paris, Tenn..... 145
58 J. L. Pringle 175

Thursday's Sales in Full

COWS

No. 2 E. Bacon, Poplar Bluff, Mo....$125
3 E. E. Coulter, New Berlin, Ill.... 120
4 H. E. Hughes, Hendersonville, Tennessee 150
6 H. H. Hughes 150
8 E. Dalton, Pocahontas, Ark..... 175
9 A. S. B. Smith, Dexter, Mo..... 145
10 H. H. Hughes 160
13 H. H. Hughes 145
14 Dewitt Terrell, Belle, Mo..... 150
16 E. Bacon 100
17 Wm. Sitzes, Bloomfield, Mo..... 125
19 Walter Dalton, Dalton City, Ill.... 115
20 Walter Dalton 150
21 Wm. Sitzes 100
23 E. Dalton 75
27 E. Dalton 130
29 E. E. Coulter 145
31 E. Dalton 110
32 Dewitt Terrell 110
33 Dewitt Terrell 130
34 Dewitt Terrell 130
35 R. L. Block, Wynne, Ark..... 125
36 R. L. Block 135
37 Dewitt Terrell 150
39 Dewitt Terrel 170
42 E. Dalton 150
43 Walter Dalton 115
46 Wm. Sitzes 125
49 Wm. Sitzes 105
50 R. L. Block 90
51 Dewitt Terrell 130
53 -- Dalton 115
54 E. Dalton 110
55 L. B. Buck, Bloomfield, Mo..... 140
56 Dewitt Terrell 125

BULLS

No. 1 R. L. Block, Wynne, Ark.....$405
22 Wm. Sitzes, Bloomfield, Mo..... 110
24 W. H. Gassy, Humes, Mo..... 120
45 H. H. Hughes, Hendersonville, Tennessee 105
47 R. H. Clanahan, Renshaw, Mo.... 100
48 J. W. Dedman, Findlay, Ill..... 100

Well Bred Polands Worth the Money

Hall & Rapp, Rocheport, Mo., are offering our readers some exceptionally well bred Poland China boars at prices that should move them in a hurry. Write this form for further information.

Jersey's and Spotted Polands

The Ennis Stock Farm, Horine Station, Mo., offers the readers of this paper splendid values in Jersey Cattle and spotted Poland China hogs. Write for prices.

Sutherland's Angus

D. L. Sutherland & Sons, Windsor, Mo., who advertise Angus cattle in this paper advise us that their cattle have come through the winter in fine shape and add that they are very anxious to dispose of a number of young bulls and cows in order to make room for the young stuff that is coming on. We know that a great many readers of The Missouri Farmer have made satisfactory purchases from this herd and all speak very highly of the fair treatment accorded them by this firm. We are glad to recommend this herd to our readers who are in the market for good useful cattle and trust that when you write that you will bear in mind that Messrs. Sutherland will appreciate very much your mentioning where you saw their ad.

Brockman's Durocs Have the Size

Perhaps no herd of Durocs in Missouri can show more size than the herd maintained by A. C. Brockman, Centralia, Mo., Mr. Brockman is a practical hog man in every sense of the word and the types of Durocs he has developed are the profitable kind as evidenced by the fact that they make money for Mr. Brockman. Our readers will be serving their own interests if they investigate this herd before placing their orders for Duroc breeding stock.

Want a Smooth Columbus Boar?

Bennett Bros., Lee's Summit, Mo., report that they are having splendid success in saving their spring pigs by their great boar, Smooth Columbus, and advise that they are now ready to book orders for boars of spring farrow to be shipped at weaning time. It will be well to keep in mind that for two years the blood of Smooth Columbus has been selling at the top or near the top in Missouri—that it has been proven to be prepotent of the type sought after by careful buyers. Now is a good time to place your order for a boar—the price will be right, the express charges light and our readers can depend upon fair treatment from this firm.

Dr. Unsell's Durocs

In another column Dr. J. B. Unsell, Louisiana, Mo., announces that he now has for sale a very select lot of fall boars has for sale a very select lot of fall boars. Perhaps no herd in the state has than the Clover Leaf herd. The attention of the breeders has been centered on this collection of Durocs largely because of the notable high character of breeding animals the Doctor has been purchasing. Many of the top sows of the past two years will be found in this herd and the class of herd boars used has been such as to place the herd in the front rank. Most of the boars now in offer are by Unsell's Defender, a tremendously big son of the noted Defender and out of Model Princess 1st by Model Cherry. If there is one thing more than another Dr. Unsell insists on, it is size. He bought the big kind of boars and sows,

POLAND CHINAS

Smooth Columbus
THE BOAR THAT PUT MISSOURI ON THE MAP. HEADS OUR HERD

SMOOTH COLUMBUS BLOOD has held the record in Missouri for two years—it will do it again next year. Fall pigs, either sex, by this great boar, now offered for sale.

BENNETT BROS. R. 5, LEE'S SUMMIT, MO

Spring Boars by the Grand Champion

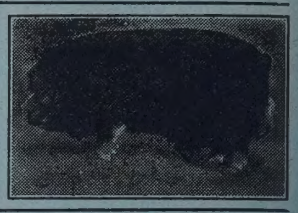
A desirable lot of early spring boars by The Giant, acknowledged to be one of the greatest young Poland China boars of the breed. Prices within reach of all.

WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

Poland Chinas & Shorthorns

Bred sows and gilts. The real big kind with bone and quality. A few serviceable boars. Several extra good young bulls and heifers. Satisfaction guaranteed.

H. S. Williamson, Route 6 Centralia, Mo.



BAKER'S REAL BIG-TYPE POLANDS

We have a number of extra good spring boars sired by Big Look that we are offering worth the money. Need the room and must sell.

W. A. BAKER & SONS, BUTLER, MO.

BIG TYPE BOARS FOR SALE

Here we are with the good big type spring boars by SMOOTH COLUMBUS and SPOTTED MONSTER out of WONDER and LEADER sows. Crated and on the car at Rocheport, for $25.

HALL & RAPP, ROCHEPORT, MO.

Linhardt's Polands

I have a choice lot of extra good fall gilts sired by outstanding boars. Customers in 26 states. GIANT MAMMOTH 68375 and CHIEF BIG BONE 75856 in service. Priced for farm trade.

H. O. LINHARDT, LOHMAN, MO.

DOOLEY'S SPOTTED POLANDS

Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pair and trios no relation. Also registry furnished. Send check with first letter.

EDGAR DOOLEY, - Ettervile, Mo.

DUROC JERSEYS

COL. WONDER DUROC BOARS $25

At recent Missouri State Fair my herd won 35 ribbons—3 championships, 15 firsts. Col. Wonder sires my champions—he will sire them for you. Choice bred gilts. Nothing but the best sent on mail orders.

CHAS. L. TAYLOR - - - - - - Olean, Mo.

Durocs With Size and Bone

I am offering a choice lot of early spring pigs with unusual size, bone and quality. Bred right and priced right. Visitors welcome.

A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

50 DUROC BOARS

High Class Fall Boars, from the Big Type Herd of Mo. That produced All The First Prize Jr. Pigs at the Mo. State Fair 1915. Some rare opportunities. Sired by the great breeding boar, Unsell's Defender. From Americas most noted Duroc Sows. Make your selections early. Write today.

DR. J. B. UNSELL, - Louisiana, Mo.

Big Duroc Fall Gilts

We offer for sale our herd boar sired by Wellie's Example and out of a Whiskey & Faith sow. Also a few September boars. Booking orders for spring pigs.

R. L. (Bob) HILL, - Columbia, Mo.

Classified Advertising

BARRED PLYMOUTH ROCK EGGS for hatching, from extra choice, large farm raised stock. Deep clear barring, and free from smutty or brassy color. Big yellow legs and proper shape. Price of eggs, $1 per 15; $2.50 per 45; $5 per 100. M. D. PORTER, VANDALIA, MO.

FOR SALE—Barred Rock Cockerels. High class fellows with great size. $2 to $5 each. Obadiah Prettyman, Fairfax, Mo.

FOR SALE—Pure Pearley's Mongol Soy Beans, $3.00 per bu. Sacks furnished. L. G. Snyder, LaMonte, Pettis Co., Mo.

WHITE ORPINGTONS—Eggs $3.00 per 15; utility eggs 80c per 15, $4.50 per 100. Otto W. Oetting, Concordia, Mo.

THOROUGHBRED S. C. REDS—Bred for eggs and standard points; deep red, healthy, fine males. Eggs 15 for 75c, 105 for $4.00. Mrs. Geo. Gerhart, Glensted, Mo. 3-1-5t

BARRED ROCKS—Eggs from big, vigorous stock that will give you some prize winners at $1.00 per setting. Exhibition mating, $2.50 per setting. Mrs. Wm. Heinman, Salisbury, Mo. 3-1-6t

S. C. BROWN LEGHORN EGGS—$1.50 for 30, $4.00 for 100. Also some fine stock. John H. Plassmeyer, Westphalia, Mo. 3-1-4t

R. C. R. I. REDS—Famous Kaufmann & Windheim strain; none better. Keep up with the best stock. Pen eggs $3.00 per setting; range $1.00 per 15; $5.00 per 100. Am booking orders. W. R. Elley, R 2, Columbia, Mo. 3-1-6t

EGGS—Thompson strain Barred Rocks. Eggs from pens, $3 for 15; farm range, $1 for 15; $5 per 100. Mrs. L. H. Elly, Columbia, Mo. Rt 2. Phone 36-B.

BARRED ROCK EGGS for hatching, $1 per 15; $3 per 50; $5 per 100. Winners at Springfield, Vandalia and Louisiana. F. M. Creamer, Louisiana, Mo.

R. C. RED and S. C. W. LEGHORN eggs, $1.00 per 15; $5.00 per 100. Mrs. J. W. Ezell, Houstonia, Mo.

BEE SUPPLIES of all kinds. Low prices; discount for early orders; catalog free. Rouse Co., Mexico Mo. 3t

BARRED PLYMOUTH ROCK EGGS—From A. No. 1 stock. The large, deep barred, yellow-legged kind. Price $5.00 per 100. T. J. Dunn, R-2, Moberly, Mo. t.f.

Hazelwood Durocs

Seventy choice spring boars and gilts sired by HAZELWOOD CHIEF, by CRIMSON COL., and out of OHIO CHIEF bred sows. Get our prices.

E. P. POWELL & SON, Maryville, Mo.

DUROC HERD BOAR!!

Soon old and big enough to breed; by Col. Wonder II., Rexell Col., and Beauty's Col. These gilts are priced so buyer can make money by using them for production of market hogs.

J. C. Garrard & Son, McBaine, Mo.

Duroc Gilts---Bred for Spring

I now offer a choice lot of big February and March gilts sired by GOLDEN TAT and bred to a grandson of COL. WONDER. Priced to sell. Extra size and bone.

J. E. McPherson, Columbia, Mo.

HAMPSHIRES

BROOKVIEW HAMPSHIRES

Herd headed by GEN. TIPTON and SIR BROOKVIEW, both grand champions. Spring boars and gilts of choice breeding and individuality. Prices reasonable.

ISOM J. MARTIN, R 5 Lancaster, Mo.

RED POLLED

RED POLLED CATTLE

Herd established 16 Years

Young stock for sale. Young bulls sired by LOGAN 13500; Calves sired by KNOCKER 28791. Bred for milk and beef. Also offer spotted Poland China hogs and Rieds Yellow Dent seed corn.

M. L. SNYDER, - - POLO, MO.

PURE BRED WHITE ORPINGTON eggs—$1.00 for 15; $5.00 per 100. S. C. Smutz, Brunswick, Mo. 4-1-3t

HOME CANNERS—All sizes. Used by U. S. Government Schools, Girls' Clubs, collaborators, and Farmers everywhere. Headquarters for cans and labels. For catalog and special offer write, Royal Home Canner Co., Dept. 215, Albion, Ill.

JERSEY CATTLE

JERSEY CATTLE

Bulls ready for service, They are sired by the Owl's Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

JERSEY BULL CALVES

I have three extra fine ones for sale. Sired by Stockwells Champion. He has won 29 first and Champion ribbons at the leading State Fairs. Calves are out of very high producing cows. For breeding, etc., writ.

J. B. SMITH Platte City, Mo.

SUNSET JERSEYS--TRIO

Two fancy heifers (both bred) and a fine bull, all the the famous Blue Belle—Golden Rosebay breeding. I will sell this trio for $250. This price cannot be equalled anywhere for such stock. Send for circular, description of herd, production, etc.

The ENNIS STOCK AND DAIRY FARM, Horine Station, Mo. (Just south of St. Louis)

Jersey Bull For Sale.

REGISTERED JERSEY BULL CALF. Dropped September 3rd, 1916. BARGAIN.

GEORGE AID, - GALLATIN, MO.

HOLSTEIN CATTLE

Dutchland Sir Hengerveld Rag Apple 99771

A few choice bull valves out of heay producing dams sired by the above famous bull for sale.

BLACK AND WHITE FARM Baden Station, Mo.

Tel. Colfax 1812 R. R. 30

IN MISSOURI

Eight Bulls, 2 to 8 months, $100 to $175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.

S. W. COOKE & SON, MAYSVILLE, MO.

HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndye Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

M. E. MOORE & CO., Cameron, Mo.

HOLSTEINS

Bought for you on small commission. What do you want? Price low. Feed short.

H. T. Hook, Janesville, Wis. (Formerly of Columbia, Mo.)

ANGUS CATTLE

Choice Aberdeen-Angus

Established 30 years. 100 head in herd. We are offering good useful Bulls and Heifers of excellent individual merit and breeding. Price reasonable. Our customers make them popular.

D. L. Sutherland & Sons, Windsor, Mo.

Aberdeen-Angus

I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.

J. D. Blackwell - Fayette, Mo.

ANGUS CATTLE

Herd founded 1904

Young stock sired by Dean's Eric 139686. Also offer splendid herd bull for sale. Every one the right kind and priced to sell.

V. E. LAWRENCE, SALISBURY, MO.

Angus Bargains

Registered bulls and heifers. The market topping kind. Leading families represented. Priced worth the money and satisfaction guaranteed.

Also Poland China Hogs.

J. M. JONES, R. F. D. 3, EVERTON, MO.

MOLASSES Richest Feed Lowest Cost

St. Louis Molasseses Co., Dept. MF.

to start with and he is a "regular crank" on feeding the proper ration. Consequently the fall stuff is unusually large.

Look up the advertisement in this issue and write for prices. Kindly mention this paper.

Garrard & Son's Durocs

Brown Garrard, junior member of the firm J. C. Garrard & Son who advertise Durocs in this paper, was in the office last week and informed us that he was entirely sold out of bred sows and gilts and practically sold out of boars, with the exception of a few of September farrow. This firm is now offering a two year old boar, sired by Welle's Example and out of a Whiskey and Faith sow. Messrs. Garrad have no further use of this boar an' a e therefore pricing him very low.

PREPAREDNESS AT FARROWING TIME IS MONEY SAVED

Farmers who intelligently feed and care for their pregnant sows, so as not to overload them with fat, but instead give them feeds for the development of bone and muscle, are on the right road toward the production of strong, healthy litters. Their preparedness program, however, does not end here.

Two weeks before farrowing the sow should be put into a farrowing pen so that she will become acquainted and contented in her new quarters. The farrowing pen should be dry and free from draughts. Provide the pen with a guard rail made of 2 by 4-inch planks set 8 inches from the wall and 8 inches from the floor to prevent the sow from crushing the pigs against the wall. Use only a small quantity of bedding; leaves or straw are preferable. See that the sow has plenty of fresh water.

It pays to keep the sow quiet. Assistance at the time of farrowing should be at hand if needed, but the sow need not be helped if she is getting along well. In cold weather put the newly born pigs in a well warmed basket and after farrowing is over the pigs should be placed with the sow, care being taken that each one gets to a teat. When the afterbirth is passed, it should be removed from the pen at once and burned or buried.

After farrowing the sow should have nothing but water and a little thin slop for the first day. The feeding for the first three or four days should be light, and the time consumed in getting the sow on full feed should be from a week to ten days, depending on the condition of the sow and the size and thrift of the litter. It takes plenty of sow's milk to make healthy growing pigs. If the pigs begin to scour, feed the sow less and give her plenty of strong lime water.

It is very necessary that the little pigs have plenty of exercise and all the sunlight that can be given them. Do not allow the pigs to run out during a cold rain. If possible, provide green feed or roots. These keep the so v healthy and cheapen the ration. Encourage the pigs to eat grain after they are three or four weeks old. Build a creep for them so they can feed alone. At this age feed for bone and muscle. Give them all the skim milk you can. If skim milk is not available, give them some meal and plenty of pasture. In about eight or ten weeks the pigs will have practically weaned themselves. After they have been successfully weaned the most perplexing job is over.

By putting into practice the essential points above mentioned the number of pigs raised to weaning should be increased. Hogs never fail to respond to good care. Kind treatment always means contentment with its corresponding profits.

—Press Bulletin U. S. Department of Agriculture.

Hogs Fed on Rape Need Some Grain

Can you afford to feed grain to your hogs this summer?

R. C. Ashby, in charge of swine at University Farm, St. Paul, says you c^n not afford to grow them without grain. He gives the results of three tests of feeding corn to hogs on rape pasture to prove his claim.

Six 50-pound pigs were put in each of three lots, about a quarter of an acre in size, on rape pasture. The pigs in the first lot were fed a half ration—2 per cent of corn; that is, two pounds of corn for every one-hundred pounds of live weight. Those in the second lot were fed three pounds of corn for every one hundred pounds of pig; that is, 3 per cent. The pigs in the third lot were fed a full ration, 4 per cent, of corn. The pigs were on good rape pasture eleven weeks—from July 10 to September 26. Their gains were counted as worth 7 cents a pound and corn was charged at 55 cents a bushel.

The returns paid for the rape pasture an acre were: Lot No. 1, $52.80; lot No. 2, $66.72; lot No. 3, $65.60. If the corn is figured at 75 cents a bushel, the balance for the pasture on the three lots would be $43.16, $51.36 and $45.60, respectively.

Without the feeding of grain, the pigs would have gained little, Mr. Ashby says. Rape may be expected to pay $50 an acre as pasture only with the proper feeding of grain.

Even Good Dogs Spread Disease

That good friend of the farmer, the dog, will have to be looked after more carefully, if he is not to do as much harm as good on the farm. According to a bulletin issued by the United States Department of Agriculture, Towser has been found to be a carrier of such diseases as rabies, hydatid, ringworm, favus, double-bored tapeworm, roundworm, and tongueworm. All of these are diseases which afflict human beings. Occasionally, also, the dog carries flees and ticks, which in turn transmit bubonic plague and the deadly spotted fever.

In these days of the foot and mouth disease, too, farmers should see to it that their dogs do not bring home the fatal germs, or, if they have any disease on their own farms, they should take pains to prevent their dogs from carrying it to their neighbor's farms.

A Remedy for Clover Bloat

The cause of and a remedy for clover bloat have been found by D. J. Healy and J. W. Nutter of the Kentucky Agricultural Experiment Station. These facts are announced in Circular No. 5, recently issued by the Kentucky station.

Red clover blossoms contain about 3.6 per cent of sugar; alfalfa blossoms, 2.8 per cent; white clover blossoms, 2.4 per cent. After being eaten by stock, this sugar undergoes rapid fermentation and is converted into carbon dioxide. This causes the bloating.

The authors of the bulletin strongly recommend for acute bloating, one quart of 1½ per cent solution of formalin. After this is administered, a wooden block should be placed in the animal's mouth, and the animal should be given gentle exercise if it can be gotten on its feet.

Formalin is a trade name for a 40 per cent solution of formldehyde gas in water and may be obtained at any drug store for about 40 cents a pint. One-half ounce of formalin in one quart of water is the proper solution with which to drench an animal.

REID'S YELLOW DENT SEED CORN Champion at Missouri State Show. Indiana type. The kind that has a deep, meaty grain; small cob; large ears; and yielded this year as high as 115½ bushels to the acre. $2.50 to $3.00 shelled; $3.50 to $4.00 crated in ear. F. O. B. Germination guaranteed. H. G. WINDSOR, Benvenue Farms, Boonville, Mo.

FAWN AND WHITE INDIAN RUNNER DUCKS

Most profitable of fowls. Healthy, fast maturing, steady layers, require little attention, and the birds I offer are specially bred for these good points. Have never been beaten in show room. Prize stock is dependable stock—it is good to start with and a good performance may be counted on, with reasonably good attention. Write to me—I'll be glad to tell you more good points about Indian Runner Ducks and quote prices on them. Also have Golden Laced, Silver Laced and White Wyandottes—blue-ribbon winners wherever shown.

E. G. LIMERICK, Route 3, Columbia, Mo. 'Phone 10-Y

AUCTIONEERS

THOMAS E. DEEM

AUCTIONEER

Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased Dependable service at a reasonable price. Address, Cameron, Mo.

SEED CORN

Reids Yellow Dent.—Well bred, carefully selected. Nubbed, shelled and graded, $2.50 per bu. Choice corn, in the ear, $3.50 per bu. 90 Day Corn.—Good early feeding corn. Fine for planting, nubbed, shelled and graded, $$3.00 per bu. All corn shipped subject to your approval.

B. P. SMOOT, (R. No. 5,) Centralia, Mo.

SEED OATS---SEED CORN

Pride of Saline—A yellow Dent seed corn. Heavy ears, very deep kernel, shells immensely. $2.25 per bu., shelled, tested.

K. H. BROWN, Bolivar, Mo.

Choice Seed Corn for Sale

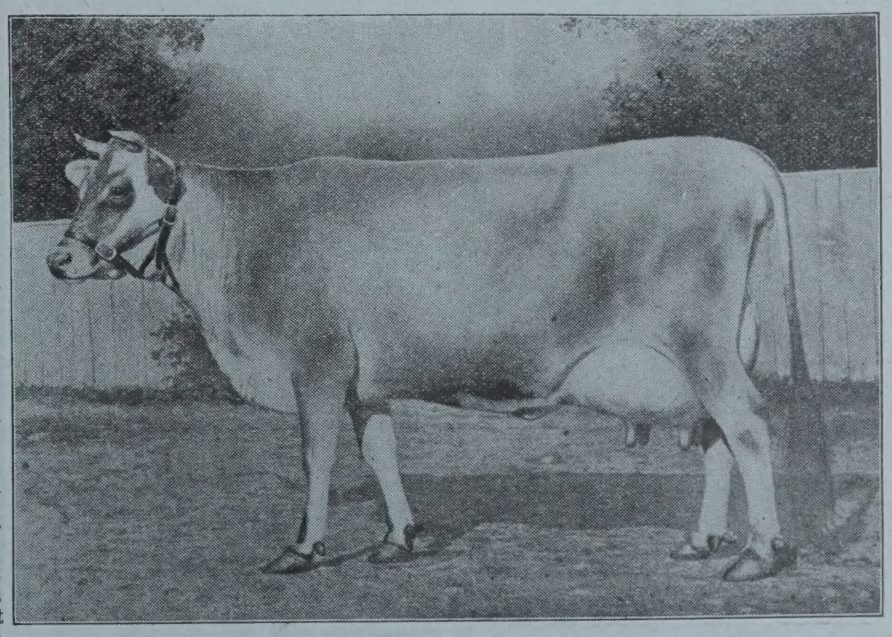
I have 500 bushels sound, heavy Johnson County White Seed Corn for sale at $1.50 per bushel.

GEO. V. SAFFARRANS. Marion Farms Palmyra, Mo.

SEED CORN

Johnson County White, the best I ever grew and all in crib by Nov. 1. Price low this year, $2.25 single bushel, $4 for two bushel bag, shelled. Crated $3 a bushel, extra selected ears. Order early.

C. D. LYON, R. 1 Georgetown, Ohio



THE GRAND CHAMPION DAIRY COW OF THE WORLD

Champion Jersey Cow of the World, Sophie 19th, of Hood Farm, 189748. Register of Merit test, one year, 17,557 lbs. 12 oz. milk; 1175 lbs. 7 oz. butter. Register of Merit test, five years, 64,005 lbs. 4 oz. milk; 4414 lbs. 14 oz. butter.

Isn't she a beauty? She's a typical granddaughter of Sophie's Tormentor, the bull who has produced the greatest family of economical milkers in the world. The Jersey is the money cow. She produces the richest milk on the plainest feed and she's hardy, gentle and lovable. The American Jersey Cattle Club, 320 West 23rd St., New York City, has helped thousands of dairymen determine on the right breed. Get their interesting book, "The Story of the Jersey." You'll be interested.

NEW COMMUNITY BREEDING ASSOCIATIONS

"In union there is strength" in stock raising as well as in numerous other lines has long been the conviction of the Missouri College of Agriculture. There are many things which can be done much better and more economically on a large scale than on a small one. It is almost as easy to advertise Shorthorn or Hereford cattle for an entire community breeding association as for an individual breeder and somewhat similar statements might be made with regard to a number of other problems. Even those things which each man must do for himself are done much better if the breeder is in constant touch with fifteen or twenty other men engaged in solving the same problems.

The Harmony Shorthorn Breeders' Association was recently organized at Ravenwood in the extreme northwest corner of Missouri and the St. Francois County Hereford Association is well under way in the opposite corner of the state, while a more general feeders' and breeders' association is undertaking to advance live stock interests in Carroll County. The Harmony Association was organized with 15 charter members who plan to have 150 Shorthorn cows by next fall. The cows are to be owned by the individual members, but the Association plans to buy a bull on the stock company plan. This should insure securing a much better animal than any one of the members could afford to own and make it easier to change in case a poor breeder should be secured. One of the guiding spirits in this Association is a rural minister who seems to have a good grasp on the situation and the point of view which leads a man to believe that a man who is a leader of men on one day of the week may well work and plan with them on the other six days as well.

The St. Francois County Hereford Breeders' Association was organized in the fall of 1915 with 12 charter members in a county in which there were 22 Hereford herds and a number of other pure bred herds. It has held a sale at Jacksonville, Mississippi for the sake of advancing and establishing business relations and a market for later years. As an outgrowth of this sale there is now a community breeders' association at Jacksonville which will undoubtedly send buyers to Farmington where the St. Francois County Association will hold its sale next fall. At this sale there will not only be breeding stock offered by the various members of the Association but also select cars of feeders to attract buyers of another class and show that the members of the Association are willing to use the knife on animals that will not be kept for breeding purposes.

Such associations enable their members to attract more buyers and bigger buyers than could be attracted if many different breeds of cattle were being offered by men who had relatively small herds. It is easy for them to arrange combination sales without the necessity of shipping to central points or to hold sales on successive days in the same territory so that a buyer may not be compelled to make long trips between sales.

S. T. Simpson,
Missouri College of Agriculture.

Aberdeen-Angus Breeders' Association Sales

Every breeder in general and prospective bull buyer in particular should be especially interested in Aberdeen-Angus Breeders' Association Spring Bull Sales, which are to be held April 25, 1916, at Stock Yards, St. Joseph, Mo.; April 26, 1916, at Stock Yards, South Omaha, Neb.; April 27, 1916 at Stock Yards, Sioux City, Ia., and May 2, 1916, Stock Yards, East St. Louis, Ill.

Two hundred and sixty-five head of top-notch bulls ready for service have already been cataloged for the sales. There are bulls that will suit the needs of the veteran breeder to head his herd, bulls that will suit the farmer who wishes to produce steers that will top the market and bulls that are matured and ready to do heavy service on the ranges of the West and plantations of the South.

Never before has the American Aberdeen-Angus Breeders' Association spent so much time and money to advance the interests of its breed. These Spring Bull Sales have long been needed in order to assemble a large number of bulls at one point so that rangemen, breeders and farmers will be afforded an opportunity to secure their needs in form of single individuals or in carload lots.

The Association will manage these sales with the single object of making them a success for the consignor, as well as the buyer, without having to consider pecuniary profit which is usually paramount, thus , prospective buyers can attend these sales with the absolute confidence that the Association will look after their interests.

The bulls cataloged for these sales practically comprise all the bulls of serviceable age in the country at present, thus, every breeder, farmer and rangeman in need of a bull should avail himself of this last and only opportunity to secure his needs for the season.

The list of consignors to these soles is as follows.

St. Joseph: J. D. Blackwell, O. P. Botkin, Carden & Morris, E. A. Cobb & Son, David Bros., Leslie R. Falk, J. C. Fryar & Son, J. L. Gohlinghorst, R. E. Gordon, William Gubser, Hadley Bros., J. W. Hanna, W. A. Holt, W. A. Montgomery, Wm. Palmer, G. L. Sage, and L. J. Sundermann.

St. Louis: John Althaus & Sons, F. A. Clark, W. J. Crump & Sons, W. A. Holeman, Wm. Krueger, Simon E. Lantz, Charles W. Nobis, Judge Harry Olson, James Rhodes, Richey & Son, Anson Rosenkrans, M. S. Smith & Son and C. J. Whistler & Sons.

Don't forget there are 265 selected bulls to select from and that there will be bargains because the bulls will be sold to the highest bidder, even if they do not bring more than a beef price.

Show Classification: There will be a liberal classification of prizes offered at each sale. A class for bulls over 18 months and another class for bulls under 18 months. Breeders in need of an outstanding bull for a herd header should arrange to see the judging. The bulls that win prizes will be sold first, according to their rating.

Send to Charles Gray, 817 Exchange Ave., Chicago, for catalogs of these sales or for any further information you desire.

MY 1916 SPLIT HICKORY BUGGY BOOK

Just drop me a postal and I will send you a copy of my big, new, 1916 Buggy Book, Free and Postpaid. It shows more than a hundred stunning new styles which my big factory is turning out this season at prices as low as only $39.25 and up. Think of getting a genuine Split Hickory —guaranteed 2 years at such prices. Send today and see how to save $20 to $40 on your new rig. Address H. C. PHELPS, Pres. THE OHIO CARRIAGE MFG. CO. Station 176 Columbus, Ohio

(6)

Spotted Polands

A few big bone, spotted, summer boars and gilts for sale, also a few tried sows, bred or open.

JAS. A. THOMPSON, - Holt, Mo.

SOY BEANS

The premium beans in the Farm Bureau Contest. Mongol, Ito San, Aubern and Mikado. $2.60 to $3.50 per bushel. Sacks free.

JESSE J. CULP, - Warrensburg, Mo.

Strawberry Plants FREE. To introduce our Pedigreed Everbearing Strawberries we will send 25 fine plants free.
Pedigreed Nursery Co., Sullivan, Mo.

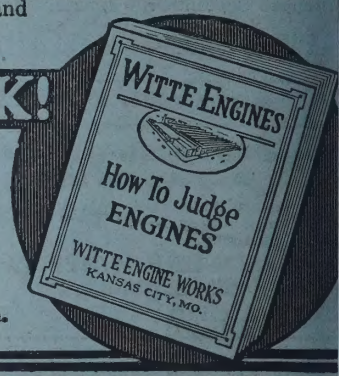
MY 1916 Model engines are the greatest value that I have known to be offered at anything like the price. All sizes will pull from 30 to 50 per cent over factory rating. They are sturdy and dependable—expert built and high quality in every respect. Lowest cost of operation.

Trial Offer
Easy Terms

I want you to be the judge of my engine. Write today for my free trial offer. Find out for yourself that WITTE engines are not "cheap" engines but are high quality engines **priced low.** Use one on your farm—try it out thoroughly—and let me know your decision.

GET THIS FREE BOOK!

Don't buy **any** engine blindly. Send for this book. Learn "inside" facts about the engine business. Full of interesting —some startling—information.



ED. H. WITTE, Witte Engine Works
1841 Oakland Ave., Kansas City, Mo.
1841 Empire Building, Pittsburgh, Pa.

AMERICAN ABERDEEN-ANGUS BREEDERS' ASSN.

Spring Bull Sales and Shows

265-BULLS-265

25 Cows and Heifers

Many ot the Cows Have Calves at Foot

To Be Sold In One Week--There Will Be Matured Bulls, Two Year-Olds and Yearlings--All Ready for Service

70 BULLS	At St. Joseph, Mo., Stock Yards,	Tuesday, April 25
90 BULLS	At Omaha, Neb., Stock Yards,	Wednesday, April 26
40 BULLS, 15 COWS	Sioux City, Ia., Stock Yards,	Thurs., Apr. 25
65 BULLS, 10 COWS	At East St. Louis, Ill., Stock Yards,	Tues., May 2

Judging begins promptly at 9 a.m. Sales begin at 1 p.m. except Omaha sale which begins at 10 a.m

Parties in the market for bulls should bear in mind they have the leading breeders and the American Aberdeen-Angus Breeders' Association behind this offering.

There are listed Blackbirds, Ericas, Prides of Aberdeen, Queen Mothers. Heather Blooms, Barbaras and top-notch representatives of other leading families.

The Association's paramount object is to create central trading points regardless of expense. Rangemen can select carload lots at these sales and the farmer can secure a single bull or any desired number. The breeders who have consigned the bulls are prepared to sell them at farmers' prices.

Don't forget,cattlemen, breeders and rangemen, the Aberdeen-Angus is the greatest beef bred in the world. This has been demonstrated at all the leading shows of the country.

At Chicago, out of a possible fourteen prizes for single steers. Aberdeen-Angus have won ten grand championships and eight reserves. In the fat carloads they have won eleven out of a possible fourteen, and out of fourteen grand championships for carcass, they won thirteen times.

Aberdeen-Angus have also proved their superiority in feeder competition at all the leading shows and stock yards of the country by winning grand championships and selling at record prices.

If you are in need of a bull or bulls and cannot attend sale or sales, send your order to your commission man.

For further information and catalogs address, (Mention this paper.)

Charles Gray, Sec., 817 Exchange Ave., Chicago

Cols, Silas Igo and W. H. Cooper, Auctioneers

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE
MISSOURI FARMER
COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE
AND THE MISSOURI EXPERIMENTAL STATION

The Love Lamp

There are a lot of very beautiful things in this world if we will only keep our eyes and hearts in a receptive mood to comprehend them. The trouble is that too often our vision is confined to the narrow path over which we travel in pursuing our chosen task—and thus we stumble along, looking neither to the right nor to the left and in consequence we miss a thousand pretty things which make life truly worth while. The other day I alighted from a limited train in a big eastern railroad station. Immediately ahead of me was a big fellow whose temples were just turning gray and who seemed unusually anxious to crowd out ahead of the other passengers—and in a moment I understood the reason. No sooner had his feet touched the depot platform than a fine looking woman with a bunch of red cheeked youngsters clinging to her skirts threw herself into his arms and as their lips met the resulting concussion was plainly audible over the clamor of the "Red Caps" and the groaning of the giant engines. Then the "kids" with lusty shouts of "Hello Daddy!" threw themselves upon him and at him—a veritable charge of the "Light Brigade" and there were a lot more resounding smacks. All at once the proud, flushed father glanced about him and exclaimed in some degree of alarm, "Where's Bobby?"—and no sooner were the words out of his mouth than the aforesaid "Bobby" dodged out from between a big man's legs where he had become entangled during the onslaught and shouted, "Here I is Daddy!" Although I didn't have any time to lose I lingered behind just to watch the joy of the little covey—all with faces beaming and all trying to talk at once—and thus, after a moment, they disappeared among the thousands who surged through the big waiting rooms.

I don't know who "Daddy" was nor do I care. Possibly he may fit into some big place— and then again he may be one of the many thousands of every day, modest men whose unobtrusive qualities and splendid citizenship make them the real bulwark—the very bone and sinew of this mighty Nation. You touch elbows with them everywhere—out upon the myriad farms, in factory and market place, in school room and counting house, in the professions—everywhere in the highways and byways of life where honest men toil for an honest living. But this much I do know and for this much I do care—that the Love Lamp burns hrightly in this man's home—that the roof which shelters him and his loved ones covers an abode of happiness and from such family circles must come the God-fearing men and women whose clear, clean vision must guide the Republic aright in the unborn years of the future. Little danger indeed is there that the ugly scandal of divorce will ever cast its shadow across the threshhold of this home and the same concern which caused the anxious inquiry for "Bobby" is mighty apt to see to it that "Bobby" treads the path that leads to useful manhood as he grows up— and again, unless I am mightily mistaken the childish voice which shouted "Here I is Daddy!" will be full of tender solicitude for the father when time shall have whitened his locks and made faltering and slow the stalwart strides of yesterday.

I was the better off for having witnessed this pretty little drama and life seemed a bit brighter. And how much all of us need this kind of a tonic once in a while to convince us that there is a pile of happiness in the world, despite the sordid stories of wrecked homes and lives which crowd the daily newspaper. Again, this little incident reminded me that the purest and sweetest happiness in the universe finds its lodging place in the home. Here are brought the trophies that are won in the day's strife and toil. Here is the true refuge from the storm and from the hard and harsh things that wear away mens lives and souls. Here the disappointment that comes from chasing the elusive dollar is soon forgotten—if the Love Lamp shines brightly—if kind affection beams forth from the eyes of Father and Mother—if the little ones who shout "Daddy!" in childish glee truly believe that "Daddy" is the greatest man in the world.

—By the Author of After-Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VIII APRIL 15, 1916 NO. 8

WILLIAM HIRTH
PUBLISHER

What About Your Children?

Will they grow to manhood and womanhood equipped to take their places beside the children of other mothers—to get the most out of life—to succeed? If so, *now* is the time to begin their training, when young minds are alert and bodies strong.

Bent Pianos

A great many homes already know the Bent name. Dealers in twenty-eight countries sell Bent Pianos. Australia, 9295 miles away, buys them by the carload. For improvements found in no other piano make the Bent tone sweet and pure and lasting. Our catalog will explain.

Free—Valuable Booklets. Send for our booklets which explain piano value, also what to look for in the selection of an instrument for your home. These booklets contain real piano information and guided by them you are sure to select a good piano. They are FREE for the asking. Mail coupon Today.

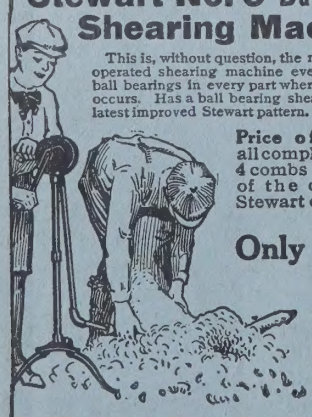
Geo. P. Bent Co., Chicago, Ill.
Please send me without charge the booklets before which I have marked X.
☐ Tone and Touch ☐ Piano Construction
☐ Piano Catalog ☐ Player-piano Catalog
Name
Address M 5

Geo. P. Bent Company
Manufacturers—Est. 1870
214 S. Wabash Ave., Chicago, Ill.

Get More Wool
Get Longer Wool
Get More Money

for your wool by shearing with a Stewart machine because such wool has a longer fibre. Wool buyers pay more for long staple—and you get the longest by shearing with a

Stewart No. 9 Ball Bearing Shearing Machine



This is, without question, the most perfect hand operated shearing machine ever devised. Has ball bearings in every part where friction or wear occurs. Has a ball bearing shearing head of the latest improved Stewart pattern.

Price of machine, all complete, including 4 combs and 4 cutters of the celebrated Stewart quality is

Only $11.50

Get one from your dealer, or send $2.00 and we will ship C.O.D. for balance. Money and transportation charges back if not pleased.

Chicago Flexible Shaft Company
619 North Lasalle St., Chicago, Ill.
Write for big new catalogue showing the most complete and modern line of Horse Clipping and Sheep Shearing Machines on earth.

WITTE

No better farm engine at any price. Sizes 2 to 22 H-P. Built by experts. Sold direct; factory to user. Established 1870

LESS THAN $17.50 PER H.P.

WITTE ENGINE WORKS
1840 Oakland Ave. Kansas City, Mo.
1840 Empire Bldg. Pittsburgh, Pa.

FACTS OF GENERAL INTEREST

Wheat Unfit for Milling—This paper called attention to the misleading statements in the official wheat and corn crop reports last year because of the failure of the Government to take into account the great damage to wheat from wet weather and to corn from frost. After permitting these misleading reports to stand for eight months and to be used by speculators to hammer down the price of grain the Government on April 3 issued a statement showing that 14.4 per cent of the wheat crop of last year was unfit for milling. While a lot of this damaged wheat was used to mix with better wheat and ground into a low grade flour or was exported for feed or to be used by making low grade flour, farmers know that quite a lot of it was either used as feed or lost entirely.

The report places the per cent of last year's crop fed to stock at 7.3 amounting to 74,000,000. This was nearly double the usual amount fed to stock. The report estimates that 29.9 per cent of Missouri's crop was not fit to mill and that 15.1 per cent of the crop was fed on the farm. It is stated by the report that a lot of the wheat that was unfit for making good flour was sold for shipment.

Value of Farm Lands Increasing.—It is estimated that an average acre of farm land in the United States is now worth $45.55 not counting improvements. There has been a pretty rapid increase for several years. In 1900 these same lands were worth about one-third what they are now—to be exact $15.57. In 1910 the value was about double or $32.40. There was an increase during the last year of $4.70 an acre while the average rate of gain has been about $2 an acre a year. The exceptional increase in the last year is attributed to the reaction in the Southern cotton states.

The only lands showing a decline are orchard lands and irrigated lands in the northwest which in some instances had been over valued.

Examine the Rape Seed.—Farmers who contemplate sowing rape for pasture should be very careful about buying seed this year because there is a temptation for unscrupulous seed dealers to sell turnip rape seed for the winter rape usually bought by farmers. The department says the seeds of turnip rape are smaller and have a more deeply pitted surface than those of winter rape. Winter rape produces a definite stem with leaves occurring along it at intervals. Turnip rape does not produce a definite stem, the leaves all growing in an apparent whorl at the surface of the ground. The leaves of winter rape are thick and succulent, free from hairs, and covered with a greyish bloom. The leaves of turnip rape are thin, hairy and bright green like those of the garden turnip. Persons who do not know of themselves about the difference between the two varieties should always try to buy of a thoroughly reliable dealer. Where the time is sufficient it is best to take a sample and send to the Free Seed Testing Labratory at Columbia and after getting their report the purchaser will know what he is buying.

Co-operative Shipping of Live Stock.—The first co-operative live stock shipping association reported to the United States Department of Agriculture was organized in 1908, but the business has been so successful that there are now approximately 500 of these associations. About 200 of them are in Minnesota. No capital is required to organize one of these associations. The best plan is to incorporate in a legal way and the cost is not usually very much. A manager is elected who attends to the ordering of cars, shipment, etc., and aside from whatever nominal sum is paid to the manager the seller gets whatever his stock brings in the market less expense of shipping and selling. This plan enables small farmers to get all the profit out of their live stock. Where several farmers furnish part of the stock to fill a car the different animals are identified by some brand or mark or number placed on the animals before shipment.

Auto-Oiled Windmill
ALL WORKING PARTS INCLOSED
and **flooded with oil** from the supply in the gear case, which **needs replenishing only once a year.**

Don't waste your time climbing to oil an old mill. Replace it, on your old tower, with an Auto-Oiled Aermotor which will last you a lifetime and furnish you an abundance of water.
IT NEEDS ATTENTION ONLY ONCE A YEAR.
Write for Folder-Hanger. It tells all about Auto-Oiled Aermotors and Easy-To-Build-Up Towers.
AERMOTOR CO., 1100 S. Campbell Ave., CHICAGO

Wanted 50,00 Farm Hands
of experience at once on the farms
Western Canada
To replace the young farmers who have enlisted for the war. Good wages and full season's work assured.
There is no danger or possibility
Conscription in Canada
References required from all applicants. For special railway rates and other information apply to
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KEEP MILK SWEET

The approaching warm weather will make it necessary for dairymen and housewives to take extra precautions to prevent loss through souring of milk and cream. As milk is an ideal food for both babies and bacteria, it frequently happens that in warm weather the bacteria are the first to enjoy this delicate food. Though the acid developed in the milk during souring is not harmful to the health of adults, it is injurious to infants, and distasteful to many older people, and will surely cause dairymen to lose money.

A successful dairyman near the Missouri College of Agriculture has solved this problem by removing the causes. Since dirt is loaded with bacteria he first keeps both dirt and bacteria out of his milk, by using a small-top milk pail, by keeping his pails, cans, strainers, and other milk utensils clean, and by keeping his cows free from dirt and filth. This can be cheaply and efficiently done by thoroughly washing the utensils with hot water as soon after using as possible and setting them in a clean protected place to drain until used, by brushing the cows daily and preventing them from becoming dirty, by using plenty of bedding, and by keeping the barnyard clean.

Since bacteria will not sour milk unless they grow in it, he prevents their growth by cooling his milk as soon as produced and keeping it cool until delivered. The best of dairymen

cannot furnish milk so free from bacteria that it will not sour if left hours in a warm place. Both dairymen and housewives will do well remember that cleanliness and temperature (50° F.) will prevent loss.—Percy Werner, Jr., Missouri Agricultural Experiment Station.

What a Man Thinks About Women Voting

"Let me give you an argument those who question the morality justice of giving the ballot to women. More than 90 per cent of the inmates of the Nebraska penitentiary are men. You will find a majority of the women in the churches.

"If women are intelligent enough keep out of the penitentiary and have morality enough to go to church, there is no question of their fitness for the ballot. I believe it is only a question of time until women will share governmental burdens with men."

The Missouri Farmer

VOLUME VIII APRIL 15, 1916 NUMBER 8

The Robbery In Ocean Freights

By William Hirth, Publisher

That the question of an adequate, free and honest American Merchant Marine is a problem of tremendous importance to the American farmer becomes instantly apparent when one inquires even casually into the subject. It shows in a vivid manner the unseen enemies which prey upon the farmer's sweat and toil and once more emphasizes the fact that the hour has come when the tillers of the soil must put brains as well as brawn behind their work if our farm homes are to be rescued from the grave dangers which menace them at this time.

During the course of the average year the farmers of the United States sell surplus farm products to the balance of the world amounting to hundreds of millions of dollars and that there shall be ample shipping facilities to carry this surplus—and carry it at a reasonable rate—this anybody can see is a matter of transcendent importance. Liverpool is the worlds' great clearing house on surplus products whether agricultural or otherwise and the prices there fixed reflect themselves in the markets of every nation. What the American farmer realizes on his surplus therefore depends very largely upon the cost in reaching Liverpool and likewise this cost is reflected back on what he receives for the products consumed here in the United States.

Outrageous Ocean Freights

To give the reader an idea of what this question means to the farmer, during last December the farmers in the Palouse valley in the state of Washington concluded to ship several car loads of wheat direct from their elevators to Liverpool and thus save all middelmen's profits. This wheat was subsequently sold in Liverpool for $2.18 per bushel—but the Palouse farmers received only from 80 to 83 cents per bushel, the balance being eaten up by the outrageous ocean freights which obtain at this time and which, even considering the ordinary dangers of an ocean voyage because of the foreign war are out of all reason—for remember this wheat was intended for English consumption and enjoyed the protection of the great English fleet which is today supreme upon the high seas. To give the reader a further idea of what a tremendous advance has taken place in ocean freight rates, we quote the following figures showing the number of tons shipped and the amount which the vessels charged for transporting them.

1910 No. tons carried	52,374,614
Amount charged	$140,877,711
1912 No. tons carried	56,436,373
Amount charged	369,256,146
1914 Increase on same volume as of 1912	790,109,222
1915 Increase on same volume as of 1912	1,777,746,749

These figures show that there is something "rotten in Denmark" and that the war does not by any means explain away the present charge for ocean transportation. During 1910 and 1912 the world was at peace and yet the rate per ton increased from $2.72 to $6.72 between these years. Only 2,051,732 more tons of freight were hauled in 1912 than in 1910 and yet the increased charges amounted to the enormous aggregate of $228,378,375 Again, the German submarines were just as busy in the latter part of 1914 as they were during 1915 and yet on the basis of the 1914 charges there was an increase of $987,637,527—or almost a round billion dollars. When careful students of world conditions prophesied in 1914 at the outbreak of the war that wheat would sell for from $1.50 to $1.75 per bushel during 1915 they had sound reasons for the faith within them—but they did not foresee the outrageous robbery of these modern pirates of the seas who, under the pretext of war do what the pirates of the olden days did without apology and who had the honesty and candor to float a black flag from the mast heads of their vessels.

Enormous Dividends to Ship Owners

But to throw still further light on the situation as to whether the war is wholly a justification for existing conditions: Government statistics (Consular Reports) show that in 1908 the White Star line of ocean steam ships paid net dividends of 10% which ante dates the enormous jump in rates that took place between 1910 and 1912. No one would object to such dividends even though the ships are protected against loss or damage by marine insurance. But in 1909 this line declared a 20% dividend—while in 1910 it earned a net profit of $2,629,880 on a total investment of $3,630,000 after charging off an enormous sum for depreciation. The Holland-Amerika line earned about 50% on its investment during the fiscal year of 1913—long before the big guns had begun to bark in the great European conflict. These two lines are owned or controlled by J. Pierpont Morgan & Co., of New York.

The Hamburg-American Line earned about 30% net during 1913 while many English and other tramp steamers earned as much as 50%. These are just a few side lights on the profits in ocean traffic at a time when the world was at peace. To strike a general average of the increases which are contained in the above figures it means that on the most conservative basis the farmer's surplus pays a a tribute of 33c per bushel on wheat, $33 per ton on cotton, $1.25 per barrel on apples—and in like proportion on other products. And mind you, this average includes the several years ante-dating the war.

We have heard much in recent years about granting ship subsidies but in view of the above facts the average man will seriously question both the necessity and the good faith back of this proposal. And, as usual, the farmer gets the "hot end" of the deal. In the shipment of manufactured products the ship owners are compelled through a special agreement to file 30 or 60 days advance notice of a change in ocean freights. But this is not true of "bulk" commodities under which head wheat, cotton and other farm products are listed. The rates on such cargoes which constitute over 80% of ocean traffic may change overnight—and hence the farmer, although few realize it, is at the mercy of this "stuffed club" which strikes at him from the bosom of the seas. It affords a splendid opportunity for speculators to depress prices—for they always try to play safe against the ocean freights and hence see to it that they have a "long" margin—always long enough to make them safe and then some. When the rates go up the farmer is always stuck but when they go down he never hears of it. While the American manufacturer also has to pay extortionate rates, he has from 30 to 60 days advance notice of a raise and hence has an opportunity to make the ultimate buyer pay at least a part of it. While this gives him a decided adavantage over the farmer he nevertheless is handicapped in the sharp competition for the World's trade in which frequently the price means evertyhing.

Government Owned Merchant Ships

As a general proposition the writer does not believe in the policy of government ownership. With the power to regulate rates lodged in the federal government and the several states we believe, for instance, that the government ownership of railroads in this country would be a great mistake—for it would compel the government to assume a National debt running into the billions of dollars when it already exercises the right to regulate passenger and freight rates which is the crux of the whole question. If the various governments of the world exercised a similar authority upon the high seas we would oppose a government-owned merchant marine—but since they do not we believe that the proposal which is now before Congress to build or buy ships in which to transport American exports is a measure which should be speedily enacted into law in order that there may be an early end to the species of piracy which obtains at this time and which is exacting a tremendous annual tribute from the farmers of the United States.

A splendid, first class ship can be built for a million dollars. There is little question that the American farmer has paid a tribute of at least 75c per bushel on the wheat which was exported to Europe during the last nine months—and this means that if this margin had been used for building merchant vessels on even a hundred million bushels it would have provided 75 great American ocean steamers and this number of ships—or even less—would break up the monopoly of the seas which exists at this time. In fact, in our judgment, it will not be necessary for the government to embark in ship building on a wholesale scale. On the contrary we will need to go only so far as will enable us to set the pace in ocean freights. In the meantime of course the capitalistic

WHERE DO YOU STAND?

A few days ago we received a letter from a high class farmer in Johnson County criticising us for devoting so much attention to the organization of Farm Clubs. Said the complainant, "I think you would accomplish a great deal more good if you devoted more space to good farming methods and less to these organization schemes." That we have had much to say about co-operation among farmers we frankly confess. That we have neglected better farming methods, however, we do not admit for one moment—for during the regime of Mr. Ellis as Managing Editor of this publication no farm paper in the Corn Belt has tried harder to induce farmers to put thought and care into their farming operations than has The Missouri Farmer.

But, in our humble judgment, the time has come when there must be some real reward for good farming methods—when farmers must be assured that they will not be robbed out of the fruits of their thrift and toil and when this question overshadows all others, what inducement is there for a farmer to put thought and energy into his work when, within 48 hours, the Packing Combine or the Grain Gamblers can sweep away the profits of a whole years' work? In the meantime, our friend from Johnson County need not be afraid that The Missouri Farmer will neglect an ample discussion of pertinent farm questions and practices. On the contrary we are simply trying to assist farmers to the end where there will be a real reward for good farming methods. William Hirth, Publisher.

interests which are profiting from present conditions will set up a loud howl—but this is always to be expected. In a future article we will review the Shipping Bill which is now before Congress in order that our readers may have a better understanding of this measure and in order that they may write to members of Congress concerning it.

When the War Ends

When the great European War finally comes to an end the American farmer and manufacturer will have to fight for a place in the world markets as never before. Seeking to recoup the enourmous war expenditures the warring countries will try to sell as much and buy as little as possible—and that that Nation which is best equipped with ocean freighters will possess a tremendous advantage over those which are not similarly equipped goes without saying. In short, the time has come when a great American Merchant Marine is absolutely essential to the future well being of the Nation—and if it is impossible to build up a square dealing marine through private initiative then the government should take a hand—for just as the farmer is paying a tribute which would enable him to build Packing houses of his own, so he is paying a tribute to the ocean shipping monopolies which would enable him to build ships which will give him an untrammeld opportunity with his surplus products in the great world markets.

It is only another overwhelming proof of the fact that the hour has finally arrived when the farmer must do more hard thinking than ever before—when he must take a hand in directing the policies of the government—when he must cease to aimlessly drift with the current—for upon this depends the future of American Agriculture and the well being of himself and the children who are to come after him.

THAT NEW BREED OF HORSES

To The Missouri Farmer:

I note with considerable interest an article which appeared in a recent issue of The Missouri Farmer concerning a new breed of horses to be known as "wagon horses."

The esablishment of a new breed of live stock is a long and somewhat uncertain task. Not many years ago the United States Government established a foundation for a breed of American carriage horses. This work has been progressing for 10 to 15 years and no results have as yet been made public.

The Government cooperating with the Iowa College purchased foundation stock for a new breed of draft horses. We have not as yet seen the results from this work.

The idea suggested in the statement concerning the new breed is to establish them from Percheron horses. The type of horse produced will be a type known as the wagon horse, I take it. There is no doubt but that there is a great demand for this type of horse but as yet it is being supplied in sufficient quantities from grade draft horses that are produced or from the well grown standard horses. When ever any effort is made to establish a new breed of horses it is my opinion that care should be taken to see that there is a real need for such a breed. Understand that I do not question the need of this type of horse but I question whether or not it cannot be secured equally as well without the establishment of a new breed.—E. A. Trowbridge, University of Missouri.

Discussion of the Missouri Land Bank

By Geo. B. Ellis, Managing Editor

The steady rise in price of farm lands forces the man who would own a farm to find more capital than he would have needed at any time in our history. The Department of Agriculture estimates the average increase in the value of farm lands in this country for the last year has been nearly $5 an acre. It would then require about $800 more capital to buy a quarter-section farm now than it would twelve months ago.

It is a generally accepted theory that a country is much safer with a citizenry of home owners than it would be with the land owned by a few rich land lords and the homes occupied by tenants. But in spite of these undisputed facts the number of tenants is increasing in this country more rapidly than the number of home owners and as the country grows older, the land higher in value and lower in productiveness, this condition will inevitably grow worse unless something is done to arrest it.

What Other Countries Have Done

The questions now confronting this country with reference to land ownership are not new to the world but they are the same questions that have concerned the greatest statesmen of all the countries of the old world and why should not we profit by their experience? If Great Britain, Germany, Austria-Hungary, France, Denmark, Italy, Australia and other less important countries of Europe have found a way to help and encourage the people to own their homes and the land they till why should not we profit by their experience? It took a revolution to bring about the change in France. It took riots, extreme poverty and threatened revolution to arouse Great Britain to the necessity for relief in Ireland. In Germany where a system of cooperative rural credits has been in successful operation for more than 100 years the rulers were wise enough to see the value it would be to the farmers as well as to the nation itself and without waiting for necessity to drive them to it put their land banks in operation voluntarily. Now that we see the land gradually drifting into the hands of a few and thousands of the tillers of the soil reduced to peasantry shall we sit still and do nothing or shall we arouse ourselves to the danger of the future and lend our voice, vote and influence to prevent it?

National Rural Credits

The United States Congress now has a bill before it which if passed will provide for the organization of land banks in every state through which farmers may obtain long time loans at a reasonable rate of interest. The organization of these banks will be slow and it will be many years before they could possibly provide money enough to take up the billions of dollars now invested in land mortgages in the United States and so we think it is an intelligent move for the states to take up the organization of state land banks. The Federal Government long ago provided for a system of national banks but the individual states have also provided for a system of state banks and trust companies and these have proved their worth to the commercial needs of the country.

Missouri Leads Other States

Missouri was among the first of the states to pass a land bank Act. The Legislature in session in 1915 enacted what is known as the Gardner Land Bank Act, so-called from the author of the bill, Colonel Fred D. Gardner, a large farmer and manufacturer who had made a study of the question and who had from personal experience learned that a manufacturer, business man or banker could borrow money at a much lower rate of interest than the farmer could while as a matter of fact the farmers' profits were usually smaller than the other lines of business were. Before the Gardner Land Bank Bill was introduced in the Legislature The Missouri Farmer published a tentative draft of the measure in the January 1, 1915, issue, and since that time we have constantly kept this plan before our readers, but to answer the new inquiries which come to us in most every mail we will again outline what the Gardner Land Bank Act is and what it proposes to do.

The Missouri Land Bank is incorporated by the Legislature to provide the means "whereby loans may be made to tillers of the soil at the least practicable cost to them, * * * and provide suitable guarantees against loss."

How the Bank Is Governed

The Land Bank is to be governed by a board composed of the Governor, Attorney General, Secretary of State, State Treasurer and State Auditor. These members give the time necessary to the government of the bank without pay as they are already on state salary. The office of the bank is to be in the State Capitol, another expense saving as there will be no rents to pay. The manager of the bank is to be the State Bank Commissioner and only the extra clerks and employes needed to transact the business of making loans will be paid for out of the funds of the bank.

The bank will have power to make loans on farm lands up to fifty per cent of the value of the land, the loans to run for periods not less than 5 nor more than 25 years and every loan is to be secured by a deed of trust on the land. No loan can be made for a less amount than $250 nor for more than $10,000. The law declares that the policy of the act shall be to improve and develop the largest number of farms and therefore preference shall always be given to loans of less than $5,000. The act further provides that "in no case shall loans be made for speculation or otherwise than for the following purposes:

(a) To increase the production of the land mortgaged.

(b) To make useful improvements thereon.

(c) To pay off liens or incumbrances, or to make part payment of purchase price where the borrower is paying part of the purchase money.

(d) Twenty-five (25%) of the amount lent may be used for the purchase of stock and machinery." These wise provisions are a complete refutation to the argument that the Land Bank will encourage speculation in land values. The governing board can refuse to make any loan where the evidence is not sufficient to show that the money will be used as provided above.

While the loans are made in five-year periods from 5 to 25 years the borrower may pay any part or all of his loan after it runs five years but he can pay only at the time the interest is due. That is, if the interest is payable, say, April 1 and October 1, the borrower could make payment of any amount he desires but the payment can not be made on any other date. The board can have the interest paid annually or semi-annually as they provide and in addition to the interest payment the borrower must pay a partial payment on the principal so that the whole debt is paid off within the time the loan is made to run.

The working capital of the bank is provided by a loan of one million dollars to be appropriated by the General Assembly out of the moneys of the state treasury. This is a loan, not a gift and provision is made for repayment to the state whenever the resources of the bank are sufficient. As soon as the first $500,000 is loaned the bank shall have power to sell debenture bonds for that amount and after that the bank may sell other series of bonds as often as in the judgment of the managers there shall be on hand notes and deeds of trust of an amount sufficiently large to make a series.

A Saving to Borrowers

The first series of loans will be made at 4.3 per cent interest, plus one half of one per cent for reserve and expenses, plus 1.7 per cent to apply on the principal. The farmer who gets a loan under this plan for $1,000 will pay on it as follows:

5 years, payable annually	$22
10 years, payable annually	12
15 years, payable annually	9
20 years, payable annually	7
52 years, payable annually	6

The above payments pay off the principal and interest in the time stated. On a thousand dollar loan for five years the borrower will pay five payments of $224 or a total of $1,120. If he had borrowed the money at 6 per cent interest he would have paid $60 annually for 5 years or $300 in interest and still owe the $1,000, or a total of $1,300. In other words by paying a small payment each year he saves $180 in interest or we may say his yearly payment earns him the $180. If the loan is for 25 years his yearly payment is only $65 and 25 payments amounting to $1,625 when the debt is paid. At 6 per cent simple interest he would pay out $60 a year amounting to $1,500 in 25 years and he would yet owe the $1,000. This would make his total payments $2,500 which under the land bank plan it would be only $1,625. In other words the borrower would save $875 in the whole time because of his ability to pay a small amount on his loan each year.

Expenses of Administration Are Low

In all organizations making farm loans there must be some one to examine the land and appraise its value else loans might be granted for more than the land was worth. Under this plan the manager will appoint as many appraisers as are necessary on an annual salary of $2,000 and expenses. The land shall be appraised at its cash value. The borrower must furnish an abstract of title and this must be examined by the Prosecuting Attorney and he reports as to the validity of the title and then it is passed on by the Attorney General. The manager may require any county officer or any bank or trust company located in the county of the applicant's residence to give without charge any information desired about the applicant or his land.

While the Land Bank is well protected against loss the expenses of making loans are kept down to the lowest limit and whatever expenses

here may be will be paid out of the ne-half of one per cent which is harged to create an expense and reerve fund. Provision is made for oreclosure for non-payment of debt nd the bank has authority to buy the and if necessary to protect it from oss.

The Price of Bonds Will Fix the Interest Rate

The Land Bank may loan $40,000,000 n the working capital and further isues of $30 for every $1 in the net anual reserve. Possibly $50,000,000 ay then be placed in loans without n increase of capital. In order to ake the bonds sell readily they are xempt from state, county and munipal taxation. The rate at which the onds can be sold will fix the rate of nterest charged borrowers, and if we re to furnish farmers a lower rate f interest it is necessary to exempt hese bonds so that any of our own eople having money to invest may uy them. This provision is being atacked by the enemies of rural credit egislation but when we take into account the fact that the land is assessed or taxes there is no good reason why e should tax it twice by assessing he loans on the land. People who live n towns where the tax rate is from ½ to 3½ would not buy bonds drawng only 4.3 per cent when they would ave to pay more than one-half their nterest in taxes.

The two important things the Misouri Land Bank will do for the farmrs of the state are, first, to furnish hem loans at a lower rate of interest hich most men who have been trying o pay off a mortgage will tell you is eeded and, second, to provide long ime with provision for making small ayment each year and the option of aying the entire amount at any interst paying period after the first five ears. No man who is sincerely inerested in the farmers' welfare can onsistently oppose this measure beause if it proves deficient in any paricular provision the Legislature will ave full power to change and improve t in any manner to suit the best inerests of the state.

The above sets out the essential feaures of the Missouri Land Bank Law s passed by the last Legislature but hich requires a Constitutional Amendment before it can become perative. The amednment will be ubmitted at the general election this all. The Missouri Farmer will be lad to answer any question about the neasure our readers may ask.

SUDAN GRASS HOG PASTURE

It certainly seems rather strange or any one to even think of Sudan Grass for pasturing any kind of an nimal, as it is a sorghum and can not be pastured but about four months t best as it is will not do any good ntil the weather gets warm and the irst frost stops all growth, if there was nothing else available, then one ould be excused, but with the long ist of annuals such as Rape, Copeas, Soybeans, Oats, Canada field peas, Vetch, why talk Sudan? Better still prepare a permanent pasture of Alfalfa. Orchard grass and clover, or clover alone. Orchard grass makes perhaps the best pasture, it is above all, permanent, lasts indefinitely and if clover is sown on it, say every two or three years, or as may be need, it is better then anything else known, it produces better that way. Sudan is a great producer, it makes a large pile. If quantity is desired and quality not considered go at it, but it is a coarse, rough feed, of little value and being a Sorghum, very exhaustive on the soil, but on the other hand the legumes are soil builders and when pastured actually leave the ground in better condition then they found it. Why not build up, improve and better conditions as we go along?—Simon Baumgartner.

WHY NOT BREED REGISTERED CATTLE?

When it is considered that the use of purebred sires has raised the standard of merit wherever it has been introduced, it seems rather inconsistent that registered stock are not more generally bred and in larger numbers. If all of the registered animals of the Shorthorn breed, this being the strongest bovine breed in point of numbers in America, and admittedly the best adapted to farm conditions in all parts of the country, were placed within a state of average size, there would not be nearly enough animals to stock one-half of the farms within its borders.

That pure blood is potent and works improvement, there is none to deny, and in view of this, a more general production of registered animals will not only raise the standard of merit, but will prove a profitable undertaking. I have often heard this reply from men when appeaeld to in public auctions of registered cattle, to make an investment, "Oh, I am not a full-blood man", meaning that they regarded it as a business distinct from the production of un-registered cattle. This prevailing impression is unfortunate; because of it, many men have refrained from taking advantage of the larger profits which the breeding of registered cattle offers.

If the average man will make selections of breeding stock, adhering to the type which he holds in favor, he will realize larger profits and an increased interest in the business over the breeding and handling of grade stock. The keeping of records involves but little time and is in no sense complicated. It requires merely making a notation of the birth date, of the calves, crediting them to the proper parentage, giving them a name and sending them for record in accordance with the simple rules of the pedigree associations. If the owner does not wish to sell the male calves for breeding purposes, they may be sent to the feed lot. Yet in seven years out of ten, they will pay larger profits if sold for breeding purposes. The prevailing practice among experienced breeders is to consign the least promising ones to the feed lot, a plan that works for the improvement of the breed.

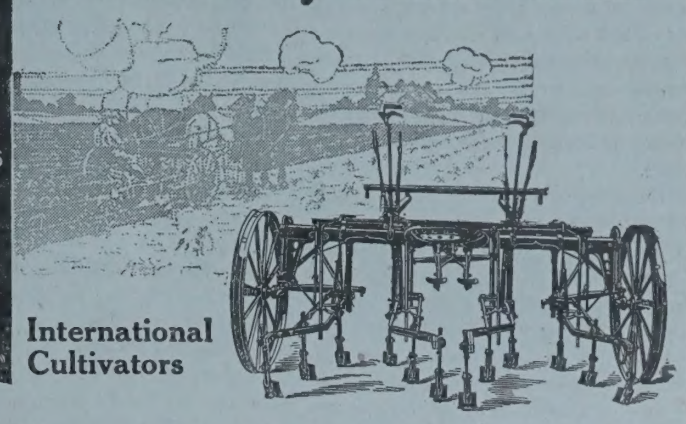
There is no longer any doubt as to the superior merit, for practical purposes, of registered stock. Cattle are no longer grown to be subjected to trying conditions of endurance. They are grown to meet the market requirements and the better they are fed and cared for, the earlier they are matured, the more certain the profits for the producer. It is under this treatment that the registered animal, the well-bred animal, responds better than the grade carrying a varying percentage of inferior blood. This isn't a theory. It is an established fact that has been widely demonstrated that there is no longer any question as to its reliability.

If there is a reader of this paper who clings to grade cattle on the assumption that full-blood cattle are not adapted to his purpose or that there is something professional in their production, he will do well to modify his views to conform to the accepted experience of the present day. Comparatively few men will rely wholly upon the patronage of breeders of registered cattle to take their output for breeding purposes, but a large majority will find it profitable to grow registered or full-blood cattle for market purposes. The practice will insure increased profits to any intelligent man who follows it. It requires good judgment, intelligent care and liberal feeding, and what successful stockman can proceed on any other basis. The subject merits thoughtful consideration.

Frank D. Tomson,

WON HIGHEST AWARD PANAMA-PACIFIC INTERNATIONAL EXPOSITION SAN FRANCISCO 1915 DEPARTMENT OF AGRICULTURE

Make Every Minute Count



International Cultivators

ARE you farming large fields of corn? Is labor scarce? Do you have to pay high wages for it? Do you ever have backward seasons when every minute of good cultivating weather is precious?

If you have any of these conditions you need an **International two-row cultivator.** With it, one man can do as much work as two without it, and in half the time.

The two-row cultivator has the **International** parallel gang movement which, once familiar to a corn grower, always sends him back for an **International** when be buys a cultivator. Each gang has a separate adjustment for depth. Each gang, or each pair of gangs, can be raised or lowered independently. The clearance space is unusually high, because the strong U-section steel frame needs no truss. You change your arch widths without using a wrench.

The full line of **International cultivators** includes walking, combination, side-hill, and riding one-row cultivators, besides the two-row described above. Ask your local dealer to show you these cultivators, or write us for catalogues and complete information. Do not buy a cultivator almost as good when you can get the best. Write us to the address below.

International Harvester Company of America
(Incorporated)
CHICAGO USA
Champion Deering McCormick Milwaukee Osborne Plano

A COLLEGE FRIEND

The Missouri Farmer:
Am ashamed to find my subscription is behind. Presume my zeal to see the inside of the issue blinded me for the outside. Cordially,
Lowell M. McAfee,
Parson College, Fairfield, Iowa.

What Our Readers Say

Elwood Williams, Ash Grove, Mo.: "Somebody has been sending me your paper but now I am going to "come clean" by sending you a dollar. Your cry for justice for the farmer carried out is our only hope—or we perish and nothing but a French Revolution will right it if it is permitted to go much longer. I am going to try to get our district to organize."

C. R. Hastings, Luray, Mo.: "If Judge Bedford's figures were right in his recent fine article. I lost $420 last year. Am with you with at least a $20 bill for a farmer's packing plant.

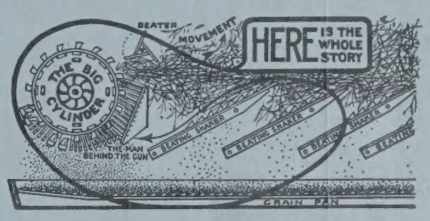
W. E. Harvey, Randolph County: "We have organized a Farm Club in my district with 20 members but sickness and bad weather is interfering with us. As soon as these conditions change I think we will have fine interest in our Club."

John I. Conrad, Madison County: "We organized a Farm Club with 14 members the other night and expect to enroll 6 or 8 more at the next meeting. Please send me a lot more literature as several neighboring districts are about ready to organize."

Wm. A. Faulk, Carroll County: "Our township Farm Club meets next Tuesday. We have been having a fine attendance—from 25 to 125. We will take up the Land Bank Bill at our next meeting."

GET THE GRAIN IN THE SACK

That's Why You Thresh



Some makers of threshing machinery get so interested in getting the straw out again after it gets into their separator that they forget where the grain belongs and run it right along with the straw.

Their stackers work fine, but their cash register gets terribly out of kilter and generally rings up, "Paid Out."

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(16) BATTLE CREEK, - MICHIGAN

FORAGE CROPS FOR THE PIGS

There are several very important reasons why the growing pigs should be provided with a succession of green, succulent material during the summer. I would enumerate the following as the principal advantages gained by the growing of forage crops for pork production.

In the first place the pigs will make more rapid gains. With high-priced land and feed rapid gains are becoming more and more important as a factor in the profitable production of meat on the farm. Rapid gains are necessary for cheap gains. The faster the pigs gain, also, the earlier they may be marketed; and, as a rule, the earlier the market the better the market. As a rule, hogs sell at the highest of the year during September. This is because, on the average, the supply of hogs is lowest during this month. Taking it one year with another, the price of hogs falls from September on to the middle of the winter, at which time the supply is greatest. The man who produces early pigs, who supplies a desirable succession of forage crops during the summer, is in a position, therefore, to market early and consequently profit by a higher selling price. The consensus of all experimental feeding tests, and the experience of farmers, would indicate that we may expect fifty per cent faster gains with pigs on good forage as compared with the dry lot method.

Pigs getting a good forage crop will make cheaper gains than those confined to the dry lot. The saving of corn required to produce 100 pounds of gain is considerable. Experimental tests have demonstrated that the cost in dollars and cents is reduced from 20 to 50 per cent. In some tests the pork gotten from a bushel of corn has been doubled. Of course the forage crops cost something in land and labor; but when we consider that the crop may be one which is regularly grown in the rotation, or has been grown on odd lots about the barn which were in need of renovating, this item is not so important.

The third reason I would emphasize is one of the most important, viz., that by the growing of forage crops the hog man is enabled to cut down on the purchase of such feeds as shorts, tankage, oil meal, etc. The use of a considerable proportion of some one of these supplemental feeds is necessary to get satisfactory returns in dry-lot feeding. With green crops only a very small portion of these feeds is needed, especially if the crop used is a legume. One of the reasons why the gains made are cheaper is because it enables the more exclusive use of corn in the growing and fattening ration.

Then again, green, succulent feed during the summer promotes thrift. Thrift is an evidence of good health and is expressed in vigorous growth and rapid development. The reasonable amount of exercise which is promoted by access to a forage crop contributes its share to this thrift. Lots which have been plowed are clean and sanitary. Pigs on such soil, in contact with good earth, have their chances for escaping disease infinitely improved.

The growing of leguminous forage crops improves the fertility of the soil. By allowing the pigs to eat one-half or two-thirds of a crop like clover or alfalfa, they will return to the soil approximately 75 per cent of the fertility of the feed eaten. The Farm Crops Department of Purdue in a test determined that an acre of soy beans planted in July after the wheat grown on the same land had been harvested, resulted in adding ten dollars worth of fertility to the soil. By allowing the pigs to eat a crop like this, instead of plowing it under, they will remove no more than twenty to twenty-five per eent of the fertility of the feed eaten, and in addition will produce in pork a value more than equivalent to the full fertility value of the crop. In this way a farmer can get a double value from such a crop, one in fertility and one in feed.

Special forage crops which are valuable under most Indiana condtions for early spring and summer are the following: rape, rape and oats, Canada field peas and oats, fall sown rye. Rape is an extremely reliable and valuable crop, especially for the northern parts of the state. It may be sown anytime during the summer and, with timely rains, will supply an abundance of tender, succulent feed which pigs greatly relish. For late summer and full use chief dependence should ordinarily be placed in cow peas and soy beans, the latter being especially valuable late in the fall as a supplement to corn that is being "hogged down."

As a general practice, clover which is regularly grown in the rotation should be more generally used for forage purposes. It is probable that the largest return in both feed and fertility is gotten from this crop by careful pasturing with hogs. Alfalfa is a wonderful pig forage crop. It is doubtful if any system of handling this crop will equal in profit that gotten by allowing the pigs one-third or one-half the field. Both clover and alfalfa may be injured by overstocking, and care should be exercised that the pigs be kept off when the young shoots are starting.

The accompanying table published in Circular No. 35 of this Station, "Supplementary Pasture Crops," by Fisher and King, will be found valuable in its suggestions.

The need of feeding some supplemental feed like tankage, shorts, or oil meal along with the corn to pigs having access to green forage, is determined largely by the afe of the pigs and the character of the forage. Pigs under 100 pounds when on rye, blue grass, timothy, rape, or peas and oats, need to have some protein fed with the corn. From ten to twelve parts of corn to one of 60 per cent tankage, by weight, will make a good ration. If the pasture is good clover or alfalfa, 15 parts of corn to 1 of tankage will be about right for pigs under 100 pounds in weight. With pigs weighing more than 100 pounds it is very doubtful if it is a matter of economy to buy and feed any supplement at all. With mature soy beans or cow peas straight corn is all that is ever needed.

A very satisfactory method of feeding pigs which it is intended to push rapidly and market early, is by the self-feeder method. The experimental results gotten with the self-feeder and the "free-choice" method, at the Iowa Experiment Station, would recommend the system highly when it is the desire to full feed for largest gains. The experience which we have had with this method at Purdue would indicate its practicability and safety when feeding corn and tankage. Last summer thirty spring pigs on an acre of excellent rape had access to shelled corn and tankage in self feeders. They could eat all the corn or tankage they wanted at any time. The corn and tankage were fed in separate places. They ate only one part of tankage to 18 parts of corn, which indicated that, with these feeds at least, the pig is capable of balancing his own ration. These were just average pigs, but they made a gain of more than a pound each daily, and required only 3.4 pounds of feed (corn and tankage) to produce 1 pound of gain.

—W. W. Smith, Indiana Experiment Station, Purdue Agriculturist.

Pasture for Hogs by Months
By Fisher and King, Indiana Experiment Station

Month	Name of Crop	Date of Sowing	Approximate length of time crop affords pasture	No. of 100-lb. hogs per acre
April	Rye	Aug. or Sept.	Six weeks	10-15
May	Oats	Mar. 20-Apr. 10	Six weeks	8-12
	Oats and rape	Mar. 20-Apr. 10	Four weeks	12-20
	Oats and Ca. field peas	Mar. 20-Apr. 10	Four weeks	12-20
	Rape	Apr. 1-10	Four weeks	12-15
June	Rape and oats	Apr. 10-30	Four weeks	15-20
	Ca. field peas and oats	Apr. 10-30	Four weeks	12-15
	Rape	Apr. 10-30	Four weeks	12-20
July	Rape	Apr. 1-10 Grazed down in May	Four weeks	12-20
	Rape	May 1-20	Four weeks	12-20
	Clover—Red or Mammoth	Mar. 25-Apr. 10 without nurse crop	Balance of season	8-10
	Sorghum	May 10-20	Four weeks	15-20
August	Clover—Red or Mammoth	Spring sown	Balance of season	8-10
	Rape	Apr. 10-30, and grazed down in June	Four weeks	12-20
	Rape	June 10-15	Four weeks	12-20
	Sorghum	May 20-30	Four weeks	15-20
	Soy beans or cow peas	May 20-June 1	Six weeks	12-18
September	Clover—Red or Mammoth	Spring sown	Balance of season	8-10
	Soy beans or cow peas	Mar. 20-June 15	Six weeks	12-18
	Rape	Second or third growth	Four weeks	12-20
	Rape	June 20-July 10	Four weeks	12-20
	Pumpkins	May 15-June 15	Fed in lots	
	Sorghum	May 20-June 15	Fed in lots	
October	Clover—Red or Mammoth	Spring sown	Balance of season	8-10
	Rape	Same as Sept.	Four weeks	12-20
	Rye	Aug. 1-30	Balance of season	8-10
	Soy beans or cow peas	June 1-July 15	Four weeks	12-20

THE CONTROL OF CUTWORMS

There is more or less damage done to garden and field crops every year from cutworms. The crop which suffers most from these insects is corn and with proper management much of this loss can be prevented. Moths often called "millers" are the parents of the cutworms and because these moths lay their eggs on vegetation particularly in grass fields a sod field planted to corn is likely to suffer more damage than others fields. If the sod land can be plowed in late summer or early fall the eggs will be destroyed and much of the usual damage will be saved. When the land is not plowed until spring if corn planting can be delayed a while and the sod land worked several times at intervals many of the worms will be destroyed and at the same time a good seed bed will be made.

We do not think anything is gained by hurrying the planting on sod land. It takes some time to work a sod down and the better the sod is rotted by the time the corn is well started the more available fertility it will have to push it along.

Cutworms do most of their work at night and in the cool of the morning and after the days get hot they usually do little more damage. When the field is fenced hog tight pasturing with hogs the season previous to cultivation will get rid of a lot of the worms.

The Department of Agriculture recommends the following method for poisoning cutworms, which has been very successfully used in a great many instances:

When cutworms are found to be abundant on corn land, the use of the poisoned bait is recommended. This may be prepared as follows: Mix 50 pounds of wheat bran, 2 pounds of Paris green, and 6 finely chopped oranges or lemons. Then bring the whole mixture to the consistency of a stiff dough by the addition of a cheap molasses, such as is used in cattle rations, adding water when necessary. Distribute this bait over the infested

fid in small lumps, taking care to sinkle it sparingly around each hill. I case bran can not be readily obtned, middlings or alfalfa meal may b successfully substituted. In fields kown to be infested, the distribution c this bait should be started as soon a the corn begins to appear above t ground so that the cutworms may b eliminated as quickly as possible a l the injured hills promptly rented. During the warmer spring nths cutworms do most of their fding at night and burrow into the sl to the depth of an inch or two cring the day, so that the bait will nally be more effective if applied cring the late afternoon or early evenig hours.

Frequently cutworms migrate to culated fields from adjoining grassnd, and in such cases the crops can protected by running a narrow band the poisoned bait around the edge the field or along the side nearest source of infestation.

EDING FOR MILK PRODUCTION

That the Shorthorn cow has been a eat factor in the development of daing in the Corn belt goes without ying and this need not be said in e disparagement of any other breed. any men will select one of the typil dairy breeds and succeed with it hile on the other hand thousands of rmers who keep only a few cows d who want to raise the calves will ick to the Shorthorns.

From the initial number of The horthorn in America we reproduce e following from the pen of J. A. cLean:

The beef making capacity of the horthorn has been amply developed. he breed possesses beauty of form, nstitution, capacity for food, wealth natural flesh, and aptitude to fatten a full degree. It is distinguished its combined scale and quality. here was a time when another addional feature characterized this breed, z: excellence in milk production. nfortunately this trait has been for e last forty years neglected in most our breeding work.

Both Flesh and Milk

By proper methods in care, handling nd development, this valuable charcter must be restored. But its restortion must not be achieved at the loss f any of the other valuable features f the breed. While practically all e instruction in this country has een along the lines of special-purose breeds and has rated beef making s antagonistic to milk giving, yet I now of no investigational work which roves that the animal which carries wealth of natural flesh cannot also arry an excellent udder, or that the unction of high milk production is exlusively tied to a flat-ribbed, thinoined, muscleless, thighless cow. Nor an I see why a wealth of natural flesh hould prevent under-development and nilk-giving. In your constructional evelopment of your breed you have he opportunity of leading the leaders n this respect.

Nothing will be of greater value to he average farmer nor to you as breeders than will the keeping of acurate milk records continuously year fter year. Prove to yourselves and o the world that your two-year-olds nd your aged cows alike do produce nuch milk and butter fat. To no other breed is there so universally a kindly eeling or so much sentiment—but the nilkman must have milk. And as you levelop the milk production, never fail o show your cows, your bulls and your fat steers to maintain and demonstrate your type.

Feeding for milk production will become more and more a vital problem in the management of your herds; consequently a few of the things which the specialized dairymen has learned may be followed with safety.

In addition to furnishing the necssary nutriments there are other requisites which we must carefully regard if we would feed successfully. Besides furnishing the food elements, a ration must be bulky, succulent, palatable, digestable and varied.

Bulk is obtained very largely in the hays and silage, but in the feeding of hays, if care is taken in their selection, a large part of the necessary nourishment may be supplied at the same time.

Succulence in Silage and Roots

For greatest and most economic milk production some succulent feed must be furnished the cow. For this purpose few feeds are moe satisfactory than silage, when all factors are considered. It is particularly valuable for winter feeding and no dairyman carrying more than ten cows can easily succeed without a silo. Roots are an excellent substitute for silage and are rather more productive of milk. Cows will eat a larger quantity of roots apparently, because they have a higher palatability. During the summer season this element of succulence is abundantly supplied in the pasture grasses. However, against those periods of the summer when grass is short and dry, it is certainly good practice to have either silage or some green feed to supply the cow's needs.

It seems scarcely necessary to elaborate upon the factor of palatability. Cows will eat more feed and will digest more thoroughly when feeds are supplied that appeal to the appetite. This is one reason why timothy hay is not a good milk producer. By analysis it rates well, but it does not appeal to the cow, neither is it easily digested. It is one of the poorest sources of roughage which we have, and no herd of dairy cows can be fed upon it, be charged market values for it and show any considerable profit.

Alfalfa and Clover Valuable

Regarding the sources of these essentials, I shall not take time more than to emphasize the home-growing of proteins in the form of alfalfa and clover. If a man will supply all his hay to his dairy in the form of either one of these hays he can practically eliminate entirely the purchasing of any high-proteid concentrate. At the same time in the growing of these hays the fertility and conditon of the soil will constantly be improved. One can to greater advantage afford to buy carbo-hydrates.

I would emphasize the studying of your individual cows. Some have a very much greater capacity for milk production than have others. It is essential that you feed all up to their capacity in order that you may be able to eliminate the low producers. The only way we could ever have made trotting horses in this country was by taking them out on the track and trotting them to their limit of speed. We killed some, we crippled a great many, but we discovered those that had not only the speed but the vitality and endurance which was necessary, and from these we bred still others with greater speed. Similarly we will increase the milk production of our Shorthorns; we must develop that function to its fullest, thereby discovering the highest producers, and from these breeding still better.

Remember that only the cows that have a large feed bill, have a chance of showing their owner a profit; cows that have not the capacity to take a lot of food and turn it into milk, are not profitable cows from a milk production standpoint. We lose money in our dairy herds by the excessive feeding of the poor cows and frequently by the underfeeding of the good ones. If milk production pays we must study the individual, breed only from the best and pass the low producers to the butcher.

THE FEED COST OF KEEPING BEEF CATTLE

Investigations carreid on with beef cattle at the Missouri Agricultural Experiment Station during the past nine years have shown that the amount of feed necessary to keep beef steers at constant body weight will vary with different condiions. The ration consisted of two and a half pounds of grain to one pound of choice alfalfa hay. The grain was composed of eight parts of corn chop to one part of old process linseed meal.

One 11 months old steer weighing 607 pounds needed 4.7 pounds of grain and 1.9 pounds of hay daily to keep at constant weight during one year. A second animal of the same age weighing 736 pounds needed 5.6 pounds of grain and 2¼ pounds of hay daily during one-half year. A two year old steer weighing 767 pounds kept at constant weight for one year on an average daily feed of 5¾ pounds of grain and 2½ pounds of hay. Another steer of the same age weighing eight pounds less needed daily 6.1 pounds of grain and 2.7 pounds of hay to maintain body weight. This steer was quite active. A three year old steer weighing 837 pounds needed 6.8 pounds of grain and about 3 pounds of hay daily during five months. Two other steers one year old, the first weighing 934 pounds and the second weighing 1081 pounds, needed only 6½ pounds of grain and 22-3 pounds of hay daily during 2 years. A two year old steer weighing 1212 pounds was kept at constant weight for four years on the same daily weight of grain and hay as used by the last two steers. Another steer weiging 1065 pounds was kept for over two years at constant weight with a daily ration of 6.1 pounds of grain and 2½ pounds of hay. This last animal was kept confined in a stall while the others had the run of a small lot. The last three steers were very fat at the beginning.

The results when studied with reference to the varying conditions show:

1. The cost is proportional to the amount of active protein (lean muscle and organs) in the steer and not to live weigth.
2. It costs less to keep eight 1200 pound steers than to keep twelve 800 pounds steers.
3. The season influences the cost. It is highest in the winter and in very hot weather.
4. Previous high living greatly increases the cost.
5. Youth and activity increase cost.
6. Age and inactivity increase cost.
7. A long time on maintenance decreases the cost.
8. Fatness may decrease the cost since the steer can save feed by using body fat.
9. Thrifty steers need less feed than poor feeders and those lacking in thrift.

C. R. Moulton,
Missouri College of Agriculture.

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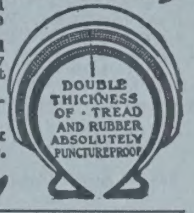

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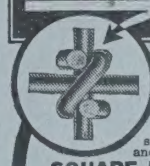
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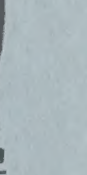

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THE FARMERS' GARDEN

Have our readers not all noticed the difference between farm gardens? A well planned garden of vegetables and small fruits will supply more than half the needs of the table throughout the year besides promoting the health of the family and saving a lot of expense for things often bought at the store. Some farmers think the time spent on a garden can be more profitably used in the field but they fail to place the proper value on both the pleasure and the healthfulness of having a constant supply of fresh fruits and vegetables at all times. Many city homes are better supplied with fruits and vegetables than some country homes are but the poorest home with only one-acre of land available for a garden can have the finest the land affords.

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A GREAT WASTE

The spring rains call to mind the greatest of all farm wastes, that of soil washing. One day's rain may wash gullies which will require years of careful planning to fill an on very rolling land it may be impossible to ever repair the damage.

We talk a great deal about the enormous loss of fertility from taking off the crops but the annual loss from soil washing on rolling lands is much greater. Then by feeding the crops to live stock we can put most of the fertility back on the land and in a readily available form but the washed away soil is gone forever.

We hear a lot of talk by irresponsible people about plowing more land, raising more grain and clearing up the forests but those who have studied this matter carefully generally agree that we have already cleared the timber off thousands of acres that ought to have remained in forest. The best we can do with these lands now that they are cleared is to seed them down to some tenacious pasture grass and quit plowing them.

Where the land is naturally poor or well worn by long and continuous cultivation it will cost something in time, labor and money to get a good stand of grass on such land but every year we put off the reclamation the greater will be the cost. A little lower annual income from a pasture crop may in the end be most profitable.

THE COST OF DIRT ROADS

A great deal is said every year about the cost of repairing earth roads and the lack of any permanency about it but we do not see any way around the difficulty until we wake up to the necessity of putting our road work into the hands of men who will give their whole time to it. Then we must take enough interest in our roads that we will elect or have appointed honest capable men to office.

The Citizen published in Kansas City, Missouri, in the March issue gives record figures which show that approximately one thousand miles of earth roads in Jackson County cost $106.,445.00 for up keep last year. This is more than $100 per mile for the year. Had there been any extensive program of grading, drainage or of concrete culverts this amount might not be extravagant but it seems nothing of this kind was in progess. The above does not include any of the expense of the County Highway Engineer which department cost Jackson County more than $28,000 last year.

While not many counties are so poorly governed as is Jackson there is plenty of room for improvement in the management and cost of maintaining the roads, either earth or hard surface. A lot of repair work must be done on any road and some of this at times must be done hurriedly and temporarily but if we can get in the way of doing the road work well we will save a lot of the cost in the end and all the time will have better roads to travel.

It is generally agreed now by road men that the cost of maintaining culverts which is now one of the big items in the upkeep of county roads may be reduced to the minimum by building only concrete structures. When properly built these will last indefinitely and after all necessary culverts are in, the money can be used for draining wet places, making fills or cutting down steep hills. Exclusive of grades, fills, drainage and culverts it should not cost more than $15 or 20 a mile to maintain a good dirt road a year and on a level stretch $10 will be enough to maintain it.

PROGRESS IN ROAD BUILDING

Two Missouri counties have very recently voted bonds for a complete county system of roads. These counties, St. Louis and Jefferson are really suburban territory to the City of St. Louis and there has been a long felt need for better roads so as to develope the truck and dairy business and if the money is efficiently spent it will be a great stimulus to all industries in the counties and a great help to the great city. The amount of bonds to be sold we believe is $3,000,000 in St. Louis County and $1,000,000 in Jefferson and yet a few years ago the people of the whole state, a great many times more wealthy than these two counties, refused to sanction a state road levy of ten cents on the one hundred dollar assessed valuation of property.

There is no reason why Missouri should not go forward in road building if we would just get together and decide on a definite program. Suppose we had a force of trained road workers of say from 100 to 500 men working in every county in the state for the next ten years does any one doubt that it would make a new state out of Missouri? As a money making proposition it would pay in the increased value of land but the greatest profit would be in the better educational advantages that would spring up, the improved social life among country people and what is life worth without these better things any way?

We do not want to make any mistake like New York and Pennsylvania have made and like Jackson County, Missouri, has made and get about 30 cents worth of road and 70 cents of graft for each dollar of tax money, but if every good citizen were alive to this matter, there is no reason why we should not have value received for all we expend.

We would hardly miss the amount of money it would take to pay our share of the taxes for the expenditure of eight or ten million a year for the next ten years and then much of our tax money would come back to us by way of better prices for produce by reason of the employment of so many men.

By far the greatest benefit of a system of good roads for the state would be social and we could afford the cost for that alone, but there are many industrial enterprises that can be developed only with this improvement. With dependable market roads Missouri ought to lead Wisconsin in dairying and California in small fruits.

We would like to have our readers discuss this subject without prejudice in the columns of The Missouri Farmer. Let us have your views.

THE PRIMARY

A little more than three months from now the most important election of the year will be held and every citizen no matter what his political views may be should make himself acquainted with the candidates so that he can cast a vote that will count for something. The Missouri Farmer is not a political paper and never discusses partisan questions in its columns but it is its aim to give all the light it can on economic questions which affect the general welfare of the farmers as a class and of the country as a whole.

While we do not approve of some of the practices of politicians or of political parties we believe that party organization is necessary for the best interests of the county, the state and the nation. The only way to keep these party organizations free from corrupt practices is for every citizen who wants an honest and efficient government to take a part in naming the best men for office and to express himself on the questions at issue in every campaign.

In the election of men to a county or a state office it matters little what the candidates views are on national questions but about ninety-nine out of a hundred vote for the man of his chosen partly rather than for the individual he may think most efficient or who is the best qualified morally for the position.

For the above reasons it is supremely important that we get the best men for candidates in all the parties in the field and then it will make no great difference which party wins the election. The citizen who fails to take part in the primary has no just cause for complaint if bad men are nominated to office.

It is not an easy matter to know the exact truth about the qualification of different candidates for state offices because few of us know the candidates personally but from what they stand for and from watching carefully the company they keep we can usually form a pretty correct estimate of a candidate. One qualification that every man should have who is elected to office is honesty. Unless a man is honest and sincere in his purpose to serve the best interests of the public it matters not how competent he may be otherwise he is not a safe man to nominate.

It is important to choose a man who will fit the office. In selecting a man for Attorney General, for instance, we should try to get an able lawyer, but that kind of training is not at all necessary for the office of Governor. The State Auditor and State Treasurer should be good business men because the former must pass on every account allowed by the state and the Treasurer is the state's banker, but all this talk about needing a business man for Governor is pure nonsense. When we think about the worst mistake the state has made in forty years we think when we nominated and elected a Governor on the grounds of getting a business man. Being a good business man may not be a handicap for a good executive but on the other hand it is not at all an essential qualification

In getting our information about candidates for office it is always safe to ignore the petty politician. The man who is seeking some appointment for himself or for a friend is not a safe adviser. In a recent political gathering we noticed the activity of men who held salaried positions paying $1000 to $1500 a year and we knew why they were so interested in "the man." It is not to be expected that a man will ordinarily travel over the state at his own expense to help nominate or elect some one on purely patriotic motives. And so I say it is safe to discredit either the machine man or the hireling when we are making up our choice of candidates. What they say may be true but we should have better evidence before we accept it. You can judge a man, 90 per cent at least, by the company he keeps and by his campaign methods. If you can not approve them better turn him down.

If you are interested in the Land Bank Amendment you should write at once to A. T. Edmonston, Jefferson City for blank petition to circulate in your neighborhood. Any one can secure the fifty names necessary to fill up one petition in a few hours time but the work should not be delayed. Several districts have not yet enough petitions but a few hours work by a few friends of the measure will finish the first step in getting the Land Bank established.

On page 4 of this paper you will find an outline of the Act passed by the last Legislature and if there are other questions our readers do not understand we will be glad to answer them.

APPRECIATES OUR WORK

The Missouri Farmer:

Enclosed find check for $1.00. Please credit my subscription for same. I had intended to write to you some time ago, but someway overlooked it.

I certainly appreciate the good work "The Missouri Farmer" is doing and hope to see it go on and on with the same.

Wishing you well and hope to see you again some day,

Very truly yours,

Simon Baumgartner,
Rose Hill Farm, Lawrence Co.

BARNYARD GOSSIP

If one boy is abused in his rights and privileges it gives the superficial reformer a chance to lecture parents on the way they govern their children, I have no sympathy for the cold hard-hearted parent who would drive his boys to work like he would his oxen under the yoke but on the other hand I think we American fathers and mothers spoil a great many more boys by our leniency and over indulgence than we do by too rigid discipline.

If we would compare the profligacy of the average American with the frugality of the average European we would be compelled to admit that something must be wrong with the way many of us train our boys and particularly so in business matters. The boy who has been made to realize that the only way for him to ever succeed in a business way is to try to make his monthly earnings, whatever they may be, meet his expenses, and have at least a small sum for investment, has the necessary foundation laid for a successful business life.

A few years ago a poor Scotchman emigrated with his family to Missouri and on the way from New York to Columbia he was unfortunate enough to be injured in a railroad wreck. In the course of a few months the railroad company paid him $500 and with that money the Scotchman made the first payment on a little home and today he and his family are happy in the snug little place, all free from debt. The hard life in Scotland where but few people own any land or own their homes had fitted this family for the frugal life they must live in this country for a few years in order that they might have a little garden, a little orchard and a house they could call their own.

What would three out of four Americans have done with that railroad money? Perhaps they would have bought an automobile, a piano, a horse and phaeton, some swell clothes and continued to live in a rented house.

Here is a story told about how President H. J. Waters of the Kansas Agricultural College values discipline and training in the life of the average boy. President Waters, although the son of a successful Missouri farmer was required to work to support himself while attending the State University and his uninterrupted progress and advancement has proved that what some boys would consider a severe, perhaps intollerable burden, has been a valuable asset. But here is the story as told by President Waters himself:

At the opening of the college year, the president of a big Kansas corporation wanted to know "how much money it would take to put a boy through school here."

"I have a nephew who is coming here," he explained, " and don't want him to lack for money. I want him to have all he needs. Now, if you can tell me someone who is responsible and capable, I will leave the money with him and he can pay it over to the boy as needed."

Mr. Waters studied the visitor a minute.

"I am willing to supply him with whatever is needed," the corporation head went on, "and when he gets out I am going to give him a farm. He is a good boy and I want him to get started right."

"Did it ever occur to you that you might lend him the money and then rent him the farm?" asked the president.

It never had.

"Don't you believe a good many boys have been ruined by having all the money they wanted at college? Don't you know that the best college students frequently are those working their way through? I believe that a reasonable amount of debt at the end of a college course not only will have a steadying influence, but will help a boy acquire the saving habit, and that's a mighty valuable and a mighty difficult thing to acquire."

The uncle was convinced that his plan might prove the ruin of his nephew and without any knowledge of what happeend in President Waters' office the young man is now employed as a janitor in the Kansas Agricultural College.

By Old Jim Riley

Talkin' about democratic politicians havin an appetite like a swarm of army worms, I heard of a republican "get together" meeting' the other night at which they was so all fired hungry that they et up the carnations and ferns that had bin used fer table decorations.

Buckshot by The Professor

The bunch down at "Hez" Browns asked me to tell you all that they've been too busy fishing and plowing for corn to discuss politics or religion. But they'll be with us again by the time the next issue comes out.

Perhaps by the time this issue reaches the reader our army will have been withdrawn from Mexico. Altogether its a mighty humiliating mess and I don't know where the blame lies. If we need more troops we ought to be told so plainly. If necessary we can enlist a hundred thousand men in 30 days to do any honorable thing that needs to be done across the Rio Grande.

"SWAT THE FLY" EARLY

But why "swat the fly" in the winter when you fail to see any? Listen!

"I am a big fat mother fly and I live in a large house, tucked away in a crack behind a door casing. The housekeeper has overlooked me. She thinks we are all dead. I have a friend or two in the basement and a cousin in the attic. We have seen each other a few times since winter set in, though we hide away most of the time. Several of my friends and near relatives selected the barn for their winter quarters and I hope they are comfortable. Some live outdoors in sheltered places and some in other houses. A few of my younger brothers and sisters were still feeding in a filthy stable on the other side of the road last fall when I developed wings and flew away with filth sticking to me. This filth I have since wiped off on cake, bread, and other exposed foods in the pantry. Some of these brothers and sisters will no doubt escape the cold, as stable manure stays warm if it is permitted to accumulate in the stable all winter. These are now enclosed in small, hard brown cases and as soon as warm weather comes I shall go to the stable and see if I can find any of them.

"My city cousin says:

'We have had a few warm days but it is still too cool to venture out. In a few days I expect to move. I am hungry and need more air. I long for the day when I can leave the house for a warm sun-bath. Then I will find some filth on which to lay a few eggs There was plenty of filth around last fall and of course none of it has been removed during the winter. My first crop of eggs was laid about the middle of March. By the middle of April I bred grand children in abundance. By June my offsprings will have scattered all over town and by August we will be in full possession of the place, holding council in the City Hall, placing sick and wounded in the hospitals by the dozens, and handling the city government about as we please. This city does not fear us and is not prepared so by the time it gets ready for us we will be in full control. I hope we may have a successful year and all looks successful so far, but I hear that a big, bad man at the Missouri Agricultural Experiment Station is telling people how to spoil all that'."

Is winter work worth while? What can be done? First kill that boastful fly behind the doorcasing; then go to the attic and basement, to the garage and stable and let not one fly escape. Clean all stables and remove all filth in which the eggs and maggots may harbor, and scatter it in the fields. Be sure that all neighbors do likewise and if necessary induce the City Council to require that all premises are properly cleaned up during the winter. Then you will have at least a fighting chance with this filthy scourge of the human race. Preparedness means success in such a campaign.

L. Haseman,
Missouri College of Agriculture.

On lands not suited to alfalfa growing it might be a good plan to try white sweet clover. This crop will grow on land so poor that Alfalfa will not grow on and we have noticed it growing in places too wet for Alfalfa. While many extravagant claims have been made for sweet clover it will pay most any farmer to try it.

When It's Nitrate Time for Apples

Use 200 pounds of Nitrate of Soda broadcast per acre in late February or early March, or use at Blossom Time.

Send Post Card Today for Fruit Books—Free

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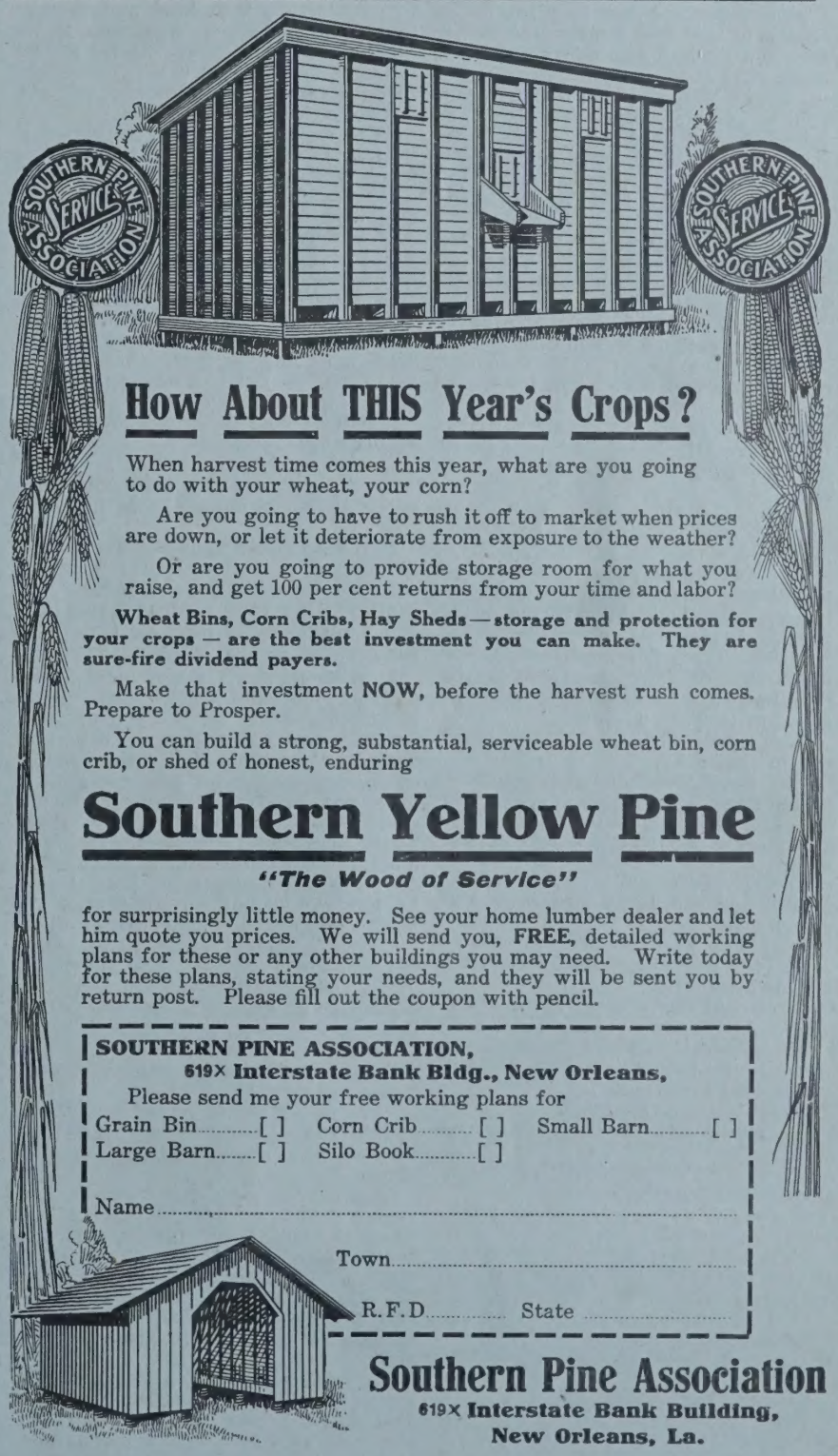

How About THIS Year's Crops?

When harvest time comes this year, what are you going to do with your wheat, your corn?

Are you going to have to rush it off to market when prices are down, or let it deteriorate from exposure to the weather?

Or are you going to provide storage room for what you raise, and get 100 per cent returns from your time and labor?

Wheat Bins, Corn Cribs, Hay Sheds—storage and protection for your crops — are the best investment you can make. They are sure-fire dividend payers.

Make that investment **NOW**, before the harvest rush comes. Prepare to Prosper.

You can build a strong, substantial, serviceable wheat bin, corn crib, or shed of honest, enduring

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David Dunne

A Romance of the Middle West

By BELLE KANARIS MANIATES

CHAPTER II

David struck out from the shelter of the woodland and made his way to his home, a pathetically small, rudely constructed house. The patch of land supposed to be a garden, and in proportion to the dimensions of the building, showed a few feeble efforts at vegetation. It was not positively known that the Widow Dunne had a clear title to her homestead, but one would as soon think of foreclosing a mortgage on a playhouse, or taking a nest from a bird, as to press any claim on this fallow fragment in the midst of prosperous farmlands.

Some discouraged looking fowls picked at the scant grass, a lean cow switched a lackadaisical tail, and in a pen a pig grunted his discontent.

David went into the little kitchen, where a woman was bending wearily over a washtub.

"Mother," cried the boy in dismay, "you said you'd let the washing go till to-morrow. That's why I didn't come right back."

She paused in the rubbing of a soaped garment and wrung the suds from her tired and swollen hands.

"I felt better, David, and I thought I'd get them ready for you to hang out."

David took the garment from her.

"Sit down and eat this ice cream Miss M'ri sent—no, I mean Joe Forbes sent you. There was more, but I sold it for half a dollar; and here's a pail of eggs and a drawing of tea she wants you to sample. She says she is no judge of black tea."

"Joe Forbes!" exclaimed his mother interestedly. "I thought maybe he would be coming back to look after the estate. Is he going to stay?"

"I'll tell you all about him, mother, if you will sit down."

He began a vigorous turning of the wringer.

The patient, tired-loking eyes of the woman brightened as she dished out a saucer of the cream. The weariness in the sensitive lines of her face and the prominence of her knuckles bore evidence of a life of sordid struggle, but, above all, the mother love illumined her features with a flash of radiance.

"Your a good provider, David; but tell me where you have been for so long, and where did you see Joe?"

He gave her a faithful account of his dinner at the Brumble farm and his subsequent meeting with Joe, working the wringer steadily as he talked.

"There!" he exclaimed with a sigh of satisfaction, "they are ready for the line, but before I hang them out I am going to cook your dinner."

I am rested now, David. I will cook me an egg."

"No, I will," insisted the boy, going to the stove.

A few moments later, with infinite satisfaction, he watched her partake of crisp toast, fresh eggs, and savory tea.

"Did you see Jud and Janey?" she asked suddenly.

"No; they were at school."

"David, you shall go regularly to school next fall."

"No," said David stoutly; "next fall I am going to work regularly for some of the farmers, and you are not going to wash any more."

Her eyes grew moist.

David, will you always be good—will you grow up to be as good a man as I want you to be?"

"How good do you want me to be?" he asked dubiously.

A radiant and tender smile played about her mouth.

"Not goodygood, David; but will you always be honest, and brave, and kind, as you are now?"

"I'll try, mother."

"And never forget those who do you a kindness, David; always show your gratitude."

"Yes Mother."

"And David, watch your temper and, whatever happens, I shall have no fears for your future."

His mother seldom talked to him in this wise. He thought about it after he lay in his little cot in the sitting room that night; then his mind wandered to Joe Forbes and his wonderful tales of the West. He fell asleep to dream of cowboys and prairies. When he awoke the sun was sending golden beams through the eastward window.

"Mother isn't up," he thought in surprise. He stole quietly out to the kitchen, kindled a fire with as little noise as possible, put the kettle over, set the table, and then went into the one tiny bedroom where his mother la yin her bed, still—very still.

"Mother," he said softly.

There was no response.

"Mother," he repeated. Then piercingly, in excitement and fear, "Mother!"

At last he knew.

He ran wildly to the outer door. Bill Winters, fortunately sober, was driving slowly by.

"Bill!"

"What's the matter, Dave?" looking into the boy's white face. "Your ma ain't sick, is she?"

David's lips quivered, but seemed almost unable to articulate.

"She's dead," he finally whispered.

"I'll send Zine right over," exclaimed Bill, slapping the reins briskly across the dropping neck of his horse.

Very soon the little house was filled to overflowing with kind and sympathetic neighbors who had come to do all that had to be done. David sat on the back doorstep until M'ri came; before the expression in his eyes she felt powerless to comfort him.

"The doctor says your mother died in her sleep," she told him. "She didn't suffer any."

He made no reply. Oppressed by the dull pain for which there is no ease, he wandered from the house to the garden, and from the garden back to the house throughout the day. At sunset Barnabas drove over.

"I shall stay here to-night, Barnabas," said M'ri, "but I want you to drive back and get some things. I've made out a list. Janey will know where to find them."

"Shan't I take Dave back to stay to-night?" he suggested.

M'ri hesitated, and looked at David.

"No," he said dully, following Barnabas listlessly down the path to the road.

Barnabas, keen shrewd, and sharp at a bargain, had a heart that ever softened to motherless children.

"Dave," he said gently, " your ma won't never hev to wash no more, and she'll never be sick nor tired agen."

It was the first leaven to his loss, and he held tight to the horny hand of his comforter. After Barnabas had driven away there came drudging down the road the little(lithe figure of an old man, who was carrying a large box. His mildly blue, inquiring eyes looked out from beneath their hedge of shaggy eyebrows. His hair and his beard were thick and bushy. Joe Forbes maintained that Uncle Larimy would look no different if his head were turned upside down.

"David," he said softly, "I've brung yer ma some posies. She liked my yaller roses, you know. I'm sorry my laylocks are gone. They come early this year."

"Thank you, Uncle Larimy."

A choking sensation warned David to say no more.

"Things go 'skew sometimes, Dave, but the sun will shine agen," reminded the old man, as he went on into the house.

Later, when sundown shadows had vanished and the first glimmer of the stars radiated from a pale sky, Joe came over. David felt no thrill at sight of his hero. The halo was gone. He only remembered with a dull ache that the half dollar had brought his mother none of the luxuries he had planned to buy for her.

"David," said the young ranchman, his deep voice softened, "my mother died when I was younger than you are, but you won't have a stepmother to make life unbearable for you."

The boy looked at him with inscritable eyes.

"Don't you want to go back with me to the ranch, David? You can learn to ride and shoot."

David shook his head forlornly. His spirit of adventure was smothered.

"We'll talk about it again David," he said, as he went in to consult M'ri.

"Don't you think the only thing for the boy to do is to go back with me? I am going to buy the ranch on which I've been foreman, and I'll try to do for David all that should have been done for me when I, at his age, felt homeless and alone. He's the kind that takes things hard and quiet; life in the open will pull him up."

"No, Joe," replied M'ri resolutely. "He's not ready for that kind of life yet. He needs to be with women and children a while longer. Barnabas and I are going to take him. Barnabas suggested it, and I told Mrs. Dunne one day, when her burdens were getting heavy, that we would do so if anything like this should happen."

Joe looked at her with revering eyes.

"Miss M'ri, you are so good to other people's children, what would you be to your own!"

The passing of M'ri's youth had left a faint flush of prettiness like the aftreglow of a sunset faded into twilight. She was of the kind that old age would never wither. In the deep blue eyes was a patient, reflective look that told of a past but unforgotten romance. She turned from his gaze, but not before he had seen the wistfulness his speech had evoked. After he had gone she sought David.

"I am going to stay here with you, David, for two or three days. Then Barnabas and I want you to come and live with us. I had a long talk with your mother one day, and I told her if anything happened to her you should be our boy. That made her less anxious about the future, David. Will you come?"

The boy looked up with his first gleam of interest in mundane things.

"I'd like it, but would—Jud?"

"I am afraid Jud doesn't like anything, David," she replied with a sigh. "That's one reason I want you—to be a big brother to Janey, for I think that is what she needs, and what Jud can never be."

The boy remembered what his mother had counseled.

"I'll always take care of Janey," he earnestly assured her.

"I know you will, David."

Two dreary days passed in the way that such days do pass, and then David rode to his new home with Barnabas and M'ri.

Jud Brumble, a refractory, ungovernable lad of fifteen, didn't look altogether unfavorably upon the addition to the household, knowing that his amount of work would thereby be lessened, and that he would have a new victim for his persecutions and tyrannies.

Janey, a little rosebud of a girl with dimples and flaxen curls, hung back shyly and looked at David with awed eyes. She had been frightened by what she had heard about his mother, and in a vague, disconnected way she associated him with Death. M'ri went to the child's bedside that night and explained the situation. "Poor Davey is all alone, now, and very unhappy, so we must be kind to him. I told him you were to be his little sister."

Then M'ri took David to a gabled room, at each end of which was a swinging window—"one for seeing the sun rise, and one for seeing it set," she said, as she turned back the covers from the spotless white bed. She yearned co console him, but before the mute look of grief in his big eyes she was silent.

"I wish he would cry," she said wistfully to Barnabas, " he hasn't shed a tear since his mother died."

No sooner had the sound of her footsteps ceased than David threw off his armor of selfrestraint and burst into a passion of sobs, the wilder for their long repression. He didn't hear the patter of little feet on the floor, and not until two mothering arms were about his neck did he see the white-robed figure of Janey.

"Don't cry, Davey," she implored, her quivering red mouth against his cheek. "I'm sorry; but I am your little sister now, so you must love me, Davey. Aunt M'ri told me so."

CHAPTER III

The lilac-scented breeze of early morning blowing softly through the vine-latticed window and stirring its white draperies brought David to wakefulness. With the first surprise at the strangeness of his surroundings came a fluttering of memory. The fragrance of lilacs was always hereafter to bring back the awfulness of this waking moment.

He hurriedly dressed, and went down to the kitchen where M'ri was preparing breakfast.

"Good morning, David. Janey has gone to find some fresh eggs. You may help her hunt them, if you will."

Knowing the haunts of hens, he went toward the currant bushes. It was one of those soft days that link late spring and dawning summer. The coolness of the sweet-odored air, the twitter of numberless dawn birds, the entreating lowing of distant cattle—all breathing life and strength—were like a resurrection call to David.

On the east porch, which was his retreat for a smoke or a rest between the intervals of choring and meals, Barnabas sat, securely wedged in by the washing machine, the refrigerator, the plant stand, the churn, the kerosene can, and the lawn mower. He gazed reflectively after David.

"What are you going to hev Dave do to help, M'ri?"

M'ri came to the door and considered a moment.

"First of all, Barnabas, I am going to have him eat. He is so thin and hungry looking."

Barnabas chuckled. His sister's happiest mission was the feeding of hungry children.

After breakfast, when Janey's rebellious curls were again being brushed into shape, M'ri told David he could go to school if he liked. To her surprise the boy flushed and looked uncomfortable. M'ri's intuitions were quick and generally correct.

"It's so near the end of the term, though," she added casually, as an afterthough, "that maybe you had better wait until next fall to start in."

"Yes, please, Miss M'ri, I'd rather," he said quickly and gratefully.

When Janey, dinner pail in hand and books under arm, was ready to start, David asked in surprise where Jud was.

"Oh, he has gone long ago. He thinks he is too big to walk with Janey."

David quietly took the pail and books from the little girl.

"I'll take you to school, Janey, and come for you this afternoon."

"We won't need to git no watch dog to foller Janey," said Barnabas, as the children started down the path.

"David," called M'ri, "stop at Miss Rhody's on your way back and find out whether my waist is finished."

With proudly protective air, David walked beside the stiffly starched little girl, who had placed her hand trustfully in his. They had gone but a short distance when they were overtaken by Joe Forbes, mounted on a shining black horse. He reined up and looked down on them good-humoredly.

"Going to school children?"

"I am. Davey's just going to carry my things for me," explained Janey.

"Well, I can do that and carry you into the bargain. Help her up, David."

Janey cried out in delight at the prospect of a ride. David lifted her up, and Joe settled her comfortably in the saddle, encircling her with his arm. Then he looked down whimsically into David's disappointed eyes.

"I know it's a mean trick, Dave, to take your little sweetheart from you."

"She's not my sweetheart; she's my sister."

"Has she promised to be that already? Get up, Firefly."

They were off over the smooth country road, Forbes shouting a bantering good-by and Janey waving a triumphant dinner pail, while David, trudging on his way, experienced the desolate feeling of the one who is left behind. Across fields he came to the tiny, thatched cottage of Miss Rhody Crabbe, who stood on the crumbling doorstep feeding some little turkeys.

"Come in, David. I suppose you're after M'ri's waist. Thar's just a few stitches to take, and I'll hev it done in no time."

He followed her into the little house, which consisted of a sitting room "with bedroom off," and a kitchen whose floor was sand scoured; the few

pieces of tinware could be used as mirrors. Miss Rhody seated herself by the open window and began to ply her needle. She did not sew swiftly and smoothly, in feminie fashion, but drew her longthreaded needle through the fabric in abrupt and forceful jerks. A light breeze fluttered in through the window, but it could not ruffle the wisp-locked hair that showed traces of a water-dipped comb and was strained back so taut that a little mound of flesh encircled each root. Her eyes were bead bright and swift moving. Everything about her, to the aggressively prominent knuckles, betokened energy and industry. She was attired in a blue calico shortened by many washings, but scrupously clean and conscientiously starched. Her face shone with soap and serenity.

Miss Rhody's one diversion in a busy but monotonous life was news. She was wretched if she did not receive the latest bulletins; but it was to her credit that she never repeated anything that might work harm or mischief. David was one of her chosen confidants. He was a safe repository of secrets, a sympathetic listener, and a wise suggester.

"I'm glad M'ri's hevin' a blue waist. She looks so sweet in blue. I've made her clo'es fer years. My how I hoped fer to make her weddin' clo'es onct! It wuz a shame to hev sech a good match spiled. It wuz too bad she h to hev them two chillern on her hands—"

"And now she has a third," was what David thought he read in her eyes, and he hastened to assert: "I am going to help all I can, and I'll soon be old enough to take care of myself."

"Land sakes, David, you'd be wuth more'n yer keep to any one. I wonder," she said ruminatingly, "if Martin Thorne will wait for her till Janey's growed up."

"Martin Thorne!" exclaimed David excitedly, "Judge Thorne? Why, was he the one—"

"He spent his Sunday evenings with her," she asserted solemnly.

In the country code of courtships this was conclusive proof and David accepted it as such.

"He wuz jest plain Lawyer Thorne when he wuz keepin' company with M'ri, but we all knew Mart wuz a comin' man, and M'ri wuz jest proud of him. You could see that, and he wuz sot on her."

Her work momentarily neglected, Rhody was making little reminiscent stabs at space with her needle as she spoke.

"'T wuz seven years ago. M'ri wuz twenty-eight and Mart ten years older. It would hev ben a match as sure as preachin', but Eliza died and M'ri, she done her duty as she seen it. Sometimes I think folks is near-sighted about their duty. There is others as is queer-sighted. Bein' crossed hain't spiled M'ri though. She's kep' sweet through it all, but when a man don't get his own way, he's apt to curdle. Mart got sort of tart-tongued and cold feelin'. There wa'nt no reason why they couldn't a kep' on bein' friends, but Mart must go and make a fool vow that he'd never speak to M'ri until she sent him word she'd changed her mind, so he's ben a-spitin' of his face ever sence. It's wonderful how some folks do git in their own way, but, my sakes, I must git to work so you kin take this waist home."

This was David's first glimpse of a romance outside of story-books, but the name of Martin Thorne evoked disturbing memories. Six years ago he had acted as attorney to David's father in settling his financial difficulties, and later, after Peter Dunne's death, the Judge had settled the small estate. It was only through his efforts that they were enabled to have the smallest of roofs over their defenseless heads.

"Miss Rhody," he asked after a long meditation on life in general, "why didn't you ever marry?"

Miss Rhody paused in her work, and two little spots of red crept into her cheeks.

"'Taint't from ch'ice I've lived single, David. I've ben able to take keer of myself, but I allers hed a hankerin' same as any woman, as is a woman, hez fer a man, but I never got no chanst to meet men folks. I wuz raised here, and folks allers hed it all cut out fer me to be an old maid. When a woman onct gets that name fixt on her, it's all off with her chances. No man ever comes nigh her, and she can't git out of her single rut. I never could get to go nowhars, and I wa'nt that bold kind that makes up to a man fust, afore he gives a sign."

David pondered over this wistful revelation for a few moments, seeking a means for her seemingly hopeless escape from a life of single blessedness, for David was a sympathetic young altruist, and felt it incumbent upon him to lift the burdens of his neighbors. Then he suggested encouragingly:

"Miss Rhody, did you know that there was a paper that gets you acquainted with men? That's the way they say Zine Winters got married."

"Yes, and look what she drawed!" she scoffed. "Bill! I don't know how they'd live if Zine hadn't a-gone in heavy on hens and turkeys. She hez to spend her hull time a-traipsin' after them turkeys, and thar ain't nuthin' that's given to gaddin' like turkeys that I know on, less 't is Chubbers' hired gal. No, David, it's chance enough when you git a man you've knowed allers, but a stranger! Well! I want to know what I'm gittin'. Thar, the last stitch in M'ri's waist is took, and, David, you won't tell no one what I said about Mart Thorne and her, nor about my gittin' merried?"

David gave her a reproachful look, and she laughed shamefacedly.

"I know, David, you kin keep a secret. It's like buryin' a thing to tell it to you. My, this waist 'll look fine on M'ri. I jest love the feel of silk. I'd ruther hev a black silk dress than—"

"A husband," prompted David slyly.

"David Dunne, I'll box yer ears if you ever think again of what I said. I am allers a-thinkin' of you as if you wuz a stiddy grown man, and then fust thing I know you're nuthin' but a teasin' boy. Here's a bundle, and don't you want a nutcake, David?"

No, thank you, Miss Rhody. I ate a big breakfast."

A fellow feeling had prompted David even in his hungriest days to refrain from accepting Miss Rhody's proffers of hospitality. He knew the emptiness of her larder, for though she had been thrifty and hardworking, she had paid off a mortgage and had made good the liabilities of an erring nephew.

When David returned he found Miss M'ri in the dairy. It was churning day, and she was arranging honey-scented, rose-stamped pats of butter on moist leaves of crisp lettuce.

"David," she asked, looking up with a winning smile, "will you tell me why you didn't want to go to school?"

The boy's face reddened, but his eyes looked frankly into hers.

"Yes, Miss M'ri."

"Before you tell me, David," she interposed, "I want you to remember that, from now on, Barnabas and I are your uncle and aunt."

"Well, then, Aunt M'ri," began David, a ring of tremulous eagerness in his voice, "I can read and write and spell, but I don't know much about arithmetic and geography. I was ashamed to start in at the baby class. I thought I'd try and study out of Jud's books this summer."

"That's a good idea, David. We'll begin now. You'll find an elementary geography in the sitting room on the shelf, and you may study the first lesson. This afternoon, when my work is done, I'll hear you recite it."

David took the book and went out into the old orchard. When M'ri went to call him to dinner he was sprawled out in the latticed shadow of an apple tree, completely absorbed in the book.

"You have spent two hours on your first lesson, David. You ought to have it well learned."

He looked at her in surprise.

"I read the whole book through, Aunt M'ri."

"Oh, David," she expostulated, "that's the way Barnabas takes his medicine. Instead of the prescribed dose after each meal he takes three doses right after breakfast—so as to get it off his mind and into his system, he says. We'll just have one short lesson in geography and one in arithmetic each day. You must n't do things in leaps. It's the steady dog trot that lasts, and counts on the long journey."

When David was on his way to bring Janey from school that afternoon he was again overtaken by Joe Forbes.

"Dave, I am going to Chicago in a few days, and I shall stop there long enough to buy a few presents to send back to some of my friends. Here's my list. Let me see, Uncle Larimy, a new-fangled fishing outfit; Barnabas, a pipe; Miss M'ri—guess, Dave."

"You're the guesser, you know," reminded David.

"It's a new kind of ice-cream freezer, of course."

"She's going to freeze ice to-night," recalled David anticipatingliy.

"Freeze ice! What a paradoxical process! But what I want you to suggest is something for Miss Rhody—something nice."

"What she wants most is something you can't get her," thought David, looking up with a tantalizing little smile. Then her second wish occurred to him.

"I know something she wants dreadfully; something she never expects to have."

"That is just what I want to get for her."

"It 'll cost a lot."

Joe disposed of that consideration by a munificent wave of the hand.

"What is it?"

"A black silk dress," informed the boy delightedly.

"She shall have it. How many yards does it take, I wonder?"

"We can ask Janey's teacher when we get to school," suggested the boy.

"So we can. I contrived to find out that Janey's heart is set on a string of beads—blue beads. I suppose, to be decent, I shall have to include Jud. What will it be?"

"He wants a gun. He's a good shot, too."

They loitered on the way, discussing Joe's gifts, until they met Janey and Little Teacher coming toward them hand in hand. David quickly secured the pail and books before Joe could appropriate them. He wasn't going to be cut out a second time in one day.

"Miss Williams," asked the young ranchman, "will your knowledge of mathematics tell me how many yards of black silk I must get to make a dress, and what kind of fixings I shall need for it?"

"You don't have to know," she replied. "Just go into any department store and tell them you want a dress pattern and the findings. They will do the rest."

"Shopping made easy. You shall have your reward now. My shanty boat is just about opposite here. Suppose the four of us go down to the river and have supper on board?"

Little Teacher, to whom life was a vista of blackboards dotted with vacations, thought this would be delightful. A passing child was made a messenger to the farm, and they continued their way woodward to the river, where the shanty boat was anchored. Little Teacher set the table, Joe prepared the meal, while David sat out on deck, beguiling Janey with wonderful stories.

"This seems beautifully domestic to a cowboy," sighed Joe, looking around the supper table, his gaze lingering on Little Teacher, who was dimpling happily. Imaginative David proceeded to weave his third romance that day, with a glad little beating of the heart, for he had feared that Joe might be planning to wait for Janey, as the Judge was doubtless waiting for M'ri.

The children went directly home after supper, Joe accompanying Little Teacher. Despite the keenness of David's sorrow the day had been a peaceful, contented one, but when the shadows began to lengthen to that most lonesome hour of lonesome days, when from home-coming cows comes the sound of tinkling bells, a wave of longing swept over him, and he stole away to the orchard. Again, a soft, sustaining little hand crept into his.

"Don't, Davey," pleaded a caressing voice, "don't make me cry."

(To be continued.)

We would like to have our boys and girls write us short stories about how they help father and mother.

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Will Begin in April and Last Eight Weeks

His sermons in full, and every detail of his tabernacle meetings, the greatest evangelist of the world in action, all fully illustrated, true to life, as real as if you were there to see and hear it all, will be printed in

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Address THE WEEKLY STAR, Kansas City, Mo.

REID'S YELLOW DENT SEED CORN Champion at Missouri State Show. Indiana type. The kind that has a deep, meaty grain; small cob; large ears; and yielded this year as high as 115½ bushels to the acre. $2.50 to $3.00 shelled; $3.50 to $4.00 crated in ear. F. O. B. Germination guaranteed. H. G. WINDSOR, Benvenue Farms, Boonville, Mo.

SOY BEANS

The premium beans in the Farm Bureau Contest. Mongol, Ito San, Aubern and Mikado. $2.60 to $3.50 per bushel. Sacks free.

JESSE J. CULP, - Warrensburg, Mo.

SEED CORN

Soy Beans, Cow Peas, Kaffir Corn, Milo Maize, Millet, Sudan Grass and all grass and field seeds.

Best varieties of each, carefully selected for purity and germination. Prices absolutely right and satisfaction guaranteed. Write for prices. Saline County grown seed corn our specialty.

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Build Your WORN OUT SOIL SWEET CLOVER

The great crop for soil fertility and animal feed. Exceptionally rich in nitrogen and humus. Higher protein content than alfalfa. Sow in spring, summer or winter. Write for prices.

Bokhara Seed Co., Box F, Falmouth, Ky.

Seed Oats -- Seed Corn

Pride of Saline—A yellow Dent seed corn. Heavy ears, very deep kernel, shells immensely. $2.25 per bu., shelled, tested.

K. H. BROWN, Bolivar, Mo.

SEED CORN

Johnson County White, the best I ever grew and all in crib by Nov. 1. Price low this year, $2.25 single bushel, $4 for two bushel bag, shelled. Crated $3 a bushel, extra selected ears. Order early.

C. D. LYON, R. 1 Georgetown, Ohio

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If you want **top** market prices you should ship your **wool** to a reliable house. **We charge no commission.** Honest weights—correct grading and prompt returns **guaranteed.** Our success "44 Years Honest Dealings." Before you sell or ship your wool be sure and get our price list and shipping tags absolutely **FREE.** Means much to you. **Write today.**

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THE STORY OF A DRAINAGE DISTRICT

When our fathers first came to this country there was nothing to do but till the soil and tend the crops. The land was full of substance and produced in profusion all the crops that mature in this climate, but, as time went on, much of the land they had cultivated became exhausted. Early in our history, lands that threatened a decline in crops were either rested a year or sown to grass; but in the last twenty years the plan has been found to be unprofitable. The investment alone makes the plan of rest impractical. On the other hand, our lands no longer respond quickly to the seeding down process, for it seems almost impossible to any longer get a well-sodded pasture. At this period it does not take one of very penetrating judgment to realize that other plans must be adopted. The time has come when now as heretofore neglected property is attracting the attention of farmers and investors.

Branch bottoms and valley lands in all countries and in all ages have been the last lands to be improved. These lands do not seem to arrive at their own until that time in the high lands history when it costs more to restore them to their former fertility than it costs to reclaim the bottom lands. And why should there be any cause for ill feeling when a movement to reclaim the long neglected bottom lands makes itself manifest? It is puzzling to think why there should be factions that both openly and secretly fight a progressive movement—an enterprise that when perfected would benefit every humble citizen. Can it be that such people are ignorant of what is going on?

Prejudice to Overcome

There are two kinds of people to overcome in the movement for a drainage district: those who fight every enterprise and those who do not show a hostile spirit, but seem insensible to the fact that there is something to be done. The first thinks that progressive enterprise is dangerous to his interests, and the second man believes there is no way out. And yet both must some day give way to the man whose hope is for better things.

Let us stand upon the ridge of Salt River Valley up in Northeast Missouri—in the fall of the year, with a normal season—before we descend to the low bottoms. From this high point, looking across the valley, are seen fields of corn and wheat, meadows and orchards. Higher up on the opposite hill, tops of trees are visible and just above the tree-tops a patch of Missouri blue sky. Men and horses are working in the valley below. Home people and non-residents are spending their money for development. Contrast this scene with the one below the canal, where there are stagnant ponds, furnishing natural breeding places for the deadly mosquito that preys upon human beings and live stock, making it impractical and unprofitable for growing stock.

While I am writing this article Salt River is out of its banks both above and below the canal, producing on one bottom the appearance of an inland sea. As the great flood from the north, covering the bottom from foot-hill to foot-hill, enters the big ditch, the water is carried down without any sign of overflow on either side for over a mile. Here the banks of the ditch were left natural for the purpose of taking care of the hill water. At this point there are eighty to a hundred acres of ground covered with shallow water that partly comes from the hills. The ditch being already taxed to its fullest capacity, this water stands for hours before it begins to recede. A succession of floods coming from the north repeated this condition several times; but it must be borne in mind that before the ditch was completed many hundreds of acres met this fate annually as compared with one hundred now. Hundreds of acres of small grain are now harvested; hundreds of head of cattle are now pastured on the best of bluegrass pasture—pastures which formerly were annually destroyed and the cattle taken to the hills for safety and food.

The great ditch is by no means a cure-all for all the evils of overflow. The ditch is only the initial step. It would be a calamity if the citizens of this great state were to throw up their hands and declare that the four millions of acres of rich branch bottom lands could not be reclaimed, or that the worn-out and depleted lands could not be restored to their former fertility. Last year the corn was planted in the valley in April, an unheard of event heretofore.

We find many theories advanced as to how to get the best results from bottom lands. Some advocate one plan, some another. Naturally, those who have had but little experience favor the cheaper way of building levies and cutting bends in the river with teams; but among people of experience there seems to be no disagreement—the straight, deep canal. The longer, the deeper and wider the better. Length cheapens the proposition in the way of reducing the administration expenses, gives the proposition a general endorsement and favorably affects the price of land.

Many Plans Advocated

As I am not an engineer and do not pretend to furnish a plan of drainage, I must write as one farmer to another. The profits of agriculture must be increased, so let us agree that economic changes must come about rapidly. It is as clear today to the thinking farmer as it is to the statesman. The farmer who today enjoys a clear reflector is interested in the how to reduce the cost of production; the loss resulting from bad seasons must be reduced to the minimum by the intelligent control of the natural elements. One of the first moves—I say the "first," because all depends upon the soil—is to put the land in condition to yield that crop for which it is best constituted by nature. To strengthen our argument, let us picture to ourselves eighty acres of land lying on Salt River bottom. The history of this eighty acres might answer for four million similar acres that are now producing aqueous plants instead of corn and wheat, which require a certain condition of environment.

Now, if these conditions are not under human control this pattern of eighty acre and its four million similar acres must forever be idle, its best offices to furnish water for the tadpole and low brush for the whippoorwill. Corn does not thrive on this land in its natural state, even though you plant it in an apparently dry condition. Should it sprout it perishes under a warm and cherishing sun. What is wrong? Temperature. Corn and wheat, to thrive, must have a tempeature conducive to growth. There is a minimum temperature at which all growth ceases, no matter how favorable other conditions might be. Every plant is adapted by habit to certain degrees of warmth; any condition of the soil that tends to lower the temperature naturally retards growth.

Opposition and Assets

In endeavoring to promote a ditch scheme, every agency and mite must be considered. In our recent experience of promoting the Valley Drainage District we found the opposition really an asset. At first, this was hard for us to realize. The opposition was composed of an obstinate minority. They employed a first-class attorney whose business of course was to knock out the whole scheme. This hindrance to the cause brought out the more silent features, some very dangerous points, but we recognized and realized from the very force itself that it made us more careful during the administration period. They also employed a competent engineer. This made our engineer careful and there were no mistakes made. In their case you might compare the pull-backs with the wind that pushes against the sails of a ship or the stiff atmosphere that holds a kite in the air. In this case the opposition acted as a safety, a ballast to keep the crowd that was for it closer to earth. The promoters of the ditch scheme are never blind to the facts brought out by the opposition. This is why, perhaps, we completed the best ditch ever dug in Missouri, considering size. And what made the opposition doubly profitable was the fact that they paid their own lawyer and furnished us with some of the finest points gratis.

Today we have the ditch and are enjoying all its benefits, while the losers paid out their money and have nothing to show for it. This is usually the way the world over. The opposing retrograde crowd usually loses on the principle that "The world does not move." The fact that they lose, puts them in for all the cost. The progressive crowd receives all the benefit and all the information they gather up also comes to the progressives as a rare and precious gift. It is puzzling to think that a class of apparently good neighbors and citizens will fight business. It is hard to think that we still have with us a class that scoffs at the student farmer, but there is a class that is still sticking to the advice of the ignorant, who, by following, has brought them to red and barren soil and to calamities unnumbered.

With all our opportunities for learning the easier and better way, there is a class that still holds to the old opinion. That habit of mind seems to be their dearest object of affection. Holding on to prejudices that have been discarded by even a lower strata of civilization and entertaining a notion that if things cannot be done their way of thinking, nothing new can be accomplished. Their idea, "To be old is to be wise" and that all improvements are dangerous and their self-satisfaction that their knowledge is complete. While other states are forging ahead and redeeming waste lands, the practice considered by them a violaton of nature, unwilling to notice passing events, proud of being rooted to one place and vain of the fact that they have been able up to this time to sidetrack and elbow the rights and privileges of other people by hindering natural growth.

Henry Funk, Knox County.

OLEOMARGARINE FRAUDS

If it were not for the fact that there is so much profit in selling oleomargarine for butter the manufacturers would not find so many ways of violating the law. The Secretary of the Treasury reports that the fraudulent sale of colored oleomargarine by five manufacutrers has defrauded the Government out of more than $19,000,000 in six years. Under the law manufacturers pay one-fourth of a cent a pound for uncolored oleomargarine and 10 cents a pound for that colored yellow like butter. These men had bought the stamps for the uncolored and placed them on the colored goods.

It is now proposed by the National Dairy Union that Congress should pass a law forbidding the coloring of oleomargarine above a standard of 70 per cent white, except that any one may color it as they like for their own family use.

"The bill introduced provides that the name of oleomargarine shall be changed to margarine, that it shall be sold in ½, 1 or 5 pound packages properly marked, wrapped and branded, that books shall be kept in such form as is perscribed and open to inspection, that a strip stamp shall be wrapped around each wrapper instead of the coupon stamp now used, for a flat tax of 1 cent per pound on all margarine, for special taxes on manufacturers, wholesalers and retailers, that the sale of margarine shall be subject to the laws of the state and shall not be exempt therefrom by reason of being introduced in the original packages or otherwise, and for heavy penalties for violations of the law."

GET SOME BEES!

Have you bees?

Why waste a honey crop?

Why let your neighbor's bees get your crop?

Buy bees by the pound with a good Italian queen.

Get a few swarms of your own this spring or summer.

Catch runaway swarms during May and June and hive them in good hives.

Transfer swarms and comb from bee-trees to movable frame hives on warm days early in May.

Buy neglected stands of bees and take care of them and give them a chance. The bee is a faithful and deserving creature.

Furnish a neighbor bee-keeper with a few hives, with frames and comb foundation starters and pay him for hiving a few swarms in them for you.

Buy good strong colonies of bees in hives with straight combs. These should be secured from some one known to be reliable and experienced in bee-keeping.

Buy a few nuclei from a reliable bee-supply man. A nucleus is a part of a colony of bees secured by dividing up a strong colony into two, three or four parts, putting each part in a separate hive to build up into a full colony.

Full directions for taking care of bees and for getting a few swarms for a start by these and other methods are included in a bulletin on Farm Bee Keeping by L. Haseman of the Missouri College of Agriculture, and E. E. Tyler, President of the Missouri Agricultural Society. It can be secured by addressing the Agricultural Experiment Station, Columbia, Missouri.

NATIONAL EGG LAYING CONTEST

The contest made a good record in March. The highest record in 1912 was in April, all hens averaging approximately 19 eggs each. During 1913, the highest month's record was in April, with an average of 18.5 eggs each; 1914, the highest month's record was in March, of 18.5 eggs each; 1914, the highest months record was in March, with an average of 20.5 eggs each; 1915, the highest month's record was in March, with an average of 20 eggs each, and during March, 1916, 520 hens laid 10,756 eggs, or approximately 30.7 eggs each.

One point which is very noticeable is the equal record made by many hens. Pen 11, S. C. White Leghorns, all five hens laid 22 eggs each during the month.

It has been noted many times that the hen which produces more than 20 eggs in one month usually makes a good record for the year. One hundred forty-two hens in the contest produced 24 or more eggs during March while only 50 produced 12 or less. This would indicate that a number of hens should make good records during the year.

Hen 1 in pen 74, White Plymouth Rock, laid 31 eggs during March, which is an unusually long cycle.

Pen 82, Black Orpingtons, Indiana, won the cup for March by laying 136 eggs.

The pens making the five highes records for March are as follows:

Pen 82 Black Orpingtons, Indiana .....136 eggs
Pen 73 White Plymouth Rocks, N. Dakota, ...130 eggs
Pen 74 White Plymouth Rocks, Missouri, ...130 eggs
Pen 83 Black Orpingtons, Missouri, ...129 eggs
Pen 30 S. C. White Leghorns, Missouri, ...128 eggs
Pen 56 S. C. Reds, Iowa.....127 eggs
Pen 75 White Plymouth Rocks, Washington, ...127 eggs

C. T. Patterson, Director,
Missouri State Poultry Experiment Station, Mountain Grove, Mo.

The Sixth National Egg Laying Contest to begin November 1, 1916, and continue for one year, will be held on the same grounds as the contest now in progress. The contest will be composed of sixty pens, three pens of each variety, the first three applications received at the Experiment Station in each variety being the ones accepted. Each pen is to be composed of five pullets and one substitute, no males to be used in the pens. Complete rules governing the contest will be ready for distribution in the near future.

A New Director at Mountain Grove

The poultry readers of The Missouri Farmer who have become so well acquainted with Professor C. T. Patterson, formerly Pathologist of the Missouri Poultry Experiment Station at Mountain Grove, through the splendid articles he has written for publication, will be pleased to learn that the governing board has elected Professor Patterson, director of the station. The Missouri Poultry Experiment Station has attracted nation-wide publicity under the directorship of T. E. Quisenberry who recently resigned and we have no doubt that Professor Patterson will not be able to go right on with the further development of the station.

While the poultry business does not look large to the individual, in the aggregate it is one of Missouri's important industries for the annual receipts from poultry and eggs amount to more than $50,000,000, most of the family expenses in a great many homes are paid out of the poultry account.

Swat the Rooster and Increase Your Profits

Swat the Rooster on May 20th and sell infertile eggs during the summer. It insures greater profits to the producer, the dealer can handle them on a smaller margin, and the consumer gets better eggs to use which increases the demand.

The presence of male birds in the flock does not increase egg production but from two to three percent of the females are injured by the males which lowers the egg yield from the entire flock.

Feeding the male birds after the breeding season is a useless expense. Many produce dealers pay more for roosters on Swat the Rooster Day in order to encourage their sale.

If an egg contains the fertilizing germ proper heat is the principal factor which will cause the germ to grow. The summer temperature will cause the germ to develop and if it is chilled or killed in any way, it is the point where decomposition begins. If there is no germ in the egg there is no point for decomposition to set in except from an outside source. Therefore, infertile eggs are more satisfactory for all concerned.

It should not be understood that infertile eggs should be kept longer or cared for improperly for that would mean no improvement over old methods. Inferior eggs should be marketed just as often and cared for just as carefully as fertile eggs which will insure an improved product going on to the market.

All eggs should be sold on the loss-off basis; i. e., all eggs should be candled and only the good eggs paid for. It will be seen that ten dozen infertile eggs, all good, will bring more money than twelve dozen fertile eggs if three dozen are candled out, being bad.

If you have a valuable male bird which has proven to be a good breeder, don't sell him, but place him in a pen with half a dozen of the best hens and late hatching may be done from this pen.

Don't keep any males in the flock during the summer.

Will you try the new Grains, Feterita and Sudan Grass at our expense, with the Flower Garden, as shown above, thrown in for good measure? See our offer below.

Feterita, the new cereal. This new grain is proving itself to be of wonderful value in times of drouth. It will grow and mature a crop of seed in from 75 to 90 days time. One single seed will make a plant having from five to ten stalks and each stalk will grow a head of seed, the larger ones weighing about one pound. These heads of grain are easily gathered and stored and have a variety of valuable uses. Crush the grains and cook them and you have a nice breakfast cereal. The grain when ground into flour makes a very fair substitute for wheat flour. Feterita is very much like Kafir in chemical composition and of all its different uses perhaps the greatest is its value as a food for poultry. A small field will grow enough seed for a good size flock of chickens and the fodder is readily eaten by horses and cattle. We want to send you a package of seed large enough to plant a 2 rod square patch of ground. This will give you a chance to try it as a breakfast cereal and enough to see what it will do as a poultry feed. If you like it you can save eough seed from this trial planting to plant a large acreage next year. See our offer below.

Sudan Grass. This wonderful new hay crop is succeeding in all parts of the country. It grows from seven to nine feet tall and stools out very thickly, a single seed producing a plant that will throw up from thirty to sixty stems. Sudan Grass does not lodge and go down after rain and wind storms as does millet and other grains. Horses, cattle and other stock like it and thrive on it in all stages, green or cured. A small patch will grow enough extra fine hay to provide for a horse and cow. The plant is an annual and dies root and branch in fall or after maturing a crop of seed. Usually makes from two to three cuttings of hay per season. Succeeds in dry season where most of other crops would be burned out.

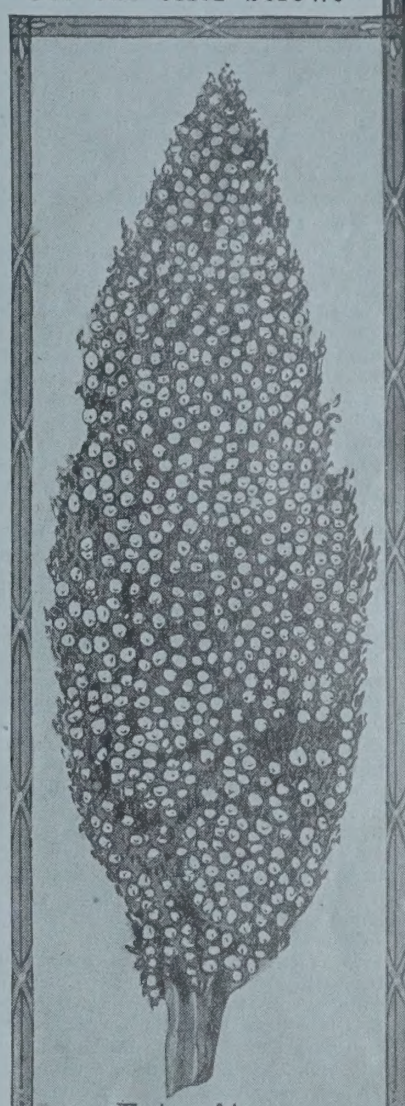
We want to send you a package of Sudan Grass seed sufficient to plant a 2 rod square patch of ground. From this trial patch you can raise enough seed to plant a large acreage another year. See our offer below.

Our Flower Garden. We always did admire a nice flower garden and in this special bed we have over 150 different varieties of our choicest annuals that will commence to bloom early in season and continue until stopped by frosts in fall. This flower bed will be a constant source of pleasure and delight to you as the different varieties come into bloom.

We want to send you a large package of seed, enough to plant a bed a rod long.

Our Offer.—Send us a dollar to renew your subschiption to The Missouri Farmer—or if your subscription is paid up send us a new subscription at three years for one dollar, when we will send you postpaid a package of Feterita sufficient to sow a two rod square patch of ground and a package of Sudan Grass sufficient for a bed a rod long. With the seeds will be full directions for sowing, etc., and from these plots you will derive enough seed to furnish you with a supply for future use. Cut out and mail the coupon to-day.

THE MISSOURI FARMER, - COLUMBIA, MO.



Gentlement:—For the inclosed Dollar please send The Missouri Farmer for three years and the FETERITA, SUDAN GRASS and FLOWER SEEDS as per your offer, to the name below.

Name _____

P. O. _____

R. F. D. _____ State _____

BROODING YOUNG TURKEYS

If the weather is warm and dry no shelter is required, as the poults do better in the open. Should it be rainy, however, they need to be protected, for nothing is more injurious than for them to become wet and chilled. The most satisfactory plan is to confine the mother turkey hen to a coop and allow the poults to run in and out whenever rain does not prevent. This coop should be placed in a field where they can run out and find grasshoppers, green vegetation, and other feed. The coop should be moved to fresh ground every day.

Improper feeding, combined with close confinement, has been the cause of many failures in turkey raising. Given free range on the average farm, the poults can easily pick up their own living, and one light feed a day for the purpose of inducing them to come in at night is sufficient. If the mother hen is confined to a coop and the poults allowed to run in and out, three times a day is often enough to feed and very little should be given at a time. The poults should always be ready to eat; if given all they will clean up several times a day, indigestion will be the result. If there is little or no feed outside the coop for the poults to pick up, then they should be fed about five times a day, feeding only a small quantity at a time. A good feed for the first few days is stale bread soaked in milk and squeezed dry. Corn bread crumbs and clabbered milk or cottage cheese is also quite often fed and with excellent results. Green feed and grit should be on hand at all times. As the poults grow older, the ration should gradually be changed to grain.

Lime for Preserving Eggs

Eggs laid during April and May are of better quality for preserving than are those laid later in the summer. One pound of air-slaked lime added to cooled, boiled water is equally as good a preservative for eggs as water glass. Only clean, fresh eggs with sound shells should be "put down." Use an earthen jar. Stir the lime thorughly into the water and drop the eggs in as gathered. Some lime settles to the bottom of the jar but does no harm. Two or three inches of the solution should cover the eggs to allow for evaporation. Keep in a cool place, preferably in a cellar. Eggs preserved by this method may be safely kept for eight months. When ready for use, remove only the eggs that are necessary.

The Cream Separator

The cream separator is now of as much importance to the man who keeps cows to milk as the binder is to the man who grows wheat. It has been found by numerous tests that about one-fourth more butter is made where the separator is used than where the old process of skimming by hand is practiced. The price of one cow will buy a separator and if a man is now milking only five cows he can make money by selling one of them and buying a separator because from the four he can get the same amount of cream and he will save the feed of one cow which is quite an item when grain is worth what it is now.

While a man can make it pay with four or five cows to buy a cream separator we do not think it advisable for any one to keep so few cows at least not longer than he can find the means to increase the number. The man who keeps cows at all for cream production will find it more profitable in every way to keep all that his farm will feed and his help will permit. A few cows will require the same close attention that a good herd will require and the profit per cow ought to be a little larger with the bigger herd.

Live Stock Notes

R. P. ROYCE, Fieldman

COMING SALES

ANGUS CATTLE

Aberdeen-Angus Ass'n Sale, St. Joseph, Mo., April 25.

Aberdeen-Angus Ass'n Sale, Omaha, Nebr., April 26.

Aberdeen-Angus Ass'n Sale, Sioux City, Iowa, April 27.

Aberdeen-Angus Breeders Sale, St. Louis, Mo., May 2.

E. H. Salisbury, Kirksville, Mo., May 26.

POLAND CHINA HOGS

Leonard McMullen, Sikeston, Mo., May 26.

Bruns & Son's Jerseys

Wm. H. Bruns & Son, Corcordia, Mo., are offering a number of Jersey bulls old enough for service that are sired by the great bull, The Owl's Champion 85990. The grand dam, on dams side, of this bull, Rubano's Fancy, holds a record of 21 lbs. 10 oz. of butter in 7 days. The prices on these young bulls are extremely reasonable.

Baker & Son's Poland China

W. A. Baker & Son, the well known Poland China breeders of Butler, Mo., advise us that their spring crop of pigs is by odds the best they have ever raised. This firm was one of the strongest buyers at the winter sales and consequently they will be able to offer the public a wide variety of bloodlines, all of the best. The pigs of their own raising will of course represent the blood of their winning boars and sows. It is not to early to get in correspondence with this firm and learn what they have to offer.

The Angus Breeder's Association Annual Bull Sales

Any of our readers who are in the market for an Angus bull can hardly afford to overlook the exceptional opportunity afforded by the four bull sales announced in our last issue, to be held at St. Joseph, Mo., April 25, Omaha, Nebr., April 26, Sioux City, Ia., April 27, and St. Louis, Mo., May 2. Over 260 bulls will be sold in these four sales and it should be of interest to know that after a careful survey of the available bulls now in the hands of breeders, the association announces that these 260 bulls are just about all that will be for sale. Every bull to be sold has been passed on by the association and buyers can feel sure that they will have a choice lot to pick from. This is the largest offering the Angus breeders have ever put up for sale and there are bound to be some rare bargains slip by. Any of our readers who are interested should send at once to Chas. Gray, Secy., 817 Exchange Ave., Chicago, for the catalog. Please remember that the advertiser and the publisher will appreciate having you mention where you saw the advertisement.

Snyder's Red Poll's

M. L. Snyder, Polo, Mo., is now offering several good young Red Polled bulls sired by Logan 13500, and by Knocker 28791. Mr. Snyder has been breeding Red Polls for over sixteen years and during that time has aimed to develope his herd along dual purpose lines. He selected this breed because he felt that it came nearer meeting his idea of the average farmers need than any other and he has always believed that what the farmer wanted was a combination of milk and beef. If interested in this breed Mr. Snyder would be glad to hear from you.

Williamson's Polands and Shorthorns

H. S. Williamson, Centralia, Mo., is prepared to take care of orders for either Poland Chinas of strictly big type breeding, or Shorthorns. The Oakwood herds have long been drawn on by Missouri farmers in search of breeding stock to improve their herds, and Mr. Williamson states that he has never had a better lot of stuff to offer buyers than will be found on his farm at the present time.

Among the bulls now ready for sale and old enough for service are several attractive youngsters that are being priced worth the money. These bulls are well bred, of good type and are reds, roans and whites. We feel sure that our readers will do well to investigate this offering before buying. In Poland Chinas, Mr. Williamson, offers most anything of either sex or age that the prospective buyer needs. Get his prices and kindly mention this paper when writing.

Taylor's Duroc's, the Champion Kind

Chas. L. Taylor, Olean, Mo., whose herd of Durocs is ranked among the best of the breed reports that his spring pigs are showing up in fine shape and that he will soon be ready to fill the orders of Missouri Farmer readers. No herd in Missouri has attracted more favorable attention or proven a greater claim to first place than the Col. Wonder herd. There is today more champion blood in this herd than any herd the writer is familiar with, and not only is this true, but it is the kind of blood that goes on and makes good.

Mr. Taylor will be glad to answer any questions our readers may ask concerning his herd and he will also be glad to advise in the selection of breeding stock —and we know of no man more capable of picking the right kind.

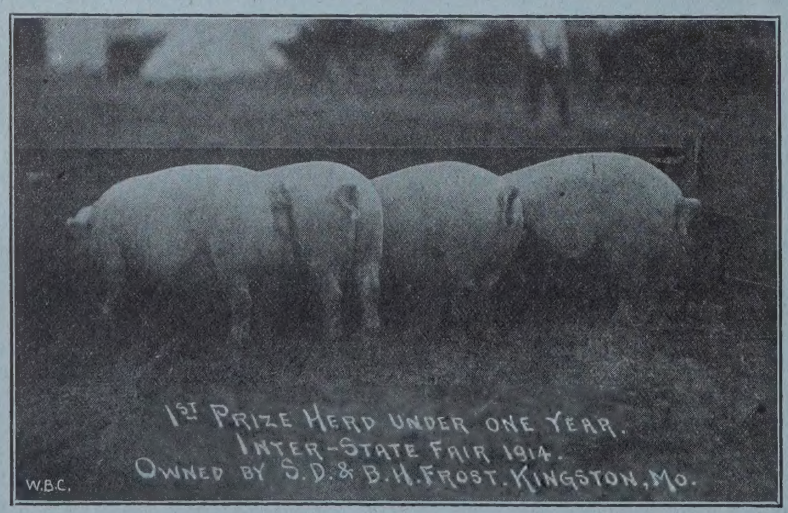
Black and White Farm Holsteins

E. M. Holbrook, owner of the Black and White herd of Holstein cattle advertised in this paper states that he now has a number of very desirable young bulls for sale. These bulls are strong, well marked youngsters and represent some very high producing strains. Mr. Holbrook will be glad to furnish pedigrees, records, and prices to any of our readers who are interested. Please mention this paper when you write.

Spring Grove O. I. C's

Our readers who are interested in O. I. C. hogs are referred to the well known firm of S. D. & B. H. Frost, Kingston, Mo., which appears elsewhere in this issue. This is one of the very oldest herds owned in Missouri having been established over thirty years ago by L. L. Frost, father of the present owners. From the very first the selections for the breding herd have been made from the best the herd afforded. A high standard was set with the first purchase and that standard has never been lowered. The fact is attested to by the long string of winnings the herd has to its credit. For years the herd competed at the best state fairs and in 1904 at the World's Fair at St. Louis, the Spring Grove herd came out with the highest honors. Natrually, with a herd so long established and handled by one firm a rather definite type has been fixed and a marked uniformity in the herd is very noticable.

The present crop of spring pigs are even better than the 1915 crop, and at the time the writer thought that bunch one of the most attractive lots he had seen. The litters, too, are larger this year,—



The Frost type of O. I. C's. One breed in one family for thirty years has served to fix the type.

POLAND CHINAS

Smooth Columbus
THE BOAR THAT PUT MISSOURI ON THE MAP. HEADS OUR HERD

SMOOTH COLUMBUS BLOOD has held the record in Missouri for two years—it will do it again next year. Fall pigs, either sex, by this great boar, now offered for sale.

BENNETT BROS. R. 5. LEE'S SUMMIT, MO.

Spring Boars by the Grand Champion

A desirable lot of early spring boars by The Giant, acknowledged to be one of the greatest young Poland China boars of the breed. Prices within reach of all.

WILL G. LOCKRIDGE - - - - - - - Fayette, Mo.

Poland Chinas & Shorthorns

Bred sows and gilts. The real big kind with bone and quality. A few serviceable boars. Several extra good young bulls and heifers. Satisfaction guaranteed.

H. S. Williamson, Route 6 Centralia, Mo.

BAKER'S REAL BIG-TYPE POLANDS

We have a number of extra good spring boars sired by Big Look that we are offering worth the money. Need the room and must sell.

W. A. BAKER & SONS, BUTLER, MO.

Linhardt's Polands

I have a choice lot of extra good fall gilts sired by outstanding boars. Customers in 26 states. GIANT MAMMOTH 68375 and CHIEF BIG BONE 75856 in service. Priced for farm trade.

H. O. LINHARDT, LOHMAN, MO.

DOOLEY'S SPOTTED POLANDS

Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pair and trios no relation. Also registry furnished. Send check with first letter.

EDGAR DOOLEY, - Ettervile, Mo.

DUROC JERSEYS

THE BEST DUROC BLOOD--COL. WONDER

At recent Missouri State Fair my herd won 35 ribbons—3 championships, 15 firsts. Col. Wonder sires my champions—he will sire them for you. Choice bred gilts. Nothing but the best sent on mail orders.

CHAS. L. TAYLOR - - - - - - Olean, Mo.

Durocs With Size and Bone

I am offering a choice lot of early spring pigs with unusual size, bone and quality. Bred right and priced right. Visitors welcome.

A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

50 DUROC BOARS

High Class Fall Boars, from the Big Type Herd of Mo. That produced All The First Prize Jr. Pigs at the Mo. State Fair 1915. Some rare opportunities. Sired by the great breeding boar, Unsell's Defender. From Americas most noted Duroc Sows. Make your selections early. Write today.

DR. J. B. UNSELL, - Louisiana, Mo.

Big Duroc Fall Gilts

We offer for sale our herd boar sired by Wellie's Example and out of a Whiskey & Faith sow. Also a few September boars. Booking orders for spring pigs.

R. L. (Bob) HILL, - Columbia, Mo.

Classified Advertising

BARRED PLYMOUTH ROCK EGGS for hatching, from extra choice, large farm raised stock. Deep clear barring, and free from smutty or brassy color. Big yellow legs and proper shape. Price of eggs, $1 per 15; $2.50 per 45; $5 per 100. M. D. PORTER, VANDALIA, MO.

FOR SALE—Pure Pearley's Mongol Soy Beans, $3.00 per bu. Sacks furnished. L. G. Snyder, LaMonte, Pettis Co., Mo.

WHITE ORPINGTONS—Eggs $3.00 per 15; utility eggs 80c per 15, $4.50 per 100. Otto W. Oetting, Concordia, Mo.

THOROUGHBRED S. C. REDS—Bred for eggs and standard points; deep red, healthy, fine males. Eggs 15 for 75c, 105 for $4.00. Mrs. Geo. Gerhart, Glensted, Mo. 3-1-5t

BARRED ROCKS—Eggs from big, vigorous stock that will give you some prize winners at $1.00 per setting. Exhibition mating, $2.50 per setting. Mrs. Wm. Heinman, Salisbury, Mo. 3-1-6t

S. C. BROWN LEGHORN EGGS—$1.50 for 30, $4.00 for 100. Also some fine stock. John H. Plassmeyer, Westphalia, Mo. 3-1-4t

R. C. R. I. REDS—Famous Kaufmann & Windheim strain; none better. Keep up with the best stock. Pen eggs $3.00 per setting; range $1.00 per 15; $5.00 per 100. Am booking orders. W. R. Elley, R 2, Columbia, Mo. 3-1-6t

EGGS—Thompson strain Barred Rocks. Eggs from pens, $3 for 15; farm range, $1 for 15; $5 per 100. Mrs. L. H. Elly, Columbia, Mo. Rt 2. Phone 36-B.

BARRED ROCK EGGS for hatching, $1 per 15; $3 per 50; $5 per 100. Winners at Springfield, Vandalia and Louisiana. F. M. Creamer, Louisiana, Mo.

R. C. RED and S. C. W. LEGHORN eggs, $1.00 per 15; $5.00 per 100. Mrs. J. W. Ezell, Houstonia, Mo.

BEE SUPPLIES of all kinds. Low prices; discount for early orders; catalog free. Rouse Co., Mexico Mo. 3t

BARRED PLYMOUTH ROCK EGGS—From A. No. 1 stock. The large, deep barred, yellow-legged kind. Price $5.00 per 100. T. J. Dunn, R-2, Moberly, Mo. t.f.

EGGS—White Rocks, $1 per 15; $5 per 100; Pekin duck, $1.50 per 12; $4 per 50; White Holland, or Emeden geese, write for prices. Grace Garnett, Marion, Mo.

INDIAN RUNNER DUCKS—White and Fawn Eggs, 15 for $1.00. Ruth Marksbury, Marshall Mo. 3-15-5t

S. C. ANCONAS—Send for mating list and photos of our Concordia, Jefferson City and Kansas City 1916 winners. Average 224 eggs. Dr. Ferdinand Schreiman, Concordia, Mo.

Hazelwood Durocs

Seventy choice spring boars and gilts sired by HAZELWOOD CHIEF, by CRIMSON COL., and out of OHIO CHIEF bred sows. Get our prices.

E. P. POWELL & SON, Maryville, Mo.

DUROC HERD BOAR!!

Soon old and big enough to breed; by Col. Wonder II., Rexell Col., and Beauty's Col. These gilts are priced so buyer can make money by using them for production of market hogs.

J. C. Garrard & Son, McBaine, Mo.

Duroc Gilts---Bred for Spring

I now offer a choice lot of big February and March gilts sired by GOLDEN TAT and bred to a grandson of COL. WONDER. Priced to sell. Extra size and bone.

J. E. McPherson, Columbia, Mo

HAMPSHIRES

BROOKVIEW HAMPSHIRES

Herd headed by GEN. TIPTON and SIR BROOKVIEW, both grand champions. Spring boars and gilts of choice breeding and individuality. Prices reasonable.

ISOM J. MARTIN, R 5 Lancaster, Mo.

RED POLLED

RED POLLED CATTLE

Herd established 16 Years

Young stock for sale. Young bulls sired by LOGAN 13500; Calves sired by KNOCKER 28791. Bred for milk and beef. Also offer spotted Poland China hogs and Rieds Yellow Dent seed corn.

M. L. SNYDER, - - POLO, MO.

AUCTIONEERS

THOMAS E. DEEM

AUCTIONEER

Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased Dependable service at a reasonable price. Address, Cameron, Mo.

PURE BRED WHITE ORPINGTON eggs—$1.00 for 15; $5.00 per 100. S. C. Smutz, Brunswick, Mo. 4-1-3t

BARRED ROCK EGGS — From very large hens mated with 11 lb. cockerels. Lots of quality. Eggs $1.00 per 15. Obadiah Prettyman, Fairfax, Mo.

JERSEY CATTLE

JERSEY CATTLE

Bulls ready for service. They are sired by the Owl's Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

JERSEY BULL CALVES

I have three extra fine ones for sale. Sired by Stockwells Champion. He has won 29 first and Champion ribbons at the leading State Fairs. Calves are out of very high producing cows. For breeding, etc., writ.

J. B. SMITH Platte City, Mo.

SUNSET JERSEYS--TRIO

Two fancy heifers (both bred) and a fine bull, all the the famous Blue Belle—Golden Rosebay breeding. I will sell this trio for $250. This price cannot be equalled anywhere for such stock. Send for circular, description of herd, production, etc.

The ENNIS STOCK AND DAIRY FARM, Horine Station, Mo. (Just south of St. Louis)

HOLSTEIN CATTLE

Dutchland Sir Hengerveld Rag Apple 99771

A few choice bull valves out of heay producing dams sired by the above famous bull for sale.

BLACK AND WHITE FARM
Baden Station, Mo.
Tel. Colfax 1812 R. R. 30

IN MISSOURI

Eight Bulls, 2 to 8 months, $100 to $175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.

S. W. COOKE & SON, MAYSVILLE, MO.

HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndye Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

M. E. MOORE & CO., Cameron, Mo.

HOLSTEINS

Bought for you on small commission. What do you want? Price low. Feed short.

H. T. Hook, Janesville, Wis.
(Formerly of Columbia, Mo.)

ANGUS CATTLE

Aberdeen-Angus

I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.

J. D. Blackwell - Fayette, Mo.

ANGUS CATTLE

Herd founded 1904

Young stock sired by Dean's Eric 139686. Also offer splendid herd bull for sale. Every one the right kind and priced to sell.

V. E. LAWRENCE, SALISBURY, MO.

Angus Bargains

Registered bulls and heifers. The market topping kind. Leading families represented. Priced worth the money and satisfaction guaranteed.

Also Poland China Hogs.

J. M. JONES, R. F. D. 3, EVERTON, MO.

100 EARLY O. I. C. SPRING PIGS

10 GOOD FALL GILTS

Guarantee and pedigree accompanies each sale. This herd has been exhibited at World's Fairs and State Fairs for years, so that most of our pigs have prize winners on both sides of their pedigrees. We can furnish pairs and trios, no kin. We are making bargain prices on early orders. Write us today. Address,

S. D. & B. H. FROST,
Box H. Kingston, Mo.

the first ten sows farrowed 110 pigs. Most of the pigs now offered are sired by a son of Gage's Leader 478630 O. I. C. the champion under a year boar at the Inter-State Fair, St. Joseph, Mo., 1914. At the Kansas State Fair, 1915, he was second in class and two weeks later, at the Missouri State Fair he defeated the boar that won over him at Topeka. Prctically all the pigs offered are rich in the blood of winners. All are immune and sold on a liberal guarantee.

We are always glad to recommend the herd to our readers because we feel certain that they will be pleased. In writing please mention this paper.

TO KEEP HOGS WELL

The loss from cholera and from carelessness in feeding and handling pigs up to weaning amounts to a total tax of $1.00 per hundred pounds live weight on all the hogs marketed in the United States. Much of this loss can be avoided.

The selection of breeding hogs with strong constitutions forestalls a large proportion of ordinary losses. Strong lungs, heart, liver, kidneys, stomach and intestines are as necessary as good shoulders, loin and hams. Strong vitality is indicated by a well arched back, deep, well-sprung ribs, the body thick through the heart and broad between the fore legs and the animal standing well up on its toes. Avoid breeding animals that are sway-backed, that drop behind the shoulders, are narrow through the heart and between the fore legs and have weak pasterns.

To secure vigor and health, the sow, as soon as bred, must be fed flesh and blood-making feeds and mineral matter to develop fully the unborn pigs. The growing pigs must have muscle and bone-making feeds, healthful surroundings and plenty of exercise. There must be an ample supply of pure water, comfortable shelter and freedom from lice and worms.

Men who select, breed and feed their hogs for strong vitality do not have 25 per cent of the loss from disease as do the average farmers who raise hogs carelessly.

Lice

Whenever a pig has good feed, water and surroundings and is unthrifty, look for lice. Much of the loss laid to cholera, worms and mysterious diseases is caused by lice. Oil is the destroyer of lice. Crude oil is the cheapest; kerosene is dangerous.

Oil may be applied with a rag where only one hog is to be treated. Automatic hog oilers are sold by hardware and implement dealers. Several short posts may be set in the hog yards and pastures. Wrap each post with several thicknesses of old sacks. Once a week soak the sacks with crude oil. A louse bites a pig, the pig rubs the spot on the oiled sack, the oil kills the louse.

A dipping vat may be filled with water which is covered with a thin film of crude oil. Lice will be kept in check if the pigs are run through the vat once a month. The most convenient way to keep pigs free from lice in hot weather is to furnish them a hog bath. They will rid themselves of lice when they have this bath.

Worms

Worms probably cause the greatest losses in hog raising next to cholera and poor feeding. The hog affected by worms deposits the eggs and the embryo worms with his droppings. These get in the dust and dirt in the feed lot, around the buildings and in the pasture, and are taken into other hogs' bodies with the feed. Eggs and worms are frequently washed into streams and ponds, and hogs take them in with their drinking water. The worms develop in the hog's body and feeding on it, make him unthrifty.

The best preventative of worms is clean feed lots and shelter, the daily cleaning of troughs and feeding floors and a frequent change of pasture. One great advantage of the portable hog house and the hog waterer attached to a barrel is that with these two aids, a change of feed lots and pasture can be made easily and cheaply.

The loss from worms is largely reduced by keeping soft coal always before the pigs. An effective remedy is santonin. Use an ounce for each 5,000 pounds live weight of swine, 50 hogs weighing 100 pounds each. Mix it thoroughly with thick slop. Keep the pigs off feed from night until the next noon, and then divide them into small lots so that every pig will get his sare.

There is a temporary shortage of santonin, due to the European war. Fairly good results may be secured by using as a substitute one teaspoonful of turpentine for each 80 pounds live weight of pig, putting the turpentine in milk. The pigs should be allowed to become hungry and should be divided into small lots, the same as when giving santonin.

Water Supply

Hogs need a supply of fresh, clean water where they can drink it as often as they become the least bit thirsty. They thrive much better when drinking small quantities of water frequently than when forced to go a considerable time without water and then consume large amounts. Dirty water hurts digestion and is one of the chief carriers of disease. On most farms the returns from the feed are greatly lessened because the hogs do not have an abundant supply of clean water so close to them that they will drink often. Gains are cut down quicker by an under-supply of water than by too little feed.

A convenient way to furnish clean water is to use an atuomatic hog waterer that can be attached to a barrel or tank. These devices have small drinking pockets just outside the barrel and when a hog drinks out of one of these pockets, fresh water flows into it from the barrel. The barrel may be mounted on a sled, be filled every day and taken to any field where there are hogs. As long as there is any water in the barrel the hogs will have a clean drink, and each field will be as well supplied with water as though there was a good well in it. These automatic waterers cost $2.00 or less each, and every farmer in the corn belt should have a sufficient number to supply the needs of his hogs.

It is not safe to water hogs from a running stream, as the stream is likely to carry disease.

The Hog Bath

The hog bath is the cheapest device for keeping hogs free from lice, and their skin and hair in good condition. Make it of concrete, 16 inches deep, 8 feet wide and from 10 feet up in length, long enough to hold at one time one-fourth of the hogs that run together. Slope the ends so that the hogs can easily walk into it. Fill it to a depth of 12 inches with water. Add a small quantity of crude oil. The oil will spread over all the surface of the water.

Hogs will bathe 6 to 12 times a day in this bath in hot weather. The oil will kill the lice and make the skin and hair glossy and healthy. Put a 4-inch drain in one corner of the bath, stopping the opening with a soft wood plug, wrapped in an old sack. Once a week drain and clean the bath and refill it.—H. M. Cottrell, Tennessee Bureau of Farm Development.

TEST YOUR SEED CORN

"Testing seed corn is always a wise precatuion," said Mr. Carl Vrooman, Assistant Secretary of Agriculture, "but this year it is a necessary one. Every farmer should test his seed this spring by the individual ear test. No matter how much confidence you have in the man you buy seed from, make a test and know for yourself that the seed is good. If the seed is not good, you can get some other that is.

"A number of seed men who have well constructed seed houses report that they find the early picked seed tests very satisfactorily, but the seed picked later, even if properly dried, is very unsatisfactory. One test in Northeastern Nebraska showed 90 per cent of the early field-picked seed to be good while only 68 per cent of the crib-selected seed germinated. In many sections of Northern Iowa and Illinois the percentage of good seed is much lower, even when the seed was picked before frost and properly dried, while seed picked from the wagon at husking time, or fro m the crib is practically worthless as seed. One reason for this is that many farmers in this section are raising corn of a very large variety which requires a full growing season, and this corn did not ripen before the early frosts.

"Under these circumstances, testing each ear is simply good insurance. One ear of corn will produce about five bushels—if all the grains grow. With corn at 60 cents a bushel, planting a dead ear or an ear that will produce only weak unproductive stalks, means a loss of $3. If you catch only one bad ear, your testing has paid you a good day's wages. If you catch the average number, you've saved a week's pay in a winter afternoon."

Fair Appropriations for Shorthorns

The extent of appropriations for 1916 which the American Shorthorn Breeders' Association has made for the state and district fairs and expositions in all parts of the United States should lead to an increase in the entries. The aggregate appropriation is far in excess of any previous amount set aside for this purpose. At fifteen of the principle state fairs, the Association offers $1 for every $2 offered by the fair association up to $750 offered by the Shorthorn society. At 27 interstate and district fairs the same ratio is maintained up to a maximum of $500. The aggregate offered at the International, American Royal and the Pacific International (Portland) is $12,500. In the futurity calf classes alone at the Iowa and Ohio state fairs, the American Royal and the International $7000 is guaranteed by the Association.

In addition to these awards, silver trophies are offered at a number of the fairs and shows to breeders who have not previously shown at the state fair or national show. The Association will also cooperate in a material way with district and state breeders association holding shows in connection with public Shorthorn sales.

The plan worked out by the Association offers an inducement to beginners and small breeders to enter the shows. It is designed not only to stimulate the efforts of every breeder to attain a higher standard of Shorthorns, but to safeguard the venture as well.

Nations Mortgaged to Pay War's Cost

"The national debts of England, France and Germany are now equal to from one-tenth to one-sixth of the total wealth of these nations, and the interest charges on the debts are appreciable portions of the entire income of the nations," declared President C. R. Van Hise of the University of Wisconsin in an address at the convention of the National Association of Credit Men in Chicago last week.

The national debts of the three countries at the end of 1915, according to his figures, are: United Kingdom, $10,419,000,000; Germany, $7,275,000,000; France, $10,514,000,000. The annual interest charge upon these debts is about as follows: United Kingdom, $521,000,000; Germany, $364,000,000; France, $526,000,000. The total wealth and incomes of the nations are about as follows: United Kingdom, wealth, ninety billion, income twelve and a quarter billion; Germany, wealth, eighty billion, income ten and a half billion; France, wealth, sixty-five billion, income seven and a half billion.

"The magnitude of these debts will be appreciated when it is recalled that the debt of the United States after the civil war, at that time the most colossal debt of any nation, was $2,758,000,000."

These unexampled debts and the industrial and regulatory measures which have accompanied the war will result, Dr. Van Hise declared, in a social transformation in Europe following the war at a speed never before approached.

What Our Readers Say

Samuel Yos, Sullivan County: "Our school districts are beginning to organize and soon we expect to organize Sullivan County. Please send me a lot more literature and a lot of sample copies. Your paper is doing the work."

H. A. Christianson, Laclede County: "Please send Farm Club literature. Have carefully studied your plan of organizing farmers and agree with you. It seems to me it would be wise to establish one packing house in the state strong enough financially to withstand the battle—and for me, I am ready to take shares."

SILAGE FOR HORSES

In planting corn and building silos this year probably more farmers than ever before are providing a silage supply for horses. The old feeling that silage was good for dairy cows only was long discarded, but the horse is perhaps the last more important animal on the farm to prove that it could make good use of silage. While especial care must be taken not to use moldy or other inferior silage or to depend too eclusively on silage, the recent tests of the Missouri Agricultural Experiment Station and long experience of a few farmers and horsemen, indicate that cost of up-keep can be reduced and a horse kept in better condition if from 5 to 25 pounds of silage are fed per day. Of course, the possibility of saving depends on the conditions and prices of other feeds and the amount to be fed depends upon the same things and upon the size of the horse and the amount of silage he will eat. Different horses of the same size vary on this point.

In the tests at the Missouri Experiment Station, silage was fed as part of the ration during the last two winters with favorable results, except in case of one three-year-old Percheron mare which refused the silage at first, then ate it when her feed was reduced, but soon after had to be taken out of the experiment because of distemper and indigestion. The horses that received silage were more thrifty, and their coats were in better condition, and cost less to feed than those which were fed non-silage rations.

One of the breeders, with whom the college has kept in touch, has been feeding silage to about 100 draft horses for twenty-five years without any sickness which he thinks could be directly charged to silage. During the breeding season he feeds silage to the mares as usual but gives none to the stallion, because he had difficulty in getting the mares in foal when the stallion was fed on silage. At other times he feeds eight pounds of silage at each of the three feeds per day to his aged stallions in addition to some hay and grain. His two-year-old stallions get 20 pounds of silage a day, and the yearlings about 15 pounds in addition to some hay and grain, while the mares with foals at side receive 20 pounds. At weaning time this amount is divided and about 15 pounds is given to the mare and 5 pounds to the colt, which is given more as it grows and becomes accustomed to this feed until at a year old he is getting 15 pounds of silage a day.

One importing firm has fed silage for five years following about the methods just outlined and reports excellent results and a reduction in the need for veterinary services.

Some of the horsemen who have fed inferior silage have not had such uniformly good results, but it is a poor plan to give a horse moldy or rotten food of any kind. Silage that has been frozen or that was made from immature corn is regarded with suspicion. Some owners have thought that their horses had died as a result of being fed such silage, and while the Station has not been able to learn definitely that silage was the cause of death in these cases or find out exactly how the supposed poison acted, it is well to take every precaution.

As silage is low in dry matter and the horse has not sufficient digestive capacity to live entirely on such bulky feed, it is important to remember to use alfalfa, cowpeas, or other legume hay, or perhaps even a little grain for horses that are not at work, while growing horses, or horses at light work should certainly have grain.

—E. H. Hughes, Missouri Agricultural College.

Col. P. M. Gross—Successful Live Stock Auctioneer

In another column on this page Col. P. M. Gross the popular auctioneer of Macon, Mo., takes the opportunity to thank his many patrons who have made his first year in the pure bred live stock game, so successful.

Perhaps no man who has entered the ranks of the auctioneer has met with a more hearty reception than Col. Gross. For a number of years

Col. Gross sold horses on the St. Louis market and his work there attracted so much attention that his services were engaged for the Chicago and St. Joseph markets and for a considerabl time he sold two days each week on the three markets. Naturally such a schedule was entirely too strenuous even for a man put up along the massive lines of the Colonel, and when his many friends began asking and insisting that he conduct their public sales, he decided to give up his market connections and devote his entire time to the public sale business. Many friends predicted that the Colonel was making a grave mistake, but a glance at his first years business shows a total of 87 sales, and in addition, Col. Gross sold all the fat and feeder cattle and hogs that were sold at the St. Joseph Kansas City and Denver live stock shows.

Whenever any man makes a marked success in any line we are prone to ask the reason. To begin with, Col. Gross is a natural auctioneer—by that we do not mean that he could do nothing else, but that he is better fitted for an auctioneer than for any other line. Auctioneers like poets, are born—not made, and after seeing Col. Gross conduct a sale one finds it hard to imagine him in any other work. A powerful physique, commanding presence, a pleasing personality, and a keen judge of human nature, coupled with wide experience gained in the hardest school in the world—the horse market, a student of values with few equals, are perhaps the most apparent reasons for Col. Gross' success.

It will be noticed in the advertisement that about one-half of the available dates for the coming season are taken and in view of this fact it will be to the interest of any of our readers contemplating holding a public sale to communicate with Col. Gross as soon as possible.

"Worse Than Cholera"

Scours in pigs is declared by one of Nebraska's prominent hog raisers to be more destructive to the swine industry of the state than hog cholera. The causes are overfeeding, change in feed, decayed feed, lack of exercise, or dirty water. Sometimes filth in pens and bedding is an additional cause when it is taken into the pig's system from the sow's udder or from the navel. The College of Agriculture says that the correction of these conditions is the first measure to be adopted, and that in case scouring has started, the sow's feed should be cut down to a small amount of oats or bran. When the trouble is corrected, the ration should be increased fairly gradually. One great advantage of using metal or concrete feeding troughs is that they are so much easier kept clean and sanitary and in many instances the saving of young pigs from this source would more than pay, for the cost of the troughs. Changing the feeding place often and feeding the pigs on the grass is a good thing for the pigs and good for the land.

LOOK IT OVER

My First Year's Work in the Pure Bred Business

I want to thank my friends who gave me their sales in this my FIRST year in the PURE BRED BUSINESS. I quit selling horses on the ST. LOUIS MARKET Jan. 1915, where I had been for 9 years, (leaving a salary of $6,000.00 a year for two days work in each week), to take up the selling of PURE BRED LIVE STOCK. And aside from selling ALL the FAT AND FEEDER CATTLE AND HOGS that were sold at THE FAT STOCK SHOWS held at KANSAS CITY, ST. JOE, and DENVER, I sold for the following BREEDERS:

	Sales
H. L. Faulkner, Jamesport, Mo.	3
G. C. Roan, Laplata, Mo.	3
Henly Ranch, Stahl, Mo.	3
L. V. O'Keefe, Stilwell, Kan.	2
W. T. Hutchinson, Cleveland, Mo.	2
E. D. Moore, Columbia, Mo.	2
G. M. Scott, Rea, Mo.	2
Dr. C. E. Still, Kirksville, Mo.	2
H. C. McCann, Kirksville, Mo.	2
L. R. Wiley & Son, Emporia, Kan.	2
Wm. Romjue, Atlanta, Mo.	2
Missouri Saddle Horse Sales Co., Mexico, Mo.	2
Andrews Stock Farm, Lawson, Mo.	1
J. Gildow & Son, Jamesport, Mo.	1
Frank P. Boyd, Jamesport, Mo.	1
Sheley & Clatterbuck, New Bloomfield, Mo.	1
E. Limerick, Columbia, Mo.	1
W. J. Finley, Higginsville, Mo.	1
C. C. Boyd, Centralia, Mo.	1
Chas. Fritz, Gifford, Mo.	1
Si Utes, So. St. Joe, Mo.	1
Lou Sears, Callao, Mo.	1
G. Leathers, College Mound, Mo.	1
J. Waddell & Son, Brashear, Mo.	1
Ferd. Jose, Ethel, Mo.	1
Geo. Williams & Son, Elmer, Mo.	1
Halleck Bland, Centralia, Mo.	1
T. W. Craven, Macon, Mo.	1
Thompson Bros., Drakesville, Ia.	1
T. Rollison, Laplata, Mo.	1
H. F. Gluck, Laplata, Mo.	1
Geo. Lewis & Son, Stahl, Mo.	1
E. A. Linder, Kirksville, Mo.	1
W. S. Polly, Kirksville, Mo.	1
R. M. Bougerh, Carrie, Mo.	1
W. J. Sandry, Green Castle, Mo.	1

	Sales
Thorton Stock Farm, Bement, Ill.	1
J. B. Gurthe, Pattonsburg, Mo.	1
L. M. Monsees & Sons, Smithton, Mo.	1
Pete Summers, Callao, Mo.	1
W. J. Ingram, Kirksville, Mo.	1
C. A. Robinson, Kirksville, Mo.	1
S. J. Miller, Kirksville, Mo.	1
Otto Bros., Kirksville, Mo.	1
H. T. Hineman & Sons, Dighton, Kan.	1
Louis Alred, New Cambria, Mo.	1
Henry Koch, Edina, Mo.	1
Chas. Bowles, Hunnewell, Kan.	1
Frank Hubble, Macon, Mo.	1
E. W. Davis, Glenwood, Mo.	1
J. & E. Thompson, Laplata, Mo.	1
E. M. Gates Estate, Laplata, Mo.	1
Oscar Miles, Macon, Mo.	1
J. R. Rippey, Lancaster, Mo.	1
J. F. Gross, Laplata, Mo.	1
Lem Naylor, Laplata, Mo.	1
Thos. Grubb, Brookfield, Mo.	1
J. H. Croskey, Glenwood, Mo.	1
W. Z. Baker, Rich Hill, Mo.	1
T. C. Yard & Son, Laplata, Mo.	1
D. J. Hutchins, Sterling, Kan.	1
D. C. Holderman, Callao, Mo.	1
C. H. Early, Centralia, Mo.	1
Geo. J. Evans, Raymore, Mo.	1
B. J. Trowbridge, Macon, Mo.	1
Jas. E. Park, Cameron, Mo.	1
E. J. Loveridge, Laplata, Mo.	1
W. H. Roan Estate, Laplata, Mo.	1
A. J. Glenn, Macon, Mo.	1
S. T. Kimble, Macon, Mo.	1
W. J. Deirling, Queen City, Mo.	1
Clarence Dean, Weston, Mo.	1

I have my booking for the coming season about one-half filled. And to ALL INTERESTED PARTIES CONTEMPLATING SALES, I refer you to the above patrons. WRITE FOR A DATE. Yours Very Truly,

P. M. GROSS, Macon, Mo.

PRINCE ALBERT

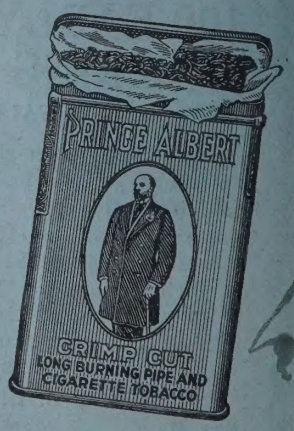
the national joy smoke

makes you want to fire up your old jimmy pipe!

Copyright 1916 by R. J. Reynolds Tobacco Co.

PRINCE ALBERT tobacco throws open the gates to *every* man fond of a pipe or a makin's cigarette—*it's so friendly!* Just makes smoke joy possible for all degrees of tender tongues and tastes! The patented process cuts out bite and parch! And you can't get better proof than the fact that Prince Albert is today smoked not only throughout the United States, *but all over the world!*

First thing you do next, locate that old jimmy pipe or the makin's papers; invest 5c or 10c for a supply of P. A. And fall to like you are on the right track. For Prince Albert is better than the kindest word we ever have said about it. And you'll find that's a fact!



You can buy Prince Albert everywhere in the toppy red bag, 5c; or the tidy red tin, 10c; in pound or half-pound tin humidors or in the handsome crystal-glass pound humidor with sponge-moistener top that keeps P. A. fit-as-a-thoroughbred!

On the reverse side of this tidy red tin you will read: "Process Patented July 30th, 1907," which has made *three* men smoke pipes where *one* smoked before!

R. J. REYNOLDS TOBACCO CO., Winston-Salem, N. C.

University of Illinois

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE MISSOURI FARMER

COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE AND THE MISSOURI EXPERIMENTAL STATION

Day Dreams

There is no season of the year so full of promise and inspiration as the Spring time when every tiny blade of grass and every budding flower proclaim that there is in truth a Resurrection and that the victory of the bleak days of November is only temporary—that sometime, somewhere there will sound a trumpet blast which will call to life again the smiles and laughter which made the whole World glad in the shrouded yesterdays—that sometime, somewhere there will be a Spring time when all of us will be young once more and when once again we will join hands and sing "King William was King Jamese's son" as in those sweet lilac scented days of old when youth danced in every eye, when every hour was golden and when the whole World seemed glad—so glad! It is in this glorious Spring time that sweet throated birds send up their joyous melody from every hedge and fragrant wildwood and when the little wild things of the forest frisk and play unafraid—when the quail calls in love notes to its mate and when the thoughts and hearts of men linger close to the foot of the Cross—when we realize that somehow we are in truth "our brother's keeper"—when all nature sings "Come play with me" and everything breaths of love and hope and tenderness.

These are the days when the farmer boy dreams "Day Dreams" and when, as he plods across the fields, he plans the great things he hopes to accomplish in the years to come when he shall have assumed a man's responsibility among the affairs of men. I've been there my boy and I envy you—and envying you I say "dream on!"—for out of the day dreams of farmer boys in years gone by have come some of the most splendid and beautiful realities the World has ever known. Rear your castles until they touch the foamy clouds that drift like ice bergs through the azure depths above—and then, as the years roll on, try to make the structure as firm as the everlasting hills that lift their heads on yonder heights through the shimmering rays of the noon day sun. Possibly time will crumble them somewhat. Possibly there will be fewer turrets as the man's calmer vision takes the place of the vision of boyhood. Perhaps no courtiers will do you homage and there may be no heralds to announce your coming on the great day as you see it now. Possibly they will not lower the draw bridges as, in fancy's eye you sit like a plumed knight upon a prancing charger and shout commands. But, at any rate my boy you will be the richer and stronger for having dreamed—and who knows—who knows but the dreams may come true?

Plodding behind the plow or cultivator today is many an humble farmer boy who is destined to play a big man's part in the affairs of men. Whether he shall be the proud master of fine flocks and herds—and more worthy ambition there is none—or whether his hand shall guide the ship of state, direct great industrial enterprises or write or paint an immortal thing—these are secrets hidden away in the vaults of the future and time alone can unlock them. But remember my boy that the world's eye is upon you and that its future masters will be chosen from among your ranks—for destiny loves to lead the humble to seats of power and rarely ever knocks at the door of those who bask in affluence and luxury. Thus it found little barefooted and motherless Abraham Lincoln playing around a little log cabin in the backwoods of Kentucky and even so the kindly stars watched over James A. Garfield as he rode an old tow boat mule up in Ohio and helped earn a living for his widowed mother. Thus it smiled upon Thomas A. Edison whose genius shines around the world. So dream on boy!—but turn an even furrow as you go, for in building air castles as well as material things, everything depends on the foundation. Despite what others say the world is very beautiful and filled to overflowing with opportunity for those whose hearts and minds are clean and who do well the humble tasks of today to the end that they may become the stronger for those of tomorrow. Some day—who knows—your dream of today may stand before you a splendid, living realization.

—By the Author of After-Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VIII MAY 1, 1916 NO. 9

WILLIAM HIRTH
PUBLISHER

1916 Model

The Bent Player-Piano

The wonder instrument of the year, which transforms toil-worn hands into skilled fingers—which brings music into homes that never knew music before—which goes to all parts of the world. All who play it are amazed.

The entire equipment (hammers, etc.) are selected to withstand just such usage as a player receives, and is in accordance with the latest and best ideas in scientific player-piano construction. A visit to the big Geo. P. Bent factory will convince you that this instrument is the result of careful planning and skillful workmanship.

Your old piano taken in exchange at a liberal allowance. Estimates furnished FREE upon request and without obligation. Learn more about this wonderful instrument which brings pleasure and happiness into your home.

Free—Valuable Booklets. Send for our booklets which explain piano value, also what to look for in the selection of an instrument for your home. These booklets contain real piano information and guided by them you are sure to select a good piano. They are FREE for the asking. Mail coupon Today.

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Please send me without charge the booklets before which I have marked X.
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For Greatest Satisfaction Use
DOUBLE SERVICE Automobile Tires
Guaranteed 7,000 Miles Service
Absolutely Punctureproof

Double Service Tires are made double the thickness of the best standard make tires.

This 100% greater wearing surface naturally gives that much more mileage and service. The average of 12 miles of tough fabric and one inch surface tread rubber makes these tires *absolutely punctureproof*.

These tires excel all others for use in the country over rough and rugged roads as well as on hard pavements. They are as easy riding and resilient as any other pneumatic tire—the air space and pressure being the same.

They are the *most economical* and "care free" tires made and are used where tires must be depended on and tire troubles cannot be tolerated. Many *Double Service* style tires are in use in the U. S. government and European War service.

Our output is limited to a certain amount, but for a short time we offer the following reduced special prices as an Introductory Offer:

PRICES

	Tires	Tubes		Tires	Tubes
30x3 in.	$ 8.60	$2.30	36x4 in.	$17.45	$4.65
30x3½ in.	10.85	3.10	35x4½ in.	21.20	5.60
32x3½ in.	12.75	3.20	36x4½ in.	22.50	5.75
33x4 in.	15.75	4.20	37x4½ in.	23.60	6.20
34x4 in.	16.70	4.35	37x5 in.	26.30	6.60

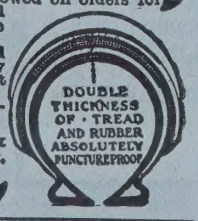
All other sizes not included in above list also furnished. Non-skids at 10% additional.

Terms: Payment with order at above special prices, a 10% discount allowed on orders for two or more tires. All personal checks must be certified.

Try these tires now and be convinced of their very high qualities. Sold direct to the consumer only.

Descriptive folder upon request. Write for it.

Double Service Tire & Rubber Co., Akron, O.
Dept. M T



Look over the advertisements in this issue and write for their catalogs and keep posted on the best implements. Mention The Missouri Farmer.

ABOUT THIS AND THAT

May-Time in Missouri

May-Time in Missouri—rich in duty and in beauty—the mystic month of the curious calendar of hopes and fears in the links of life throughout the years—such is Missouri in May-Time, the historic home of happiness and hospitality!

May-Days test and try both the souls and soles of men and manikins. What the season means depends so much on practicing what we preach—plowing not too wet, too shallow, nor too deep—seeding aright, farming with brain and brawn through a right rotation!—Jewell Mayes.

Land Prices Up—Fertility Down

Yes son, land prices are up, fertility is down, farm tenancy is on the increase. If you paid $20 an acre for your farm forty years ago, maybe it is worth on the market $100 an acre now and only two-thirds as fertile as forty years ago! Suppose it took you fifteen years to pay for it. If your boy farms just as well as you did, it will take him then just seventy-five years to pay for it. Or if he pays for it in the same time you did, he must make five blades of grass grow where you grew one, five ears of corn grow where you grew one, or he must (in other words) make five dollars clear profit for every one dollar clear profit you made. Do you think he can do it? Could you do it yourself?

Do you want to see the people own their farms, or would you prefer that they be tenants under a landlord system? If this would not suit your ideas would it not seem wise that you take every possible step to counteract this condition that is surely on the way at this time?

Do you know how best to combat the insect enemies that so badly menace our growing crops and take their toll of millions a year?

Do you know the history and life habits of our worst pests? If you do not, how would you combat them successfully? Do you know, by the way your crops behave, what sort of fertilizer your crops need? If not, what analysis of fertilizer would you use?

If you are not keeping up the fertility of your land, is it because you do not know how to do that? If your boy doesn't know how to rebuild the soil that you have run down by wrong methods, how do you expect he can make his crops increase enough to meet the increased price of land?—Sam Jordan.

SPECULATION AND UNTILLED ACREAGE

A report on file in the Office of Farm Management tells of delayed agricultural development along a certain railroad in a Western State. For a long distance the railroad traverses a belt of level and fertile but undeveloped prairie land. Less desirable land at a distance of 8 to 10 miles back from the railroad is quite well developed and producing fair crops. At first it seemed very strange that the most fertile and best located land should be the slowest to develop. Further investigation disclosed the fact that the undeveloped land was owned by speculators and held at prices that made its development practically prohibitive. In a more limited way these conditions are found in all the new agricultural sections. Land speculators have not only greatly inflated the prices of land but they are today holding a tremendous area out of production altogether. The unearned increment may eventually enrich the present owners, but to the general public these acres are all unprofitable. How to discourage excessive land speculation is a problem that is now puzzling many of the wisest men in our legislative essemblies. The solution of this problem would materially decrease one source of unprofitable acres in this country.

In the suburbs of nearly every city there is a considerable area of rich agricultural land that has been cut up into city lots and sold at prices that prevent its profitable use for agricultural purposes. Such land is held for speculation and for many years it may serve no useful purpose whatever. In fact, these vacant lots are often badly kept, unsightly, and a menace to the health of the community. It would undoubtedly have been better if this land could have been left in farms until such time as it may be needed for building purposes. The area of each lot is small, but the total area of such unprofitable land is very great.

How to prevent this misuse and waste of good agricultural land that is so well located is not an easy problem. Vacant city lots are being used to encourage vegetable gardening in connection with boys' and girls' club work. This undertaking is meeting with some success, but by far the greater part of such land can never be used in this way.

We hear much comment about the great profits that are sometimes made by holding idle land for rise in price. The cost of holding this land is usually overlooked. Taxes and a fair rate of interest on the investment take a big slice of the unearned increment, and often unimproved city property is actually held at a loss. Not infrequently the present owners and possibly the general public would have been the gainers if unused suburban lots had been left in farms. In dividing rich agricultural land into city lots the desire to get something for nothing has added materially to the total number of unprofitable acres.

A considerable perecentage of our unprofitable land doubtless never can be brought under successful cultivation by any methods now known. It is also true that the sudden advancement of all our arable land to a point where each farm would become 100 per cent efficient might seriously affect the business side of farming by lowering the prices of agricultural products. Yet as population increases all classes of people will undoubtedly be benefited if the rapidly rising price of farm products can be met at least in part by setting idle acres to work and by making unprofitable acres yield a satisfactory income.

To meet the growing demand for farm products we must farm more acres or make each acre produce more. Land not now in farms should be made into farms, and unimproved land now in farms should be improved, only in so far as this can be done profitably.—J. C. McDowell, Office of Farm Management, in U. S. Department of Agriculture Yearbook.

Why not get your neighbors together and talk ever the organization of a breeding club. Five men with 10 cows each can afford to buy a much better bull or boar by acting together and the expense of keep will be less.

BUY NOW! ONLY 30 DAYS MORE!

If you want to take advantage of my special 90-day proposition and buy Galloway Spreaders, Cream Separators or Gasoline Engines at the lowest prices they've ever been offered **you must act quickly.** 30 days are **all you have left.** May 31st is positively the last day. I repeat the offer briefly. For a **limited** time—until May 31st—I am making a special proposition to the first ten or more men in each township, as a **special advertising proposition.**

10,000 GALLOWAY ENGINES

Galloway engines are so far ahead of other engines that one invariably sells from two to six more in each neighborhood. For that reason I can afford to CUT THE PRICE of the FIRST TEN INTRODUCTORY ENGINES sold because of the great number THEY will sell. I'm doing the GREATEST ENGINE BUSINESS in the country. But I'm not satisfied. I want to treble it. I want to sell 10,000 ENGINES during the 90 days up to May 31st, and I have taken THIS WAY of doing it.

10,000 GALLOWAY SANITARY CREAM SEPARATORS

What I have said of my engines also applies to my Sanitary Cream Separators. YEAR BY YEAR my cream separator business has GROWN BY LEAPS AND BOUNDS. I've SAVED farmers MONEY and in return they've TOLD THEIR FRIENDS. Those friends have BOUGHT, SAVED MONEY and told their friends until my separator business has reached the point WHERE IT IS ENORMOUS. If you are not acquainted with the Galloway separator, send for my free catalog. Read it over. Then order one of these machines BEFORE MY 90-DAY OFFER EXPIRES.

10,000 GALLOWAY MANURE SPREADERS

I have also included my New No. 8 LOW DOWN Manure Spreader in this 90-day offer. Even at the regular price this spreader is WORTH $55 MORE than any other spreader made. Note these features: All-steel beater and V-Bar; positive roller feed; patented automatic push board; double chain drive; cut-under front trucks and pressed steel unbreakable tongue. It has no equal at any price. Order one on trial.

5 LIBERAL BUYING PLANS

I will sell on terms to suit you—all cash, half cash and half note, bank deposit, full note settlement or on the installment plan.

GET THIS BIG NEW 1916 FREE BOOK

In time to take advantage of our cut price offer. It tells all about Galloway engines, separators and manure spreaders. It shows why THEY ARE SUPERIOR to others and also how we can give you BETTER MERCHANDISE and still save you from 10 to 20 per cent, not only on farm machinery but on clothing and house furnishings as well.

THE WM. GALLOWAY CO. 597 Galloway Sta., Waterloo, Iowa

Bigger Crops Better Farms

Ditching and Terracing

MADE EASY. Bigger crops, better farms and better roads assured if you use the

Martin FARM DITCHER AND ROAD GRADER

10 days' trial
Money-back guarantee
Thousands in use
All Steel Lasts a Lifetime

Cuts V-shaped ditch to 4 feet deep. Builds levees; grades roads; cleans out old ditches and laterals. Cuts and works out dirt at same time. SIMPLE—PRACTICAL. No wheels or levers. Adjustable and reversible. Does work of big machines. Write for free book and introductory proposition.

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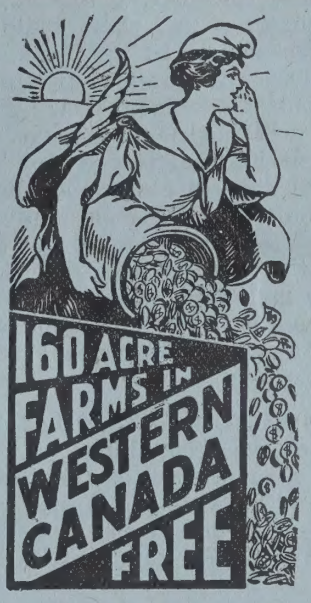

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The winnings of Western Canada at the Soil Product Exposition at Denver were easily made. The lis comprised Wheat, Oats, Barley and Grasses, the mos important being the prizes for Wheat and Oats an sweep stake on Alfalfa.

No less important than the splendid quality of West ern Canada's wheat and other grains, is the excellenc of the cattle fed and fattened on the grasses of tha country. A recent shipment of cattle to Chicago toppe the market in that city for quality and price.

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The Missouri Farmer

OLUME VIII | MAY 1, 1916 | NUMBER 9

Combatting The Packers' Combine

By Geo. B. Ellis, Managing Editor

The alarm that The Missouri Farmer ounded several months ago about the ctopus; "The Packers Combine," hich has been squeezing the very life ood out of the producers of meat ani- als has at last reached the halls of ongress and that great body is likely throw on the search light of investi- ation which will let us know just to hat extent the few great packers do prices and control the live stock arkets of this country. But after we et the facts what are we going to do out it? In the light of our past ex- eriences with great combinations of pital we can not hope for much re- ef unless the meat producers, great d small, stand together and try to lopt better economic methods in the lling and slaughtering of meat pro- cing animals. It is only by the loption of better methods that we n destroy the opportunity the pack- s now have to control prices.

Must Maintain Fair Competition

In the first place the State and Fed- al governments must pass iron clad ws that will shut out the unfair com- etition that big business like the andard Oil and the big packers have lopted in the past to kill off the com- etition of the small independent deal- s. Without such laws are enacted nd honestly enforced to the letter here can be no hope for the thousands f small cooperative or independent lants which otherwise would do a rge part of the business of killing nd selling meats.

A number of our readers have re- onded to the suggestion that the rmers of Missouri subscribe stock the amount of $2,000,000, to $5,000,- 00 for the inauguration of a farmers' operative packing house in one or ore of our great live stock markets nd while this plan is all right in eory it will take much time and ork on the part of some one to get e necessary capital subscribed. Then ter the capital is assured it will not an easy task to find the men of perience and necessary skill and siness acumen to handle the plant ccessfully. So while we are waiting r these larger ways of breaking the ckers' hold on the prices of our gs, sheep, cattle, poultry, eggs, but- r, etc., let us lend our influence and e our money and our votes to help the many smaller ways that are ssible to most every county in any the live stock states.

The City-Owned Plant

The plan we want to suggest as one the first steps farmers and the peo- e of our small cities should unite putting into operation is the co- erative or municipal abattoir and in is article we will confine our story the municipal plant only. We say e people of the cities should be in- rested because under the present or- er of things the consumer gets very ttle benefit from any lowering of prices of live stock and in order to get away from the grip of great combina- tions we must make our methods of distribution as short and simple as it is possible. Can any reader give an intelligent reason for the present methods of marketing our hogs and cattle? Why should the beef con- sumed in any of the towns of this state be sold to a local buyer who takes out commision No. 1; then the railroad takes out commission No. 2; the commission man gets No. 3; Stock Yards charges No. 4; Mr. Packer No. 5; traveling salesman No. 6; railroads, transportation back home No. 7; the drayman No. 8; and the retailer No. 9. A more expensive system of market- ing could hardly be devised and yet this is the route by which nearly all the meat consumed in our towns and cities travels from producer to con- sumer.

Old Style a Menace to Health

The old style country slaughter house was the most filthy, disease- breeding place imaginable and when the packers drove the local butchers out of business there was none to mourn the loss because it was thought the chief nuisance of the town had been abated. But when we see the cost of the new system we are won- dering if a better way could not have been found without paying so dearly for it. The better way is the muni- cipal abattoir where all the cattle, hogs and sheep needed to supply the local market can be slaughtered and cured under just as good sanitary conditions as are maintained in the largest plants.

As an example of what may be done by a municipal abattoir in a small way we will give an account of what has been accomplished at Paris, Texas a city of only 15,000 people where so far as we know the first municipal abattoir to be established in the United States was erected in 1909 and has since been successfully operated. The information upon which this story is based is furnished the writer by the Honorable Mayor of Paris, E. M. Mc- Cuistion, who may very appropriately be called the father of this idea in America. Mr. McCuistion has been mayor of his city for 10 years which shows that he is a progressive and public spirited statesman worthy of emulation by the officers of other cities.

What One City Has Done

Paris is much like the average city, situated in the cotton belt of Texas. Prior to 1909 there were a number of private slaughter houses, most of them poorly constructed, located on low, damp ground and usually the only water available was from stagnant pools or shallow wells. All the condi- tions under which the city's meat sup- ply was slaughtered were extremely unsanitary. First, efforts were made to induce the local butchers to com- bine and form a stock company to build and operate a modern plant un- der city inspection, but business rival- ries were stronger than the welfare of the city. Finally, the mayor desparing of bettering conditions any other way developed plans for a modern abattoir, cold storage and rendering plant. A bond issue of $10,000 was authorized by popular vote and the city promptly erected the plant which is shown in the accompanying picture.

The abattoir is located on one of the principal streets of the city, with dwelling houses on all sides and with- out any inconvenience or menace to health. The buildings are constructed of wood and corrugated iron except foundations and floors which are of concrete.

Immediately adjacent to the build- ings are stock pens, scales and run- ways for handling stock. The plant has facilities for handling about 50 head of cattle in a day of 10 hours and half as many hogs or sheep. For the year from July 1, 1913 to June 30, 1914, the plant killed 1881 cattle, 2053 hogs, 305 calves and 110 sheep. The charges for killing, including four days storage for cooling out the dress- ed meat are $1.25 a head for cattle, and 75 cents a head for hogs, sheep and calves up to 350 pounds live weight. This is about as low as the butchers could do the work themselves and then they have the services of an inspector and they know that they are handling only meat from healthy ani- mals. The carcasses are delivered to the meat shop which makes the most direct marketing system we could de- vise. Up to this time, killing has been done for butchers only, but it is now planned to enlarge the plant so that farmers may have the benefit of its advantages. When packing and can- ning facilities are added "the farmer can then bring in his hogs just as the butcher does now," says Mayor Mc- Cuistion. "We will slaughter and cure for him, he can carry back home the brains, liver, ribs and other fresh pieces he wants for home use or to sell to his own customers and also his lard. We can cure or can his meat in any style he wants it."

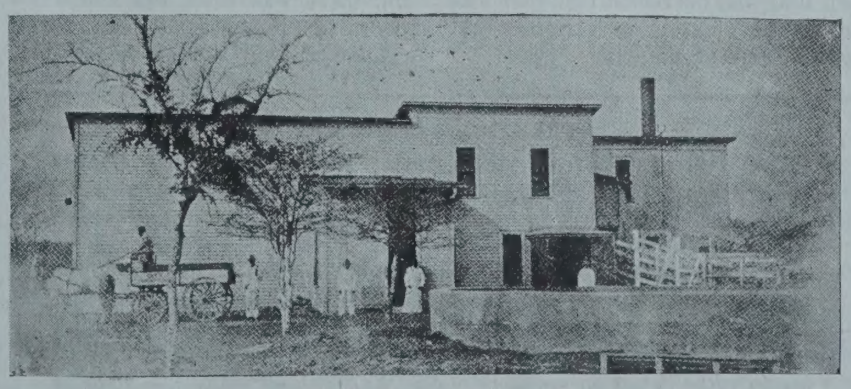
All Animals Are Inspected

A thorough system of inspection is maintained by the city, thus insuring the consuming public against the con- sumption of unwholesome meats. The cheif inspector is a graduate veterina- rian who has had a special course of instruction under skilled government inspectors. Two inspections are made, one before and one after slaughtering. The rules of inspection are the same as are used by the United States gov- ernment inspectors in the packing houses. If animals are rejected on live inspection, the owners are noti- fied and must take the animals from the pens. If the rejection is made in the killing room the carcass is "tanked and the owner is allowed what it is worth in tallow and tankage. The in- spector is the chief employee and must make daily reports to the City Secre- tary who keeps all accounts. The other employees are a city engineer, two slaughterers, one driver and one dead stock man.

The products of the reduction plant are tallow and tankage. The odors from the reduction plant which are not condensed and trapped into the sewers go under the fire-box of the boiler and are consumed there.

"We have never undertaken any en- terprise," says Mayor McCuistion, "which has commended itself to our people so strongly as our abattoir and reduction plant. When we undertook to vote bonds for it there was quite a good deal of opposition among our people. Both the plant and the plan were considered impractical and vis- ionary, but there is not now, so far as I know, a single dissenting voice, and our people appreciate it more than any improvement we have ever under- taken."

This may look like a small way to fight a big combination with millions of capital but suppose 50 of the best counties of Missouri would operate such a plant? And then if 20 of the best live stock states would do the same thing—1000 plants, each handling 2000 cattle and as many hogs—we would take from the packers and give to the local communities the profits on 400,000 cattle and hogs and restore just that much legitimate competition.



View of Municipal Abattoir, Paris Texas, built by the city at a cost of $10,000 and operated entirely under city supervision. The charges for slaughtering ani- mals including the cooling of the meat for four days are $1.25 a head for cattle and 75 cents a head for calves, sheep and hogs.

SOME COSTLY EXPERIENCE

The Missouri Farmer:

I regret to say there are too many of us farmers who are like that fellow who wrote he could get along without anybody's advice in running his farm. It has taken a long time to convince me that I have got to grow clover to keep up my farm and I have been farming almost thirty years on the old home farm. I have had a lot of experience and a living but that is about all.

I see you are giving the hog a prominent place in your most valuable paper and I want to relate some costly experience that may save some one else a loss from the same cause that I suffered. I thought I knew the hog business from A to Z but I am still learning.

Last week I had four sows three Red and one Poland, the four sows having 33 pigs. The pigs were a little over two months old, averaging around 50 pounds and were a fine lot indeed. They were just learning to eat shorts, oil meal and corn chops which I fed dry in a shallow trough. I fed milk slop also. There were with these another lot of 16, some weeks older which had fish-hook rings in their noses. They had a fine blue grass and white clover pasture of 25 acres with clear running water to drink. On Sunday morning, April 23, I turned them into a lot of ten acres just broken up this spring. I thought the change would be good for them as there was wild lettuce and blue grass all around the fences. About six o'clock Sunday afternoon when I went to feed them I noticed three pigs in their bed did not get up to eat. They were just gasping for breath like as if they had been lain on by the others. These three soon died with convulsions and apparently awful pains. Next morning I found eleven more dead, fourteen in all.

I had changed them all back Sunday evening to their usual quarters and they had eaten as if nothing was the matter. Monday morning I started out to investigate and around where an old straw stack had been I found where the pigs had been feasting on cockle burs. We had just harrowed the ground on Saturday but had not destroyed all these young burs. I dissected nine of the pigs and found the same condition in all: Eyes blood shot, bleeding at mouth, stomachs distended with green food. One litter of 10, the youngest bunch escaped entirely. The 16 older pigs that were weaned had access to this field every day but they escaped also. Now this proves to me that Sam Jordan was right when he said, "We never get too old to learn from experience or from the other fellow." I am giving these facts that my loss may save some one else the same kind of loss. I made a hard fight on the burs last year, but I have a few left which I am sorry to confess.

W. T. Davis,
Easton, Mo.

Occasionally a report is received of loss of hogs from eating cockle burs but it is only remarkable that the losses from this cause are not many times greater when we consider how wide spread the burs are. Whether the burs kill from a poison or from the irritation and impaction of the burs in the pigs stomach is not fully determined but as Mr. Davis has found out they will kill and do it quickly. It appears from all the reports we have ever received that the only time of danger is when the burs are just coming up and in picking off the tender shoots the pigs get the old bur which is on top of the young plant. It is for this reason no doubt that we do not have much greater loss from this cause. Hogs may sometimes run in a field infested with burs without any trouble but it is probably due to the failure of the hogs to eat the burs.

The only remedy in this as in many other fatal troubles is prevention and in this case that means either to rid the farm of burs or to keep the hogs out of bur-infested fields at the time when the burs are coming through the ground. We have never heard of trouble caused by hogs eating the plants after the old bur drops off.—Editor.

QUALITY IN CORN

Quality is one of the most important factors to be considered in raising corn, as both the market value and the feeding value of the crop is based upon it.

Last year, a large portion of the corn raised in the Central States was of a very poor grade. The weather was partly responsible for this, but improper cultural methods on the part of the farmer were also largely to blame. In many localities, the weather was responsible for failure to obtain early stands, necessitating second plantings; it was also to blame for considerable corn that was greatly devitilized owing to a cold, cloudy growing season at the start. In spite of bad weather, if the majority of farmers had practiced methods which would have tended to offset such conditions, the loss would have been small as compared to what it was.

In many fields, poor stands were due to a lack of proper drainage. In fields of this kind, one of the best investments a farmer can make is to put in a good tile drainage system. This would serve as insurance against standing water on the fields for any great length of time during wet weather. Cases are common where the corn crop has been doubled and even trebled after a good drainage system has been put in a field.

Sour soils are responsible for a great deal of poor corn, and if this condition exists it should be corrected by liming.

One of the most important factors that has a large share to do with the control of the quality of the corn is the seed that is used. The practice of selecting the seed corn from the crib is a poor one. All seed ears should be tested for germination, good quality and those showing poor vitality should be discarded.

The variety of corn that is grown is another point that very often plays a prominent part in determining the quality of the crop. Only those that are known to do well in the locality should be planted. Much of the soft corn that was harvested last year was due to the planting of varieties that were too late in maturing.

Liberal supplies of the various plant food elements are of absolute necessity for the production of large, high quality yields of corn. If the soil lacks in fertility, the addition of plant food in some available form is one of the wisest and most profitable investments a farmer can make. One of the best ways to do this is through the liberal application of some high-grade commercial fertilizer. This will supply amounts of plant food which the plant can easily use, and will give the crop that early and vigorous start which is so essential to a good yield.

Cultivation also plays its share in shaping the future of the crop. The lack of proper cultivation has been the means of ruining hundreds of corn crops that would have been good otherwise. To keep the moisture in the ground for the use of the growing corn, means a continuous, vigorous growth, provided other conditions are right. Frequent, shallow cultivation will not only keep the moisture in the ground through the formation of a surface mulch, but will also destroy the weeds, increase aeration and improve the physical condition of the soil.—F. D. Lewis.

TO CUT THE COST OF LIVING

To The Missouri Farmer:

The other day when I had to pay 8 cents a pound for white sugar I thought it was high time to find a substitute for a part of the big sugar bill of Missouri farmers. Dr. Wiley says white granulated sugar is not a pure food and if it was not such a popular and universally used article that it would come under the ban of the pure food laws.

Why not compete with the "Sugar Trust" and cut the cost of living by returning to a simple life and do as many of us did 30 to 40 years ago when most every farmer raised a patch of sorghum cane and made a barrel of molasses. What better breakfast could you desire than buckwheat cakes and home-made sorghum molasses. Maybe you could mix with it, for variety sake, nice fried ham and red gravy and good, sweet country made butter. I do not want the store-variety of sorghum made of corn juice and glucose and thinly flavored with sorghum but give me the genuine, pure and nutritious article.

Forty years ago there were few families who did not consume a barrel of sorghum in a year and instead of using white sugar, the brown or "C" sugar was the everyday variety with granulated sugar for company. We are eating and dressing too much on looks in these strenuous times and it would be better for us all if we would consider our health and comfort of first importance. Is it not specially important that we do this if we at the same time can profit by it?

Oh, there was some fun and a lot of work in those good old days when sorghum making time came around. Every time we went to the corn patch to cut and strip the stalks father would tell us how his father first introduced sorghum growing into the neighborhood. By sending $3 to a New York weekly paper for one year's subscription he got for a premium a pound of sorghum seed. They had a maple sugar camp on the farm and so with the big sugar kettles they could boil the juice and manufacture the molasses, but how were they to get the juice out of the stalks? Well to do that a cane-mill was made of large wooden rollers, two of them, made with a crank on each end and one stalk at a time was ground between the rollers and the juice pressed out. This, I imagine was a very wasteful method compared with our present day mills. It was wasteful in both time and material because there was much juice left in the stalks whereas with one of our modern mills the ground stalks, bagasse, are most dry enough to burn.

From the one pound of seed they raised enough to make 100 gallons of molasses and sold seed the next year at $1 per pound. The second year the cane was ground between great wooden rollers, geared with wooden cogs and a horse hitched to the end of a long sweep did the grinding. (Yes I can almost hear the screaking of the old wooden cane mill now after 50 years since I fed the stalks through three or four at a time.—Editor.)

I can not see why the Department of Agriculture does not keep some of the scientists at work trying to develop sugar making from sorghum. I suppose some wise head will find out an economic way to make sugar out of sorghum some day. There is no Babcock test of sugar in the plant and we know it only as sorghum, white seed or black seed and very little about its sugar content. I do not know why so many give sorghum a black eye for home use unless it is for want of knowledge of how to handle it.

The crop is not even handled well for making hay as, for instance, a majority of farmers will cut sorghum for hay making in the hot days of August and the result is sour hay. If they would wait until cool weather even if it is ripe it would make good feed and keep well. In this neighborhood, about 80 miles south of Kansas City the time for cutting sorghum is about October 10, when it is cool enough to frost most any night.

Sorghum hay cut with the binder or cut with the old reaper is a fine hay and I find stock do well on it. I would advise farmers to plant a half acre for making molasses for the family and sow the spare ground broadcast and cut the cost of living both for the family and for the cattle and horses.

E. E. Laughlin, Bates County.

FIGHT FIRE BLIGHT NOW

Fire blight has appeared in the orchards this spring and every affected twig or branch should be removed before the disease has a chance to spread. During the last few years this disease has done a great deal of damage in pear and apple orchards and the Missouri Agriculturl Experiment Station finds it appearing again this spring. Its effects are not usually observed by the orchardist until May or June, when many of the fruit clusters and young twigs begin to die suddenly as if they had been scorched by fire. The earlier symptoms which should have warned him to cut back the diseased parts at once are the flow of a gumlike or even a thin saplike liquid

ATTENTION FARM CLUBS

We wish to hear from the President, Secretary or some member of every Farm Club in Missouri on an early mail because we have several matters of pressing importance to communicate—things which will mean the saving of money to your organization. We have no means of knowing how many Farm Clubs have been organized or where to address them. We trust therefore that every reader of The Missouri Farmer who sees this notice and who belongs to a Farm Club will either write us himself or see that the President or Secretary does so without fail on an early mail. We wouldn't make this request if we didn't have worth while reasons for it. Your prompt action means the saving of money perhaps to yourself and certainly to some of your neighbors.

William Hirth, Publisher.

from the bark, or the appearance of beads of honey-like material on the newly formed apples. This material may spread like a soft varnish, covering the fruits instead of remaining in beads.

The only means of checking blight is to cut and burn all the affected parts before the disease is carried to the rest of the orchard by bees and other insects, or has a chance to spread through the twigs themselves. The pruning tools may carry the germs if not carefully disinfected by either dipping them into a 1 to 1000 solution of corrosive sublimate, or wiping them with a rag or sponge which has been dampened with such a solution carried in a small bottle for this purpose. Corrosive sublimate—also called bichloride of mercury—may be purchased at ann drug store in small bottles containing about twenty-five tablets apiece with directions for dissolving these tablets and making solutions of any desired strength.

Pruning tools should be disinfected after pruning each tree so that the disease will not be carried from tree to tree, and should be disinfected still oftener than this to avoid carrying the disease from one part to another of the same tree, as the pruner finds that he is cutting through diseased wood.

The blight usually passes the winter in pear trees, but may live through in Jonathan, Ingram, Yellow Transparent, and similar apple trees.

Orchards affected by blight last year should be very carefully watched now, and pear trees which show blight scars or cankers should be examined first of all. Blisters may form under the bark, then burst after the trees have begun to grow. From these places there flows the honey-like liquid which contains the bacterial germs of blight which bees and other insects are likely to carry from tree to tree. The bees carry these germs to the flower clusters of pears and apples and the newly formed fruits may have the beaded or varnished appearance which indicates that the spurs on which they are growing should be cut and burned at once.

The grower should not wait for the blighted parts to die and turn brown or black. To keep the blight from spreading through the whole orchard it is necessary to find and cut out the few early infections here and there. These early infections may be located by observing fruit clusters where the stems of the fruit look slightly discolored and show the sticky exudations.—J. C. Whitten, Missouri College of Agriculture.

CONTROL OF THE CODLING MOTH

Spray the apple trees immediately after the blossoms or petals fall in order to fill each little calyx cup or cavity with poison. About three-fourths of the codling moth worms which hatch from eggs three or four weeks later enter the apples through this cavity. If we succeed in putting a few grains of arsenic in each little calyx cup, the first meal the apple worm takes will be its last one.

Since the calyx cups stand open for only a week or ten days, the spray must be applied within this time in order to be effective.

Commercial lime sulphur at the rate of 1½ gallons to 50 gallons of water, and arsenate of lead paste at the rate of 2 or 2½ pounds to each 50 gallons of spray mixture should be used.

The trees should not be sprayed while in full bloom. Such work would interfere with pollination, without which fruit cannot set, and destroy the fruit grower's best friend, the honey bee. It is safe to spray when two-thirds of the petals have fallen, because the flow of nectar has practically stopped and few, if any, bees will be injured.

This should be the most thorough and drenching spray of the season. A nozzle throwing a rather coarse driving spray with high pressure should be used in order to force the poison down deep into the calyx cups.

This is the most important single spray of the season. It not only controls the first brood larvae of the codling moth, but it also prevents, to a great extent, the losses occasioned by the later broods of the pest. It is also an important spray in controlling the lesser apple worm, plum curculio, canker worm, apple scab, black rot, and other less important insect pests and fungus diseases.

The next spray should be applied about two or three weeks after the calyx spray. This will be about the time the majority of the first brood codling moth eggs are hatching and if the surface of the leaves and fruit are thickly peppered with the poisonous spray, many of the worms will be killed by feeding slightly before they reach the blossom end of the little apples. Since this is also the first important spray against apple blotch, Bordeaux mixture should be used with the arsenate of lead if this disease is prevalent in the orchard.

About eight or nine weeks after the blossoms or calyx spray the third application should be made, using the same spray chemicals. This is an important spray against the second brood of the codling moth and lesser apple worm, also the plum curculio, apple blotch, and other insect pests and diseases.

Later sprays may be necessary, but under average conditions the work as outlined above, if thoroughly done, should control not only the codling moth but the other more important insect pests and diseases of the orchard. Other spray schedules might be suggested but this is the one which has given the best results in the tests of the Missouri Agricultural Experiment Station.—T. J. Talbert, Missouri College of Agriculture.

VARIATIONS IN THE CREAM TEST

One of the most common causes of dissatisfaction on the part of the man who sells cream on the butter-fat basis, rises from variations in the test. This is especially true if each can is tested separately and the best way for the seller to convince himself that the tester is neither careless nor dishonest is to secure a little outfit for himself. A well made, accurate, and satisfactory tester can now be bought for five dollars and its use will not only satisfy the seller that he is getting honest treatment but will enable him to detect the boarders in his herd. The general interest in this subject is compelling the Missouri Agricultural Experiment Station to reprint a circular for general distribution, but a little discussion of the principal causes of variation in this briefer form may avoid the necessity for so wide a distribution of that circular.

Speed of Separtor — A change in the speed of the separator immediately causes a change in the tests of the cream, the higher the speed the greater the amount of skim-milk thrown out and so the higher the test of the cream secured. Putting it in another way, a low speed results in a larger quantity of thinner cream.

Rate of Inflow.—The use of the float does not always insure a uniform flow of milk into the separator, because the faucet may not always be opened equally wide and the flow will be more rapid when the tank is full than when it is nearly empty. Anything which makes the inflow more rapid will increase the proportion of skim-milk which goes through, and lower the test of the cream secured.

Flushing the Bowl.—The amount of water used in flushing may easily be varied a pint or more and this without any other cause or variation may change the test by two, three, or even four or five per cent.

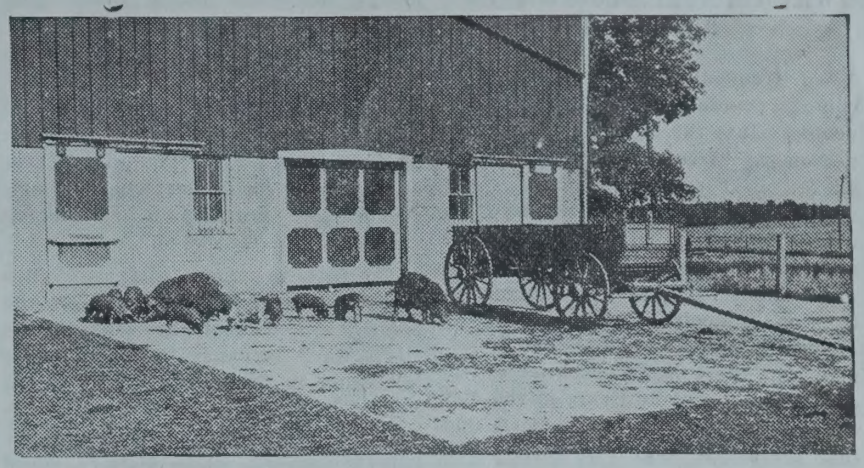
Variations in the Milk Itself.—The milk of an entire herd may rise or fall in its test from day to day because of excitement or change in the weather. If the milk of a herd, whose average test is four per cent, is ordinarily so separated that the cream tests forty per cent fat, the test will suddenly rise to 42.5 per cent if the milk of the herd is suddenly raised to 4.25 per cent without any change in method of seperating.

Cream Screw. — The test is, of course, readily controlled by means of the cream screw, but as it is seldom changed in this way, on the average farm, there should be no trouble because of variation from this source.

Feed of the Cow. — Variations in cream tests are practically never caused by changes in the feed of the cow as every well informed cream seller is now aware.

Mistakes and Dishonesty.—Mistakes are most likely to result from carelessness in taking samples, as they must be very carefully and skillfully taken if they are to tell the truth and result in a fair payment, but actual dishonesty is probably much rarer than many sellers believe. A clever thief would manipulate the reported test in such a way as not to arouse the suspicion that an honest report sometimes brings up in the mind of the man who does not consider all the possible hiden causes of variation.

C. H. Eckles,
Missouri College of Agriculture.



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WHY COUNTRY PEOPLE SEEM DIFFERENT

We frequently hear it said that country people are different from city people. Just the other day I heard a person say "I can tell country people as far as I can see them." While these are manifestly the words of an urban snob, they give expression to a belief that has gained entrance into many minds which are free from snobbery and conceit.

Now it is quite unnecessary to affirm that there is no essential difference between people living in the city and people living in the country, and that there are countless times when the latter cannot be identified upon sight. Not infrequently we hear it remarked that this or that professional man "looks like a farmer." Only recently while listening to a distinguished man who has lived in the city from his youth up, the person sitting nearest me leaned over and whispered 'Doesn't he look like a farmer to you?"

In this phrase "looks like" we have our cue. The alleged difference is entirely external—apparent and not real. Those persons who "can always tell country people" are the same people who can always tell policemen, mail-carriers, conductors, miners and militiamen, provided, these men are dressed in their respective uniform.

Rural people do dress differently from city people, and it is to be expected that they should. Work on the farm calls for clothing unlike that worn by city folk. It would be just as much out of place for a farmer to wear a neatly pressed suit, patent leather shoes, a stiff-bossomed shirt, and a high collar in the harvest field, or in the piggery as for a banker to stand before the receiving window, or a professor before his class, donned in plow shoes, blue-ribboned overalls, and with a bandana handkerchief about his neck. And it would not be a whit more unfair or unreasonable to expect cultivated, well-to-do city women to receive their afternoon callers or go a-walking dressed in a sun-bonnet and a Mother Hubbard than to expect farmers' wives to go about their work having on high-heeled shoes, silk stockings, and an up-to-date hat and dress. Furthermore those who have made unannounced calls in the city know that city people are not always ready for the photographer. They, too, allow their work to determine the manner of their dress, and it is right and proper that they should.

"But," rejoins the urban snob, "when fixed up in their best, our country cousins are out of style." This statement admits of two answers. In the first place, country people do not spend much time watching the kaleidoscope of fashion. Secondly, having occasion to wear their street clothing but once or twice a week, a good suit, dress, or hat, will remain good many times longer in the possession of a country person than in the possession of a city person. This means that country people must either cast aside perfectly good clothing twice a year, or do as their city cousins do, continue to wear it, when needed until it becomes shabby or shiny. They usually do the latter, and it is unkind of anyone to disparage them for so doing.

A second cause for saying country people are different, we are told, is their tendency "to rubber and appear awkward" when in the city. Those who speak of this are most likely to be they who when in the country are curiously looking here and there, and asking questions which seem more than foolish to country people. And, they are probably among those who are afraid cows will bite and fire-flies will burn. I read recently of a city woman who wanted to know why Mr. Burbank does not try his hand at producing ready-made strawberries-and-cream by "grafting a strawberry sprout onto a milkweed."

The facts are, many city people are just as "green" and curious in the country as rural folk are when in the city. Each is eager to "take things in" when in the abode of the other. People who live in Charlestown seldom lift their eyes toward Bunker Hill Monument, while visitors stand before the vast obelisk in awe and wonderment.

Sometimes we hear it said country people are different in that they are more frugal and parsimomious than city people. Doubtless, there is some truth in this observation. But it is primarily due to necessity being laid upon them in this particular. Because a man owns a rich farm, it does not follow that he has money in his pocket at the close of each week or month, as does the average city man. It is very likely that he depends upon the sale of his crops or his live stock to supply him with money, and these are marketed but once a year. And in a majority of cases, there are accumulated bills to consume the full amount of returns. I know a farmer who owned 240 acres of land valued at $200 per acre who had to borrow money to meet his current subscriptions to his church. This man was feeding a large herd of steers which were consuming not only the products of his own field, but also many bushels of grain purchased of neighbors to whom interest bearing notes were given in payment thereof. Numerous agents and solicitors visited this farmer during these lean months, failing to obtain the cash or subscriptions they sought, they went away calling the farmer ugly names and refusing to believe that he did not have stacks of money available. Besides, it is exceedingly tempting to most men to seek promising investments when they are in possession of a few hundred dollars. It is actually true that scores of farmers who are reputed "rich" have less money with which to buy daily and weekly necessities than the average city laborer. And this very fact has caused thousands of young men to leave the farm who ought this day to be numbered among our agriculturists.

Although this could in no wise contribute toward making it possible for an urbanite to identify country people upon sight, it is true that there are certain words and phrases which are peculiar to country people. I shall not say that they misuse is and are; was and were; has and have; can and may; and will and shall, any oftener than the rank and file of city people. Nor shall I charge them with doing more than their share of splitting infinitives and confusing adjectives and adverbs. But there are a goodly number of harsh and erroneous phrases, such as, "I reckon," "right smart," "waiting on" for waiting for; "get shut of" for get rid of; "bad sick," and "them" as an adjective, which seems to belong peculiarly to country people. But these will soon be made a memory by that increasing number of educated young people who are returning to the farm.

In much the same way, it could be argued that country people cause themselves to appear different by acquiring a peculiar perspective or point of view. This characteristic can be illustrated by citing the incident of a farmer who when taken by a city cousin to one of the largest and finest coliseums in America exclaimed "What a great place this would be to stow away hay!" But nothing is more natural, it seems, on the part of people everywehre than to "talk shop." The merchant thinks and talks in terms of business; the lawyer carries his habit of inquiry and "extraction" wherever he goes; and many ministers and teachers reveal their calling in their faces as well as by their speech. It would, therefore, be equally correct to say that the lawyer, the doctor, the merchant, and the minister, each has his peculiar perspective and point of view. Every calling creates its own characteristics, and though country people do exhibit certain superficial traits or earmarks, they are no more different from city people than persons of any calling are different from the persons of all other callings.

"What though on hamely fare we dine,
Wear hoddin gray, an' a' that;
Gie fools their silks, and knaves their wine,
A man's a man for a' that."

O. F. Hall,
Purdue University, Indiana.

CONTROL OF WHITE-GRUB

Wherever the white grub was destructive last year or wherever spring cultivating shows large white grubs in the soil, the farmer should regard these facts as calling (1) for action to protect his 1916 crops from damage, and (2) for continued warfare on the white grub to prevent heavy destruction of crops in 1918.

The white grubs that were so destructive during the summer of 1915 will have wintered in the ground and may be exepected to come nearer the surface as large grubs in April and May. These large grubs will feed to some extent on the roots of plants and may be expected to come nearer damage to this year's crop, but fortunately by the middle of June they will become dormant, change to pupae early in July, and by the first of September become beetles, which remain underground until the spring of 1917.

As the mature white grubs and the pupae are tender and more easily killed by a disturbance of the soil than are the beetles, the entomologists of the department advise the farmer to plow up his land as soon after July 15, 1916, as practicable. The beetles, if allowed to winter in the earth, will emerge as May beetles in May, 1917, lay eggs and thus start another destructive brood of white grubs that if not destroyed may do as much damage in 1918 as grubs did to crops during 1915.

Immediate Measures for 1916

To lessen the damage during 1916 from the brief spring feeding of these large grubs, the following measures are important:

(a) If the ground is to be plowed or cultivated in the spring, delay plowing as late as possible, or until the grubs have returned to near the surface (about the last of April), and have chickens follow the plow to destroy the grubs that are turned up.

(b) Delay planting until the 15th or 20th of May or a little latter if practicable. The object of this is to have the roots of the young plants develop so late that this year's large grubs

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will not have much chance to do damage before they become dormant early in June.

(c) Where possible, on land that is infested avoid planting corn, timothy, strawberries, or early potatoes.

Work to Save 1918 Crops

As has been stated, the large grubs that appear this spring will become the May bettles of the 1917 fight, which lay the eggs for and thus begin the three-year cycle of white grubs that threaten the crops of 1918. Therefore, as soon after July 15, 1916, as is practicable, in all infested regions, farmers should plow up every piece of ground which contained quantities of grubs in 1915 or showed large grubs in any quantity this spring. A plow which will break up the soil as it is overturned should be used, or if this is not possible the ground should be deeply disked after it is plowed, in order to break up the soil and disturb the insects in it. The work done in the fall of 1916 will be a good beginning of preventive measures which must be carried out each year to avert the heavy destruction of crops by this brood in 1918. To carry out the rest of the work it is particularly important to watch the time of occurrence of the beetle and the grub and to note its abundance so as to take adequate protective measures. For example, if there is a heavy flight of May beetles—and this can be expected in April and May, 1917—farmers should use lantern traps at night and spray trees with arsenicals to destroy beetles feeding and breeding on them. Next, in the fall of 1917, grass and small grain should be plowed previous to October 15, 1917, to destroy the young grubs hatched from the eggs of the beetle.

Where the land shows small grubs in the fall of 1917, the owner should plow it thoroughly prior to October 1, and seed it to small grain or clover for the following year. Corn or potatoes should not be planted on such land the following season. Hogs should be pastured on it and chickens allowed the run of the fields when plowed. Finally, if in the spring of 1918 small grubs are abundant, heavy damage may be expected during the coming summer. Seed such land to small grain or clover. Do not plant corn or wide-row crops on such land. Put corn, potatoes, field beans, etc., on ground clean cultivated the preceeding year. Pasture hogs on the infested ground at any time, but more especially between April 15 and October 15, as they do much to root out and destroy the grubs.

Rotations Especially Important

Rotations are especially important in avoiding grub injury. A rotation of oats, clover, and corn has proven very satisfactory in some sections. Ground which is in corn or has a heavy stand of pure clover during the year the beetles are flying, which will be 1917 in the infested area referred to, will ordinarily contain few grubs, since the beetles will not seek such land for laying their eggs. The beetles prefer land in small grains, timothy, or covered with weeds for egg laying. Land which is in oats during the flight of the beetles will contain many grubs, but if clover, which is one of the least susceptible crops, follows, the grubs will scarcely injure that crop. It is asserted that clover winter kills badly in southern Wisconsin, northern Illinois, and similar latitudes, but there is reason to believe that winter killing is due to the fact that the clover is not sufficiently strong to survive severe winters, and the remedy is liming or otherwise treating the land so as to grow a vigorous stand of clover. Aside from this rotation, it is desirable to so arrange the crops that the least amount of land will be in timothy and small grain the year the beetles (1917) are abundant, and the following year (1918) to plant corn on corn ground, and use for small grain and timothy the ground which was in these crops the previous year.

—Weekly News Letter.

A PLEA FOR WILD GAME

To The Missouri Farmer:

The writer, in his official duties as State Highway Commissioner traveling over the state, finds that the large number of roads that are being built in all the counties is going to make it so that automobiles, and other vehicles can easily and quickly go into all parts of all of the counties, and it is only a question of a very short time, until all our wild game will be practically killed off over the entire state, unless some steps are taken to conserve and propagate game.

There are now no wild turkeys north of the Missouri River, except possibly a very few in the southern edge of one or two counties, next to the Missouri River, and the wild turkeys are being rapidly killed off south of the Missouri River.

Deer, which were plentiful only a few years ago over many of the counties in the southern part of the state (and seventy-five years ago even in many of the northern counties) have practically all been killed off, in most of the counties in the state. The few remaining deer in the south and southeastern part of this state will very soon be all killed by hunters if not protected, and propagation farms started.

Our native quail in some counties are now nearly a thing of the past; native pheasants already are practically gone, but possibly enough left to propagate; prairie chickens are only to be found scattered here and there over the State, mostly in the northern counties, where formerly there were large coveys of them, but by reason of being protected under present laws are commencing to migrate into adjoining counties, where farmers generally are killing none themselves, and are watching very carefully to see that none are killed by hunters.

The object of this letter is to call attention to the necessity of there being established in every county in the State of Missouri a game preserve and propagation farm.

In nearly every county, there are large tracts of land held by farmers, by non-residents, or lands held for investment and by people who, if this matter matter was called to their attention would be perfectly willing to do no hunting themselves, and to allow no hunting done on their premises whatever, even by their friends, and probably a place located in said enclosure for propagation, and still not interfere with land being used for agricultural purposes.

Under a properly worded lease and for a sufficient length of time to warrant the outlay, public spirited men in every county can probably be found who will organize a regular legal association to see that some of these tracts of ground are fenced with a game-proof fence, or at least on very large tracts permit no hunting on the premises by anyone, not even by the owner or his friends, because as soon as the game would become plentiful, the owner would soon have more friends than he ever knew existed.

Then at some location in the interior of these large tracts, there should be made absolutely bird and game-proof enclosures of proper size, for the propagation of game and where the small birds could be trapped, and their wings clipped, so that they could not get out of the enclosures, and being fenced the different classes of enemies of the birds, such as fox and other animals which destroy much game, could be killed off.

The hunters of the state, even in sections that heretofore have opposed all kinds of game laws as effecting their rights, are now becoming satisfied that game laws must be strictly enforced and protection given for their benefit, and this plan is for their especial interest as it removes but a small amount of area of hunting territory, and later game so propagated can be turned loose or shipped to counties where game is scarce, and a start made of getting game in that locality.

At the coming session of the Legislature, deer, wild turkeys, prairie chickens, and pheasants should be absolutely protected for at least a period of five years.

Our native quail can be easily propagated, for it has been done successfully by persons with whom the writer is acquainted, who have done so in very small enclosures, and inside the city limits, and hunters should keep wounded birds for that purpose, and nests that are disturbed during harvest seasons, the eggs should be artificially hatched.

The success and practicability of game preserves can be well seen in the one established by the late Hon. Moses Wetmore of St. Louis, and his associates, where in Taney County large numbers of deer, elk, etc., have been raised very successfully, also the hunting preserve of the "Painted Rock Club" in Osage County, of 1600 acres, where within two hours ride from the State Capital, deer, wild turkey and other game are raised, and some escape and migrate into the adjacent territory so that wild turkeys and deer were killed last fall within seventeen miles and less, of Jefferson City.

It is now up to each county, through its hunters and public-spirited citizens to put this plan into immediate effect in their different counties; by farmers as individuals; by associations of men in these counties, who will lease grounds, and make game preserves, and post premises thoroughly and prosecute vigorously any one hunting in said preserves. Soon the extra game that will get out of any of these preserves under the most careful watching, and also can be turned out as it becomes too plentiful, will make good hunting for true sportsmen, for many years to come.

In the New England States there are moose, in New York and Pennsylvania deer, and also deer can be found in a number of other states, where they were wise enough not to wait until too late.

The slaughter of the immense herds of buffalo and the extinction of the same, the complete extinction of the wild pigeon, and to a great extent the elk (which would also have been killed off except for the Government having such game preserves as Yellow Stone Park) should be a lesson not to be soon forgotten.

Frank W. Buffum,
State Highway Commissioner.

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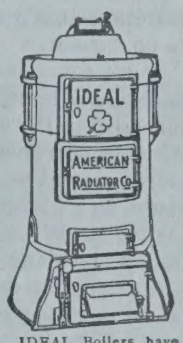

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Geo. B. Ellis - - Managing Editor

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THE GOLDEN HOOF

Of all the classes of live stock adapted to Missouri conditions the two which are pre-eminetly fitted for the man of small means or for the man with land poor in fertility have so far had the least attention. We speak of the dairy cow and the sheep. And while we say these two classes of farm animals are so well suited to building up poor lands and for men of small means they are equally well adapted for making rich lands richer and to maintain the prosperity of the well-to-do farmer.

If we could increase the number of dairy cows in Missouri five times, ample feed could be provided for them without sacrificing any of the other stock we now have. Likewise we could find pasturage and winter feed for ten times the number of sheep now in Missouri and miss little save the weeds and briars now infesting our fields and roadsides. The annual returns from the increased number of cows and sheep would amount to somewhere between $100,000,000 and $150,000,000 annually based on a conservative estimate. These figures are based upon the actual results that are annually obtained on many of the farms where dairying and sheep husbandry are followed.

If any of our readers think these statements are an exaggeration we ask them to read the following quotations from a Bates County farmer, Mr. E. E. Laughlin, who, while keeping draft horses, cattle and swine on his farm has for a long time found a place for a flock of sheep: "I have a flock of ewes, some black face, some white, but all very good, and I am counting on $10.50 a head for this spring's proceeds. Sixty days from now I count on $7 a head for the lambs and the fleece at $3.50 in the sack and the ewes young and ready for another coupon next year and when she is done breeding will pay her first cost on the market. I have kept sheep all my life but such prices as we are now offered are unprecendented. Twenty years ago a leg-of-mutton was not thought much of and the average price for a lamb was 50 cents and only $1.50 for ewes. But I think the art of cooking more than anything else is the cause for the present "profitable prices."

Men's likes and dislikes are more or less controlling factors in the kind of farming they follow but in the face of the profits some of our most successful farmers are getting out of both dairying and sheep raising is it not about time men should try to train themselves to suit conditions rather than try to do the impossible of trying to change natural tendencies to suit individual tastes? Our likes and dislikes are largely a matter of training anyway and it should not be a very difficult task for a man to take pride and pleasure in a nice herd of dairy cows or a flock of sheep if by doing it he changes loss into profit, failure into success.

The land that is trod by the golden hoof of the dairy cow or the sheep will be producing big crops generations after the richest soils devoted exclusively to crop growing have been exhausted.

DEBENTURE BONDS

In the discussion of the Missouri Land Bank some of our readers do not understand very clearly the meaning of "debenture bonds." A Vernon County reader writes that he is very much in favor of the features of the Missouri Land Bank so far as he understands them but asks for an explanation of the debenture bonds provided for in the bill.

A debenture bond is one based on a certain specified income or security and in the Missouri Land Bank Act the debentures are secured by the mortgages given by borrowers and also by the capital and net reserve fund of the bank. A trust company organized under the laws of Missouri can loan its funds to farmers and take their notes secured by mortgage. When their available capital is all loaned they may then issue debentures. that is they issue bonds secured by the mortgages they have in their vaults and when these bonds or debentures are sold for cash the company has available money for making more loans and this may be repeated until the company has sold debenture bonds to the amount of ten times the capital stock. The trust company gets for its profit the difference between the rate of interest collected on the farm loans and the rate they pay on their bonds.

The State of Missouri has no money to loan on mortgages but under the provisions of the Missouri Land Bank the Legislature will create a working fund for the bank by making an appropriation out of the general revenue fund of $1,000,000, this appropriation to be repaid out of the profits of the Land Bank. Out of this capital the bank commissioner will make loans to farmers under the restrictions of the law, the loans to draw 4.8 per cent interest and to be secured by first mortgages on farm lands appraised at double the value of the loan.

When $500,000 has been loaned the Land Bank will issue a like amount of bonds (debentures) secured by the mortgages on hand and also by the assets of the bank. This process may be repeated if the bonds can be sold until $40,000,000 has been loaned based on the capital and $30 for every dollar in the net reserve fund. The law provides that the first series of bonds shall be drawn bearing 4.3 per cent and if they can be sold at par the Bank will get one-half of one per cent annually. Suppose the first year the Bank sells $1,000,000 then its profits will be $5,000 a year until the bonds are cancelled. If the Bank can succeed in placing $40,000,000 of loans and selling a like amount of bonds the Bank's income on that basis would be $200,000 a year. Out of this income the Bank must pay the necessary expenses, in time repay the state and pay any losses if by any possibility there are any losses.

These bonds will be more readily negotiable than the mortgages and are better secured because each bond in a series is secured by the whole amount of the mortgages included in that series. It is on account of the better security that the bonds may be sold on a lower interest rate than the individual loans will pay.

MORE ABOUT THE INCOME TAX

A reader from Livingston County writes that after reading our recent editorial advocating the income and inheritance plan of taxation to take the place of all property taxes that he is very favorably impressed with the idea. But he asks, "How will you get at the fellow who buys land and holds it for speculation? How would you collect income from the Irish landlord you mentioned who has made many millions of dollars by buying land in this country and holding it for its increased value? It seems to me that right there is where we ought by all rules of justice try to get a large share of our state, county and municipal revenues—on the unearned increment of land." We are glad our subscriber asked this question because we agree with him that the unearned increment of land ought to be taxed and we will tax it under both the income and the inheritance plan of raising revenue. The increased value of land certainly is in fact income and if it is it only remains to work out a practical method for collecting the income. I see no reason why all income from land whether it should be the rental income or the increase in value could not be charged against the land. This would be about as simple a method as we have now except we would get at the value of land in a more scientific way. The land could be appraised every five years and the rental income as well as the increase in value would be caught in this way. By taxing all incomes from land, whether rental or increased values, we would get the non-resident and resident land owners alike. If this plan had been in operation for the past 20 years during which time there has been a great increase in land prices Missouri should have collected millions of dollars from these non-resident land owners who have been getting rich on the state's growth without rendering any service in return.

The trouble with most of us is that we just jog along in the same old ruts made for us by the pioneers and we do not stop to think if there is not a better way. Missouri made a beginning with the inheritance tax several years ago but it is only a beginning because we tax only collateral inheritances. As it stands now the collateral inheritance tax all goes to the support of the state university and that causes much opposition. What the state ought to do is to pass a law taxing all inheritances, above a reasonable exemption, and let the money go into the general revenue fund.

According to our way of thinking we should tax wealth, not industry. We should let the burden of maintaining the government rest on the shoulders of the people according to their ability to pay and not according to numbers. The poor man may not pay anything to the tax collector but if some one is making a profit out of his labor he is possibly rendering service to his country according to his ability. For this reason we are opposed to levying poll taxes for any purpose whatever.

ENTERTAINMENT IN THE FAR CLUB

We frequently have the leader f farm clubs write us that after an e thusiastic organization of a club a a few live meetings have been he the interest then begins to lag and t attendance to fall off and they are a loss to know how to hold the cl together and maintain the enthusias of the members. In answer to the letters let us say that the success f many clubs have been due very large to the tact and iniative ability of o or two leaders but where such leade are absent there is no reason why club can not be maintained in a school district in the state if the pe ple want it and feel the need of No community is going to support club unless they feel the need of it.

One of the club presidents says th after he had put through several dea that saved the members of his cl quite a number of dollars he fou the interest waning and the attendan at the meetings falling off. In t neighborhood was an old time fiddl and the president arranged with hi to furnish a few pieces of music ar new life and increased attendance wa the result.

There are few people who do n love music and the club leaders wh can secure the help of a violinist, loca orchestra, a quartet or something the kind will find it a great help i keeping things moving.

Another feature club leaders shoul not overlook is that of lectures o special subjects. The State Board c Agriculture has some splendid lectur ers and the College of Agriculture ha a large force of good men and wome in the extension service and the clu that is alive and awake to the interes of the neighborhood should have thre or four of these lectures every yea Then most any club can occassionall have a lecture from some local min ister, teacher, lawyer, doctor or den tist. When some infectious or con tagious disease is in the community why not have some phsyician who i a member of the local board of healt make a talk on the prevention of th spread of such diseases? None o these should take the place of practical farm topics or of the better methods of buying and selling that we have had so much to say about in our columns but an occasional lecture as suggested with some form of music or other light entertainment will insure the clubs future.

SOME TIMELY SUGGESTIONS

While politicians are fighting over the offices and wrangling about who is to blame for the shortage of state finances, farmers can get some relief by looking ahead to see what may be done to help make the old farm pay a little better next year than it has been doing. We do not hesitate to say to the farmer who is trying to get along without growing some legume on his cultivated land, one year in three or four, is making a serious mistake.

There is no one legume best adapted to all conditions but there is not a farm in the state where at least one of the following legumes should not be grown, namely, red clover, alsike colver, alfalfa, sweet clover, cowpeas or soy beans.

Now is a good time to begin the preparation of a piece of ground for alfalfa and we know of no better way to begin than by sowing cowpeas or soy beans in May. The working of the land for these crops is just what is needed to put it in condition for seed-

ing alfalfa and these crops through their power to take nitrogen from the air and store it in the soil will leave some material to start the young alfalfa in good shape.

Another suggestion every farmer who keeps 10 head of cattle should be thinking about is that he should have a silo. A fifty bushel crop of corn will make about ten tons of silage and four acres of such corn put into the silo supplemented with a little alfalfa, clover or cowpea hay will take 10 head of cows through the winter in good shape. The silage is equally valuable for any other cattle and is successfully fed to sheep, mules, and horses but we mention the cows to show what it is really worth when compared to the old and generally practiced method of feeding the corn crop.

Look about you and see if it is not the farmer with a silo and with a few stacks of good legume hay for winter who is maping the most headway towards paying for the farm.

BARNYARD GOSSIP

A few days ago there was quite a destructive storm which swept through Western and Central Missouri and a great many houses, barns and silos were blown down, some buildings were consumed by fire caused by lightning, some live stock were killed or injured. In reading reports of these losses in local papers we get the impression that a large majority of the losses are not covered by any insurance and therefore fall heavily upon the injured owners.

A man may reason that as his home has stood for forty years unscathed by the wind and unharmed by fire that he can better afford to carry the risk than to pay a premium every year that will insure him against loss, but if loss does chance to come it soon changes his process of reasoning. The real gainer in the insurance business is the man who escapes loss. I know there are sometimes just cause of complaint against exorbitant rates of insurance companies, or against the practices of unscrupulous agents but the remedy against these is to hunt out the honest agents who represent conservative, and reliable companies or else organize mutual cooperative insurance societies.

I know millions of dollars have been filched from the pockets of farmers and others to pay big salaries and swell the reserve account of the big companies but this is a poor excuse to offer for neglecting to take out a policy that will insure a man and his family in time of loss and distress. The remedy against too high premiums is mutual insurance. Thousands of farmers can testify to the reasonableness and reliability of farm mutual companies as a protection against loss from fire or lightning but every farmer who owns a home of any kind should feel it his moral duty to unite with one of these mutual companies. If he never has a loss he can comfort himself with the thought that he has been living the golden rule and that his yearly premium has gone to make good the loss of some unfortunate brother. We think cooperative insurance, either life or property is the finest institution ever organized by men.

There are other kinds of insurance worthy our consideration and one of them is deversification of crops. Watch the man who sticks to a one crop system of farming and see if he does not fail in about nine cases out of ten, possibly ninety-nine out of a hundred. All over the south thousands of farmers are in bondage to debt because of the one crop system. Throughout the west there are hundreds of farmers who have failed because they have stuck to the one-crop system of all wheat or all corn. When the land was low in price and high in fertility there may have been some excuse for bending every effort to growing great areas of wheat or corn year after year but now when the land is high in price and low in fertility the man who sticks to the one crop system is pretty sure to fail.

The greatest security against loss in farming is a rich soil and we all know that it is a very difficult and expensive proposition to try to maintain a high state of fertility under the continuous cultivation of any one crop no matter what that may be.

We sometimes wonder why we should be inflicted with crop-pests like the chinch bug but possibly this little bug may have been a blessing in disguise. Any way we know that thousands of farmers have learned the value of cowpeas, soy beans, alfalfa, clover and other legumes because they were driven to find some crop the chinch bug would not destroy. There is not a crop adapted to our climate that has not some good reason for growing it but on the other hand every crop has its enemies and when our system of farming gets out of balance Nature steps in with some disaster to put us right.

A New Kind of Monopoly

The sisal inquiry by the Senate committee on agriculture has revealed an astonishing state of affairs in which the American farmer is the victim of an international monopoly and First Chief Carranza one of the beneficiaries.

Yucatan produces nine-tenths of the world's sisal crop, and this sisal composes nine-tenths of the binder twine used by American farmers in harvesting their grain crops. The testimony brought out by the Senate committee shows that American financiers combined with an organization of Yucatan planters to monopolize the sisal crop under the sanction of military force exercised by Carranza, who receives a share of the profits. The sisal monopoly, it appears, furnishes a large proportion of the revenue of the de facto government of Mexico.

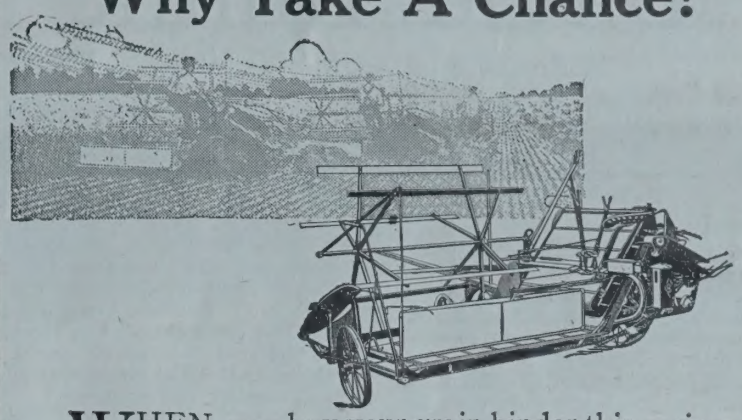
After having perfected the monopoly the combination began to raise prices, and it has been shown that American farmers will be compelled to pay $5,000,000 more than last year for twine. The trend is still upward. It was for the purpose of ascertaining why binder twine was increasing in price that the inquiry was started. It was at first thought that the International Harvester Company controlled the twine market, but the evidence shows that the Harvester company is merely a buyer of sisal from the monopoly, and is not interested in growing or marketing sisal. The financial interests backing the monopoly have skillfully sought to place the blame upon the Harvester company, but the committee has finally got at the truth.

The question now is, can the monopoly be prosecuted under the anti-trust laws? It was conceived in the United States and its profits are derived from American farmers, but it is organized in Mexico and its materials originate there. The courts have held in some instances that the anti-trust acts do not apply to monopolies in foreign countries, even if Americans are the organizers and beneficiaries.

As a temporary expedient the Federal Trade Commission has been asked to supervise the marketing of the present sisal crop in order that manufacturers buying this raw material shall have equitable treatment. This arrangement does not get at the root of the evil, however, and it is evident that the law must be amended so that monopolies may not be engineered by Americans in foreign countries, thus circumventing the antitrust laws, although deriving their profits from victims within the United States.—The Washington Post.

Barnyard manure applied to clover sod to be turned under later in the spring has yielded an average return of $4.69 a ton in experiments at the Iowa experiment station. Applications on clover-mixed meadows left for hay have produced an annual return of $3.75 a ton at the Iowa station.

Why Take A Chance?



WHEN you buy your grain binder this spring, do not make the mistake of experimenting with an untried or cheap machine. You cannot make money that way. A binder is useful for one purpose only—to get all the grain cut and bound in the short time allowed for the harvest. That is no time to risk experiments, especially when you do not have to. Choose your binder from one of the old reliable, yet up-to-date in every way, **International Harvester** binders sold under the trade names—

Champion Deering McCormick
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You will find practical farmers, who know what particular harvesting difficulties they must overcome each year, urging the use of some binder with an **IHC** name. Years of building and betterment have resulted in these machines that insure as complete a harvest as it is possible ever to get, even under worst field and grain conditions.

Look for the same high-grade workmanship, the same famous **IHC** quality in **IHC** twine. Make the most of your crops. Your local dealer can furnish you with **IHC** binder repairs and twine. See him or write to us for information.

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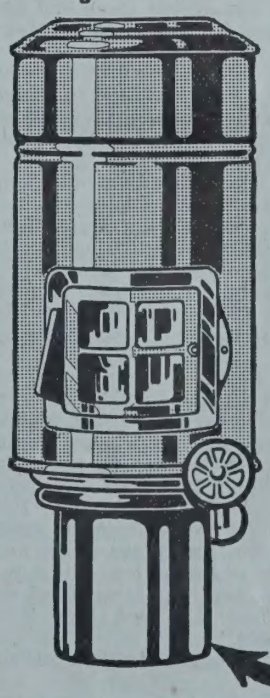

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David Dunne

A Romance of the Middle West

By BELLE KANARIS MANIATES

CHAPTER IV

Outside of the time allotted for the performance of wholesome amount of farm work and the preparation of his daily lessons, David was free for diversions which had hitherto entered sparingly into his life. After school hours and on Saturdays the Barnabas farm was the general rendezvous for all the children within a three-mile radius. The old woods by the river rang with the gay treble of childish laughter and the ecstatic barking of dogs dashing in frantic pursuit. There was always an open sesame to the cookie jar and the apple barrel.

David suffered the common fate of all in having a dark cloud. Jud was the dark cloud, and his silver lining had not yet materialized.

In height and physical strength Jud was the superior, so he delighted in taunting and goading the younger boy. There finally came a day when instinctive self-respect upheld David in no longer resisting the call to arms. Knowing Barnabas' disapproval of fighting, and his mother's parting admonition pricking his conscience, he went into the battle reluctantly and half-heartedly, so the fight was not prolonged, and Jud's victory came easily. Barnabas, hurrying to the scene of action, called Jud off and reprimanded him for fighting a smaller boy, which hurt David far more than did the pummeling he had received.

"What wuz you fighting fer, anyway?" he demanded of David.

"Nothing," replied David laconically, "just fighting."

"Jud picks on Daviey all the time," was the information furnished by the indignant Janey, who had followed her father.

"Well, I forbid either one of you to fight again. Now, Jud, see that you leave Dave alone after this."

Emboldened by his easily won conquest and David's apparent lack of prowess, Jud continued his jeering and nagging, but David set his lips in a tight line of finality and endured in silence until there came the taunt superlative.

"Your mother was a washerwoman, and your father a convict."

There surged through David a fierce animal hate. With a tight closing of his hardy young fist, he rushed to the onslaught so swiftly and so impetuously that Jud recoiled in fear and surprise. With his first tiger-like leap David had the older boy by the throat and bore him to the ground, maintaining and tightening his grip as they went down.

"I'll kill you!"

David's voice was steady and calm, but the boy on the ground underneath felt the very hairs of his head rising at the look in the dark eyes above his own.

Fortunately for both of them Barnabas was again at hand.

He jerked David to his feet.

"Fightin' again, are you, after I told you not to!"

"It was him, David, that began it. I never struck him," whimpered Jud, edging away behind his father.

"Did you, David?" asked Barnabas bluntly, still keeping his hold on the boy, who was quivering with passion.

"Yes."

His voice sounded odd and tired, and there was an ache of bafflement in his young eyes.

"What fer? What did he do to make you so mad?"

"He said my mother was a washerwoman and my father a convict! Let me go! I'll kill him!"

With a returning rush of his passion, David struggled in the man's grasp.

"Wait, Dave, I'll tend to him. Go to the barn, Jud!" he commanded his son.

Jud quailed before this new, strange note in his father's voice.

"David was fighting. You said neither of us was to fight. 'T ain't fair to take it out on me."

Fairness was one of Barnabas' fixed and prominent qualities, but Jud was not to gain favor by it this time.

"Well, you don't suppose I'm a-goin' to lick Dave fer defendin' his parents, do you? Besides, I'm not a-goin' to lick you fer fightin', but fer sayin' what you did. I guess you'd hev found out that Dave could wallop you ef he is smaller and younger."

"He can't!" snarled Jud. "I didn't have no show. He came at me by surprise."

Barnabas reflected a moment. Then he said gravely:

"When it's in the blood of two fellers to fight, why thar's got to be a fight, that's all. Thar won't never be no peace until this ere question 's settled. Dave, do you still want to fight him?"

A fierce aftermath of passion gleamed in David's eyes.

"Yes!" he cried, his nostrils quivering.

"And you'll fight fair? Jest to punish—with no thought of killin'?"

"I'll fight fair," agreed the boy.

"I'll see that you do. Come here, Jud."

"I don't want to fight," protested Jud sullenly.

"He's afraid," said David gleefully, every muscle quivering and straining.

"I ain't!" yelled Jud.

"Come on, then," challenged David, a fierce joy tugging at his heart.

Jud came with deliberate precision and a swing of his left. He was heavier and harder, but David was more agile, and his whole heart was in the fight this time. They clutched and grappled and parried, and finally went down; first one was on top, then the other. It was the wage of brute force against elasticity; bluster against valor. At last David bore his oppressor backward and downward. Jud, exhausted, ceased to struggle.

"Thar!" exclaimed Barnabas, drawing a relieved breath. "I guess you know how you stand now, and we'll all feel better. You've got all that's comin' to you, Jud, without no more from me. You can both go to the house and wash up."

Uncle Larimy had arrived at the finish of the fight.

"What's the trouble, Barnabas?" he asked interestedly, as the boys walked away.

The explanation was given, but they spoke in tones so low that David could not overhear any part of the conversation from the men following him until, as they neared the house, Uncle Larimy said: "I was afreed Dave hed his pa's temper snoozin' inside him. Mebby he'd orter be told fer a warnin'."

"I don't want to say nuthin' about it less I hev to. I'll wait till the next time he loses his temper."

David ducked his head in the wash basin on the bench outside the door. After supper, when Barnabas came out on the back porch for his hour of pipe, he called his young charge to him. Since the fight, David's face had worn a subdued but contented expression.

"Looks," thought Barnabas, "kinder eased off, like a dog when he licks his chops arter the taste of blood has been drawed."

"Set down, Dave. I want to talk to you. You done right to fight fer yer folks, and you're a good fighter, which every boy orter be, but when I come up to you and Jud I see that in yer face that I didn't know was in you. You've got an orful temper, Dave. It's a good thing to hev—a mighty good thing, if you kin take keer of it, but if you let it go it's what leads to murder. Your pa hed the same kind of let-loose temper that got him into heaps of trouble."

"What did my father do?" he asked abruptly.

Instinctively he had shrunk from asking his mother this question, and pride had forbidden his seeking the knowledge elsewhere.

"Some day, when you are older, you will know all about it. But remember, when any one says anything like what Jud did, that yer ma wouldn't want fer you to hev thoughts of killin'. You see, you fought jest as well—probably better—when you hed cooled off a mite and hed promised to fight fair. And ef you can't wrastle your temper and down it as you did Jud, you're not a fust-class fighter."

"I'll try," said David slowly, unable, however, to feel much remorse for his outbreak.

"Jud 'll let you alone arter this. You'd better go to bed now. You need a little extry sleep."

M'ri came into his room when he was trying to mend a long rent in his shirt. He flushed uncomfortably when her eye fell on the garment. She took it from him.

"I'll mend it, David. I don't wonder that your patience slipped its leash, but—never fight when you have murder in your heart."

When she had left the room, Janey's face, pink and fair as a baby rose, looked in at the door.

"It's very wicked to fight and get so mad, Davey."

"I know it," he acknowledged readily. It was useless trying to make a girl understand.

There was a silence. Janey still lingered.

"Davey," she asked in an awed whisper, "does it feel nice to be wicked?"

David shook his head non-committally.

CHAPTER V

The rather strained relations between Jud and David were eased the next day by the excitement attending the big package Barnabas brought from town. It was addressed to David, but the removal of the outer wrapping disclosed a number of parcels neatly labeled, also a note from Joe, asking him to distribute the presents.

David first selected the parcel marked "Janey" and handed it to her.

"Blue beads!" she cried ecstatically.

"Let me see, Janey," said M'ri. "Why, they're real turquoises and with a gold clasp! I'll get you a string of blue beads for now, and you can put these away till you're grown up."

"I didn't tell Joe what to get for you, Aunt M'ri; honest, I didn't," exclaimed David, with a laugh, as he handed the freezer to her.

"We'll initiate it this very day, David."

David handed Barnabas his pipe and gave Jud a letter which he opened wonderingly, uttering a cry of pleasure when he realized the contents.

"It's an order on Harkness to let me pick out any rifle in his store. How did he know? Did you tell him, Dave?"

"Yes," was the quiet reply.

"Thank you, Dave. I'll ride right down and get it, and we'll go to the woods this afternoon and shoot at a mark."

"All right," agreed David heartily.

The atmosphere was now quite cleared by the proposed expenditure of ammunition, and M'ri experienced the sensation as of one beholding a rainbow.

David then turned his undivded attention to his own big package, which contained twelve books, his name on the fly-leaf of each. Robinson Crusoe, Swiss Family Robinson, Andersen's Fairy Tales, Arabian Nights, Life of Lincoln, Black Beauty, Oliver Twist, A Thousand Leagues Under the Sea, The Pathfinder, Gulliver's Travels, Uncle Tom's Cabin, and Young Ranchers comprised the selection. His eyes gleamed over the enticing titles.

"You shall have some book shelves for your room, David," promised M'ri, "and you can start your library. Joe has made a good foundation for one."

His eyes longed to read at once, but there were still the two packages, marked "Uncle Larimy" and "Miss Rhody," to deliver.

"I can see that Uncle Larimy has a fishing rod, but what do you suppose he has sent Rhody?" wondered M'ri.

"A black silk dress. I told him she wanted one."

"Take it right over there, David. She has waited almost a lifetime for it."

"Let me take Uncle Larimy's present," suggested Jud, " and then I'll ask him to go shooting with us this afternoon."

David amicably agreed, and went across fields to Miss Rhody's.

"Land sakes!" she exclaimed, looking at the parcel. "M'ri ain't a-goin' to hev another dress so soon, is she?"

"No, Miss Rhody. Some one else is, though."

"Who is it, David?" she asked curiously.

"You see Joe Forbes sent some presents from Chicago, and this is what he sent you."

"A calico," was her divination, as she opened the package.

"David Dunne!" she cried in shrill, piping tones, a spot of red on each cheek. "Just look here!" and she stroked lovingly the lustrous fold of shining silk.

"And if here ain't linings, and thread, and sewing silk, and hooks and eyes! Why, David Dunne, it can't be true! How did he know—David, you blessed boy, you must have told him!"

Impulsively she threw her arms about him and hugged him until he ruefully admitted to himself that she had Jud "beat on the clutch."

"And say, David, I'm a-goin' to wear this dress. I know folks as lets their silks wear out a-hangin' up in closets. Don't get half as many cracks when it hangs on yourself. I b'lieve as them Episcopals do in lettin' yer light shine, and I never wuz one of them as b'lieved in savin' yer best to be laid out in. Oh, Lord, David, I kin jest hear myself a-rustlin' round in it!"

"Maybe you'll get a husband now," suggested David gravely.

"Mebby. I'd orter ketch somethin' with this. I never see sech silk. It's much handsomer than the one Homer Bisbee's bride hed when she come here from the city. It's orful the way she wastes. Would you b'lieve it, David, the fust batch of pies she made, she never pricked, and they all puffed up and bust. David, look here! What's in this envylope? Forever and way back, ef it hain't a five-doller bill and a letter. I hain't got my glasses handy. Read it."

"Dear Miss Rhody," read the boy in his musical voice, "silk is none too good for you, and I want you to wear this and wear it out. If you don't, I'll never send you another. I thought you might want some more trimmings, so I send you a five for same. Sincerely yours, Joe."

"I don't need no trimmin's, excep' fifty cents for roochin's."

"I'll tell you what to do, Miss Rhody. When you get your dress made we'll go into town and you can get your picture taken in the dress and give it to Joe when he comes back."

"That's jest what I'll do. I never hed my likeness took. David, you've got an orful quick mind. Is Joe coming home? I thought he callated to go West."

"Not until fall. He's going to spend the summer in his shanty boat on the river."

"I'll hurry up and get it made up afore he comes. Tell me what he sent all your folks."

"Joe's a generous boy, like his ma's folks," she continued, when he had enumerated their gifts. "I am glad fer him that his pa and his stepmother was so scrimpin'. David, would you be'lieve it, in that great big house of the Forbeses thar wa'n't never a tidy on a chair, and not a picter on the wall! It was mighty lucky for Joe that his stepmother died fust, so he got all the money."

David hastened home and sought his retreat in the orchard with one of his books. M'ri, curious to know what his selection had been, scanned the titles of the remaining elven volumes.

"Well, who would have thought of a boy's preferring fairy tales!"

David read until dinner time, but spent the afternoon with Uncle Larimy and Jud in the woods, where they received good instruction in rifle practice. After supper he settled comfortably down with a book, from which he was recalled by a plaintive little wail.

"I haven't had a bit of fun to-day, Davey, and it's Saturday, and you haven't played with me at all!"

The book closed instantly.

"Come on out doors, Janey," he invited.

The sound of childish laughter fell pleasantly on M'ri's ears. She recalled what Joe Forbes had said about her own children, and an unbidden tear lingered on her lashes. This little space between twilight and lamplight was M'ri's favorite hour. In every season but winter it was spent on the west porch, where she could watch

the moon and the stars come out. Maybe, too, it was because from here she had been wont to sit in days gone by and watch for Martin's coming. The time and place were conducive to backward flights of memory, and M'ri's pictures of the past were most beguiling, except that last one when Martin Thorne, stern-faced, unrelenting, and vowing that he would never see her again, had left her alone—to do her duty.

When the children came in she joined them. Janey, flushed and breathless from play, was curled up on the couch beside David. He put his arm caressingly about her and began to relate one of Andersen's fairy tales. M'ri gazed at them tenderly, and was weaving a future little romance for her two young charges when Janey said petulantly: "I don't like fairy stories, Davey. Tell a real one."

M'ri noted the disappointment in the boy's eyes as he began the narrating of a more realistic story.

"David, where did you read that story?" she asked when he had finished.

"I made it up," he confessed.

"Why, David, I didn't know you had such a talent. You must be an author when you are a man."

Late that night she saw a light shining from beneath the young narrator's door.

"I ought to send him to bed," she meditated, "but, poor lad, he has had so few pleasures and, after all, childhood is the only time for thorough enjoyment, so why should I put a feather in its path?"

David read until after midnight, and went to bed with a book under his pillow that he might begin his pastime again at dawn.

After breakfast the next morning M'ri commanded the whole family to sit down and write their thanks to Joe. David's willing pen flew in space with his thoughts as he told of Miss Rhody's delight and his own revel in book land. Janey made most wretched work of her composition. She sighed and struggled with thoughts and pencil, which she gnawed at both ends. Finally she confessed that she couldn't think of anything more to say. M'ri came to inspect her literary effort, which was written in huge characters.

"Dear Joe—"

"Oh," commented M'ri doubtfully, "I don't know as you should address him so familiarly."

"I called him 'Joe' when we rode to school. He told me to," defended Janey.

"He's just like a boy," suggested David.

So M'ri, silenced, read on: "I thank you for your beyewtifull present which I cannot have."

"Oh, Janey," expostulated M'ri, laughing; "that doesn't sound very gracious."

"Well, you said I couldn't have them till I was grown up."

"I was wrong," admitted M'ri. "I didn't realize it then. We have to see a thing written sometimes to know how it sounds."

"May I wear them?" asked Janey exultingly. "May I put them on now?"

"Yes," consented M'ri.

Janey flew upstairs and came back wearing the adored turquoises, which made her eyes most beautifully blue.

"Now I can write," she affirmed, taking up her pencil with the impetus of an incentive. Under the inspiration of the beads around her neck, she wrote: "Dear Joe:

"I am wearing the beyewtifull beeds you sent me around my neck. Aunt MerI says they are terkwoyses. I never had such nice beeds and I thank you. I wish I cood ride with you agen. Good bye. From your frend,

"Janey."

CHAPTER VI

The next day being town day, David "hooked up" Old Hundred and drove to the house. After the butter crock, egg pails, and kerosene and gasoline cans had been piled in, Barnabas squeezed into the space beside David. M'ri came out with a memorandum of supplies for them to get in town. To David she handed a big bunch of spicy, pink June roses.

"What shall I do with them?" he asked wonderingly.

"Give them to some one who looks as if he needed flowers," she replied.

"I will," declared the boy interestedly. "I will watch them all and see how they look at the roses."

At last M'ri had a kindred spirit in her household. Jud would have sneered, and Janey would not have understood. To Barnabas all flowers looked alike.

It had become to be a custom for Barnabas to take David to town with him at least once a week. The trip was necessarily a slow one, for from almost every farmhouse he received a petition to "do a little errand in town." As the good nature and accommodating tendency of Barnabas were well known, they were accordingly imposed upon. He received commissions of every character, from the purchase of a corn sheller to the matching of a blue ribbon. He also stopped to pick up a child or two en route to school or to give a lift to a weary pedestrian whom he overtook.

While Barnabas made his usual rounds of the groceries, meatmarket, drug store, mill, feed store, general store, and a hotel where he was well known, David was free to go where he liked. Usually he accompanied Barnabas, but to-day, he walked slowly up the principal business street, watching for "one who needed flowers." Many glances were bestowed upon the roses, some admiring, some careless, and then—his heart almost stopped beating at the significance—Judge Thorne came by. He, too, glanced at the roses. His gaze lingered, and a look came into his eyes that stimulated David's passion for romance.

"He's remembering," he thought joyfully.

He didn't hesitate even an instant. He stopped in front of the Judge and extended the flowers.

"Would you like these roses, Judge Thorne?" he asked courteously.

Then for the first time the Judge's attention was diverted from the flowers.

"Your face is familiar, my lad, but—"

"My name is David Dunne."

"Yes, to be sure, but it must be four years or more since I last saw you. How's your mother getting along?"

The boy's face paled.

"She died three weeks ago," he answered.

"Oh, my lad," he exclaimed in shocked tones, "I didn't know! I only returned last night from a long journey. But with whom are you living?"

"With Aunt M'ri and Uncle Barnabas."

"Oh!"

The impressive silence following this exclamation was broken by the Judge.

"Why do you offer me these flowers, David?"

"Aunt M'ri picked them and told me to give them to some one who looked as if they needed flowers."

The Judge eyed him with the keen scrutiny of the trained lawyer, but the boy's face was non-committal.

"Come up into my office with me, David," commanded the Judge, turning quickly into a near-by stairway. David followed up the stairs and into a suite of well-appointed offices.

A clerk looked up in surprise at the sight of the dignified judge carrying a bouquet of old-fashioned roses and accompanied by a country lad.

"Good morning, Mathews. I am engaged, if any one comes."

He preceded David into a room on whose outer door was the deterred word, "Private."

While the Judge got a pitcher of water to hold the flowers David crossed the room. On a table near the window was a rack of books which he eagerly inspected. To his delight he saw a volume of Andersen's Fairy Tales. Instantly the book was opened, and he was devouring a story.

"David," spoke the Judge from the other end of the room, "didn't these roses grow on a bush by the west porch?"

There was no answer.

The Judge, remarking the boy's absorption, came to see what he was reading.

"Andersen's Fairy Tales! My favorite book. I didn't know that boys liked fairy stories."

David looked up quickly.

"I didn't know that lawyers did, either."

"Well, I do, David. They are my most delightful diversion."

"Girls don't like fairy stories," mused David. "Anyway, Janey does n't. I have to tell true stories to please her."

"Oh, you are a yarner, are you?"

"Yes," admitted David modestly. "Aunt M'ri thinks I will be a writer when I grow up, but I think I should like to be a lawyer."

"David," asked the Judge abruptly, "did Miss Brumble tell you to give me those roses?"

With a wild flashing of eyes the Dunne temper awoke, and the boy's under jaw shot forward.

"No!" he answered fiercely. "She didn't know that I know—"

He paused in mid-channel of such deep waters.

"That you know what?" demanded the Judge in his cross-examining tone.

David was doubtful of the consequences of his temerity, but he stood his ground.

"I can't tell you what, because I promised not to. Some one was just thinking out loud, and I overheard."

There was silence for a moment.

"David, I remember your father telling me, years ago, that he had a little son with a big imagination which his mother fed by telling stories every night at bedtime."

"Will you tell me," asked David earnestly, "about my father? What was it he did? Uncle Barnabas told me something about his trouble last Saturday."

"How did he come to mention your father to you?"

David reddened.

"Jud twitted me about my mother taking in washing and about my father being a convict, and I knocked him down. I told him I would kill him. Uncle Barnabas pulled me off."

"And then?"

"Then he let us fight it out."

"And you licked?"

"Yes, sir" replied the boy, with proud modesty.

"You naturally would, with that under jaw, but it's the animal in us that makes us want to kill, and the man in us should rise above the animal. I think I am the person to tell you about your father. He had every reason to make good, but he was unfortunate in his choice of associates and he acquired some of their habits. He had a violent temper, and one night when he was—"

"Drunk," supplied David gravely.

"He became angry with one of his friends and tried to kill him. Your father was given a comparatively short sentence, which he had almost served when he died. You must guard against your temper and cultivate patience and endurance—qualities your mother possessed."

It suddenly and overwhelmingly flashed across David what need his mother must have had for such traits, and he turned away to force back his tears. The Judge saw the heaving of the slender, square, young shoulders, and the gray eyes that were wont to look so coldly upon the world and its people grew soft and surprisingly moist.

"It's past now, David, and can't be helped, but you are going to aim to be the kind of man your mother would want you to be. You must learn to put up with Jud's tyranny because his father and his aunt are your benefactors. I have been away the greater part of the time since your father's death, or I should have kept track of you and your mother. Every time you come to town I want you to come up here and report to me. Will you?"

Thank you, sir. And I will bring you some more flowers."

(To be continued.)

What do our boy readers think of our serial story, David Dunne? We would like to have you write us a letter and tell us what you think of the story and which of the characters interest you most. We will be glad to print your letters in The Missouri Farmer.

What Would We Do Without Sugar?

GATHERING SUGAR CANE

HOW SUGAR CANE GROWS

We are so used to sugar that we are likely to forget to give it its properly important place. Right now if somebody asked you what sugar was good for you'd probably say—"Oh! to put in coffee and tea and for making candies and desserts." That's it—we all think of sugar as a sweetener and overlook its value as a food.

The chemists classify sugar as a hydrocarbon—that name may or may not be interesting to us, but what is interesting is their statement that it has, as a hydrocarbon, equal food value with the starchy foods and by digestion largely adds to the fatty tissues of the body.

Why do we eat sugar anyway? Your first answer might be: "Because it is sweet and tastes good." Of itself the answer would be correct, but the more important fact is that the body craves sugar because it needs it. And when the body craves something it gives us an appetite for it. So primarily that's why we like sugar and things made with sugar and not just because they are sweet.

In view of the fact that sugar has gone up so tremendously of late these facts are interesting because we find that instead of the luxury sugar having gone up it is the FOOD sugar that has raised its price. Yet—even though the price is up we have to have our sweet food just the same.

Certainly the makers of that delicious beverage Coca-Cola must have discovered that sugar is up, because one of the principal ingredients in making Coca-Cola syrup is fine cane sugar. Think of it!—they use an average of 80 tons of sugar a day—about 4 carloads. But unlike many manufacturers that company has itself borne the raise and so you and I pay just the same today for our bottle or glass of Coca-Cola that we've always paid. Incidentally, this phase of the situation is a good reminder of the benefits one gets from drinking a beverage as pure and good as Coca-Cola. Not only do we please our palates and derive wholesome refreshment from the drink but we also give our systems that bit of sugar sweetness that they crave and which is necessary to health and tissues. Is it any wonder then that Coca-Cola is so popular and so universally drunk that it has been called "the drink the nation drinks"?

Photos By American Photo Co. Havana

TYPICAL CUBAN SUGAR MILL.

11F

BUCKSHOT BY THE PROFESSOR

Some mighty queer things are going on in the world these days. Everybody seems to be fighting everybody else and those who are not mixed up yet seem to be carrying a chip on their shoulders watching for a chance. The other night I saw more stars falling than I ever witnessed in six months before. Maybe old St. Peter is getting ready to blow the trumpet.

Don't you let anybody put the notion into your head that the Land Bank Bill is "a step toward the Single Tax." Somebody is trying to throw sand in the farmers eyes. This is a campaign year you know and we've got to look out for campaign lies.

If the average mule was permitted to express his real opinion of the fellow who owns and drives him he would doubtless kick him over into the next field.

Maybe the railroads deserve to be kicked around every day in the year because I guess there are some crooks mixed up with the railroad business as well as with other things. But when a Congressman or Senator does it, it would sit better on my stomach if he first refused to collect 10c per mile from the government for every mile he travels on a railroad—pay the railroad two or three cents per mile and then put the balance in his pocket. There is an old saying that he who would invoke equity must do so with clean hands.

There are a pile of fellows trying to figure out whether the Germans will ever be able to take Verdun or not who ought to be running a manure spreader.

I smoked a campaign sigar a couple of weeks ago and wasn't able to write my stuff for the paper. As was to be expected however, that Jim Riley person was on hand. You couldn't keep him out with a club.

Nine times out of ten when you run across an old whiskered codger who swells up and tells you that nobody can tell him anything about farming, its one of those fellows who bought his land for ten dollars per acre years ago—or else inherited it.

Some fellow has said that a widow is a woman who has quit finding tault with her husband. To my way of thinking however it all depends on whether he is dead or not. People should be more careful about what they say.

I see nearly every candidate for governor is assuring his audiences that he doesn't know how to dance. But the real milk in the coconut is, do they know how to do anything else?

After this I am going to build nothing but barb wire fences so candidates for office can't perch up on them and wait for me to plow the round. Actually they're so thick in my county that there's no place for the crows to sit.

A lot of the Farm Clubs which were organized through the great fight made by this paper last winter have saved a lot of money in buying such things as bran, ship stuff and other similar commodities. A lot of them are saving between 3 to 5c per lb. on binder twine too. Better write the Publisher and ask him how they do it.

If vou will send in a dollar and renew your subscription for three years to this paper they will send you enough Sudan grass and Feterita to sow a big patch next year. They also throw in a package of beautiful flower seeds. Better send in your dollar today and get your seeds right away.

By Old Jim Riley

Talkin' about th' way a little old Ford gits over th' ground, did you notice how little old Henry ran fer President in th' primaries up in Nebrasky th' other day? Henry explained it by sayin' that it was th' "latest Ford joke"—but some of these fellers that are hoopin' it up fer war are laffin' on th' other side of their whiskers. Anyhow, a jack rabbit ain't got nuthin' on Henry when it comes to runnin'. Didn't see anything of that Professor feller in the last issue. Guess he must have the mumps.

POSSUM HOLLER DOINS

The rain caused the Possum Holler gang to round up at "Hez" Brown's store Saturday afternoon and many important matters were brought up and disposed of to the satisfaction of all concerned except "Chouce" Baker. "Jep" Thompson says that "Chouce" has such an ingrown grouch that the angel Gabriel couldn't please him. "Chouce" started things off by saying that the World has more "ignerance" in it today than ever before and offered to prove it by the way the farmers up in Nebraska voted for Henry Ford for President a few days ago. "What's grindin you republicans" said "Jep" "is that this little Tin Lizard manufacturer from Detroit is provin' that the people ain't in for whoopin up this war stuff. Little old Henry is soapin the track for you and of course some of the Big Chiefs of your party don't like it—and so they git their papers to hammer Ford so's that fellows like you will commence to yelp at the cross roads." "Well I guess some of the soap is splashin' over in your direction too" countered "Chouce." "Seems to me that Woodrow would pick a fuss with a bunch of spring lambs if he had half a chance these days. Fer instance take that last note that he wrote to—" But at this stage of the game the "Judge" dropped in with a basketful of fresh eggs which he exchanged for some coffee and a quarters worth of "smokin" and somebody asked him what he thought about it and this is what he said: "Well now so far as this little feller Ford is concerned, I think he's kind of harmless like but just the same he ain't as much of a joke as some of us may think. Of course he ain't serious about runnin' for President and I guess the people who have been votin' for him know this perfectly well—but they are usin' Henry to register a protest against this attempt to get the Country crazy for war and unless I am mightily mistaken its goin' to make a lot of the big fellers in both parties sit up and take notice. So far as a powerful Navy and a real army are concerned, of course all of us should be for these things within' the bounds of reason. The whole World is on fire and one way to prevent war is to be prepared for it. But on the other hand, we shouldn't go crazy over it. There wouldn't be nearly as many people killed if men would pit packin' pistols and so its mighty easy to get into war when you've got a big army standin' around doin' nuthin. Before long like as not, we'll strike a happy medium which will solve the thing. If we can give the young men of the Country a trainin' which will make them better physically and at the same time teach them how to be good soldiers when the necessity arises, this is the kind of plan I'd be in favor of. What I don't like is the idea of a big standin' army which hasn't got anything to do but to look fer trouble. In the meantime, its the duty of all of us to think over these matters deeply for the fellers at the National Capitol will do whatever they think we want in the wind up."

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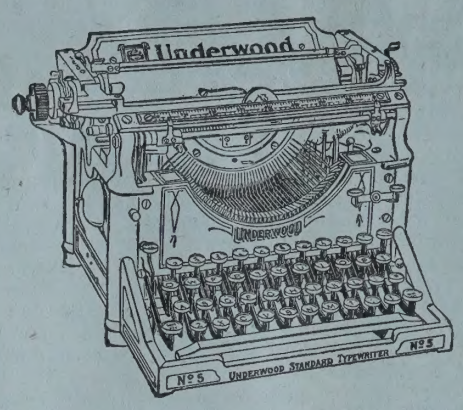

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REPORT OF CANE CREEK HOMEMAKERS' CLUB

The Cane Creek Homemakers Club was organized March 4, 1914, by Miss Bab Bell. After having discussed canning, drafting of paterns, receipts, etc., to a house well filled with ladies.

The club now numbers twenty-four members.. Our club is a wide awake, jolly crowd, which is entertained the second Wendesday afternoon of each month by one of its number. Our business hour is from 2 to 3 o'clock.

Our officers are well fitted to their places and are always ready to suggest something new for each meeting that keeps up the interest. After having followed the program sent us, we for a change, had readings of their own selections from different members. These selections were well suited to the club and were very much enjoyed by all. Also exchanging of "tried and true" recipes, was a feature that met with general approval.

Our meetings besides being a pleasantly spent afternoon is one of help to one another as quilting or some other work is usually provided by the hostess.

The greatest thing of the Homemakers Club in our community is that it has brought a hitherto unsociable crowd of ladies together and united them in a sisterly love. Living here always in a neighborhood we never seemed to know each other, only recognized the other with a casual bow, sometimes a "How are you," but now when we meet all is different. We feel free to stop and have a social chat, and each and every one feels kindly toward the other, and all anxiously await the next meeting and feel after enjoying a pleasant afternoon and a splendid lunch that it was a few hours well spent and return home happier by it and feel that our own farm life is not so dull after all, and that being a member of the Cane Creek Homemakers Club is well worth while.

We also have a reporter, who sends te happenings of this club to the editor of Cape Girardeau Weekly Republican, the leading paper of Cape Girardeau County, which publishes the same, and the public in general is well posted in regard to the progress of our club. Committe.

Mrs. H. R. Meier.
Mrs. Wade Clodfelter.
Mrs. Greer Davis.

HOW TO PREVENT "CATCHING COLD"

"Colds are catching," says Dr. I. J. Murphy, of the Minnesota Public Health Association. "People suffering with a cold should not cough or sneeze without holding a handkerchief over both nose and mouth. They should spit only in proper receptacles. Small drops containing millions of germs may be scattered about in coughing, sneezing, or as a result of ordinary conversation. A person with an acute cold should try not to infect others.

"To keep up the general resistance the skin should be kept in a healthy condition. This can be done best by taking a warm bath at bed time at least twice a week and a cold shower or a sponge bath of very short duration every morning.

"At this time of the year most living quarters are kept too warm. The habit of living in overheated rooms lowers the general resistance and injures the membrane lining of the nose and throat so that one becomes easily a victim to a cold, bronchitis, or pneumonia. Fresh air, too, is just as essential in a sleeping room in the winter time as it is in the summer time. It should not be excluded, but there should be a proper amount of clothing

ADDITIONAL CLASSIFIED

S. C. BUFF ORPINGTON EGGS—$1.50 per 15. Baby chicks 20c. each. C. D. Henry, Tipton, Mo.

SINGLE COMB WHITE LEGHORNS—Eggs from heavy laying stock, $2.50 per 100. Carefully packed. Minnie Addy, Rt. No. 2., Pattonsburg, Mo.

WANTED QUICK.—Name and address of reliable single man having enough ability to manage large farm or ranch successfully. Address A. W. Ward, Box 366, Valley, Nebr.

SINGLE COMB WHITE LEGHORNS—None better. Won First on Pullet at Northwest Mo. Poultry Show. 1915 eggs free range $1.50 for 15 or $6.00 per 100. Mrs. Charlie Nicholas, Burlington Junction, Mo.

FOR SALE.—20 horse power Fairbanks & Morse gasoline engine, used three years. Also a 36-inch under runner burr and corn sheller with pulleys, elevator buckets, etc. Price $600.00. Address C. S., The Missouri Farmer.

FOR EXCHANGE.—A stock of general merchandise consisting of dry goods, groceries, shoes, clothing, drugs, hardware and undertaking. Will invoice about $12,000.00 to $13,000.00. Also a two story brick store building valued at $3,500.00. Want a good farm or Columbia income property. No mortgages accepted. Address, C. S., The Missouri Farmer.

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for protection. Clothing should suit the kind of weather, not the season. In warm spells clothing should be reduced; in cold snaps, increased. Clothing should be reduced when one enters a warm room and put on again when exposed to the cold."

MOTHER'S MILK HAS PROTECTIVE POWER

Unless absolutely impossible, all babies should be nursed by their mothers. Artificial feeding is a substitute which should be resorted to only of necessity, says Dr. M. P. Ravenel of the department of preventive medicine of the University of Missouri. If the mother is suffereing from tuberculosis or some chronic and exhausting disease, the child should be artificially fed. In some cases the mother cannot supply nourishment enough for the child. Her milk is either totally lacking or else deficient in quantity.

The flow of milk usually comes on about the third day, sometimes not until the fourth or fifth day. How should a baby be fed in the meantime? Clearly nature did not intend a newborn baby to have much nourishment. What it needs is plenty of sleep. It should be put to the breast not oftener than three or four times in twenty-four hours. If it becomes sleepless and fretful, a teaspoonful of pure water, cool but not cold, should be given to it. After the flow of milk is established, nursing should be approximately according to the following schedule from the book of Doctor Holt:

First and second day, 4 nursings in 24 hours, 6 hours apart in daytime, 1 nursing at night. From 3 days to 6 weeks old, 10 nursings in 24 hours, 2 hours apart with only 2 at night from 10 P. M. to 6 A. M. From 6 weeks to 3 months old 8 nursings in 24 hours, 2½ hours apart, From 3 to 5 months old 7 nursings in 24 hours, 3 hours apart with only 1 at night. From 5 to 12 months old 6 nursings in 24 hours, 3 hours apart all between 6 A. M. and 10 P. M.

If the mother's milk is insufficient, it may be necessary to supply the baby with some artificial food, but in no case should the child be deprived of the amount of milk its mother can furnish. Entire breast feeding is the best, but when this is impossible, partial breast feeding is much better than wholly artificial feeding. The mother's milk is not only the most easily digested by the child, but seems to contain a ferment which assists in digesting cow's milk, consequently even an insufficient supply should be continued as long as possible. It seems certain, also, that mother's milk has some protective power, as it is well known that nursing children do not contract some contagious diseases as much as those not so fed.

If the mother's milk seems to disagree with the child, the mother herself should be treated. Often her milk can be made nutritious, wholesome and plentiful if a little care and proper feeding is given. She should avoid adverse mental conditions, such as worry, grief, fright and anger, which occasionally so change the milk as to make it positively harmful. Sour, highly salted or spiced food, and alcoholic beverages of all sorts should be avoided.

In case the baby does not seem to be doing well, consult a competent physician, and have him examine both the mother and the child.

GROWING CHICKS NEED GOOD FOOD

Growing chicks require an abundance of food which contains muscle and bone making material. Other things being equal, failure to grow can be attributed to an insufficient food supply, a lack of muscle making food or too little mineral matter such as bone meal.

A chick grows at an enormous rate. At the University of Missouri it was found that a chick weighed at 14 weeks just sixteen times what it did when hatched. If an infant grew as fast, a baby weighing seven pounds at birth would weigh 112 pounds when 14 weeks old. This shows that chicks should be fed liberally and emphasizes the importance of selecting the right kind of food.

Because of the remainder of the yoke sack being drawn into the body at hatching, liberal feeding is not advisable until after the first week. The chick can live for nearly a week on the supply of food it had before hatching. Liberal feeding during this time would retard the absorption of this yoke sack and might cause trouble. When the chick is 48 hours old a few grains of sharp, fine sand should be fed. The sand stimulates the digestive organs and gets them in working order.

The chick's food should consist of cracked grains such as corn, wheat and steel-cut oats, fed in combination with some ground food like bread crumbs, corn bread or rolled oats. At the University the ration for the first week consists of "chick food" fed three times a day and rolled oats the other two. Sour milk is also fed. The acid in the milk is harmful to some disease germs and the milk furnishes muscle forming food. Water with the chill removed is fed in a fountain so constructed that the chicks cannot get wet. After the first week a mixture of bran, shorts and corn meal is substituted for the rolled oats. When milk is not fed fifteen pounds of fine beef scrap and one part of bone meal should be added to every 100 pounds of the mixture. The bone meal will prevent leg weakness. If the chicks are confined, finely cut green grass, alfalfa leaves, onions, etc., will keep the bowels loose and the chick healthy.

Gradually the finer grains can be replaced by coarser. The dry mash can remain as above. All the feed can be placed in hoppers where the chicks may help themselves. Fine grit should always be available. When the chicks have passed the danger point a wet mash daily at about 4 p. m. will induce them to eat more and will result in a more rapid growth.

Eggs can be fed raw in stirring one in some dry feed and feeding this mixture to about sixty chicks. At all times the food must be clean and free from mustiness or digestive troubles are sure to result. The keeping of the quarters clean and sweet is equally important.

Have you organized a farm club in your district? If not, write us for particulars.

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Of the four Wabash trains daily to Chicago, two are now solid steel, from engine to observation platform; and the other two have steel equipment.

Your next trip will show *you* that every item of train service has been raised to the highest standard, via

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New double track has been laid; miles of it. Curves have been eliminated; grades reduced and 90 lb. rails put in—a finer, smoother track doesn't exist.

New Pacific-type engines; 2,000 h. p. giants that pull easily and smoothly and keep trains on time.

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The premiums in the Farm Bureau Contest. Mongol, Ito San, Mikado and Aubern varieties. Price $2.60 to $2.90 per bu. Sacks free. Send for samples.

JESSE J. CULP, Warrensburg, Mo.

Live Stock Notes

R. P. ROYCE, Fieldman

COMING SALES

ANGUS CATTLE
E. H. Salisbury, Kirksville, Mo., May 26.

POLAND CHINA HOGS
Leonard McMullen, Sikeston, Mo., May 26.

Thomson Bros' Durocs

The other day the writer saw Geo. E. Thomson, the Duroc breeder, so well known to our readers, and he was very enthusiastic over the splendid lot of spring pigs he has coming on. Mr. Thomson stated that most of the pigs this year were by Col. Wonder II, the prize winning son of the champion Col. Wonder, and were living demonstrations of the value of this boar as a sire. Mr. Thomson will be ready to ship spring pigs before long and will be glad to hear from any of our readers who may be in the market.

Cooke and Son's Holsteins

S. W. Cooke and Sons, Maysville, Mo., have one of the best collections of Holsteins in Missouri and at all times are in a position to furnish our readers with breeding stock of high quality. This herd has been built up along the most approved lines, and while large milk yields have been insisted upon Messrs Cooke have also given considerable attention to developing high testing cows. A very desirable lot of young bulls, from high producing cows and sired by Prince Segis Walker Pietertje 123955 are now in offer. This bull was purchased from the celebrated Emblagaard herd, Big Bay, Mich. The records of his dam and granddam and the ten nearest dams of his sire average 29.76 lbs. of butter in 7 days. Of these twelve, seven are 30-lb. cows; two are over 29-lbs.; one over 28-lbs., and one 27.85 lbs. The dam of his sire, Segis Walker Pietertje (butter, 7 days, 27.85 lbs., test 4.73 per cent at 3 years of age) and her four dams, going back to the great cow, Prillys, dam of Beauty Pietertje, hold the worlds record for four and five generations. The records show that only three other families have produced a 30-lb. cow that has produced a 30-lb. daughter and a 30-lb. grand daughter.

Turpin Offers Angus Bulls and Heifers

Robert D. Turpin, Carrollton, Mo., announces, elsewhere in this issue that he has for sale seven extra good Angus bulls, ranging in age from 12 to 19 months. This herd was established in 1882 by W. J. Turpin and has always been maintained on a high and practical basis. The young stuff now offered is well bred, represent several of the most popular and useful families of the breed; is of the right type for profitable beef production and is priced worth the money. In addition to the bulls referred to, Mr. Turpin advises us that he has a desirable lot of heifers for sale. We feel sure that our readers will do well to look this offering up.

Bennett Bros'. Smooth Columbus Polands

Benntt Bros., Lee's Summitt, Mo., whose good herd of Poland Chinas is headed by the great boar, Smooth Columbus, write that they have had excellent litters this spring and have been able to save most of the pigs. Messrs. Bennett are among the most aggressive breders in the state and have succeeded in establishing a herd that ranks with the best. They have a nice lot of fall boars and gilts on hand that are very attractive buys for any of our readers who are looking for something good and priced worth the money.

White Well Pleased with Select Col II

A White, Jr., Palmyra, Mo., is jubilant over the way his great boar Select Col. II is showing up as a sire of the big type Durocs so much in demand. It will be recalled that Mr. White added this boar to his herd something over a year ago and the present crop of pigs is really the first chance he has had to get a line on how Select Col. II would cross on his great lot of sows. The spring pigs by this boar are all that could be expected and are sure to be in great demand. The writer regards Select Col. II as one of the greatest individuals the breed has produced. He has extreme size—easily a 1000 lb. boar—and along with his ability to pull down the scales he is right in every way from his head to his toes. Mr. White has several litters by the boar and also a number by his old standby, Crimson Col. I Am. We will have more to say about this herd in subsequent issues.

Big Early Duroc Pigs

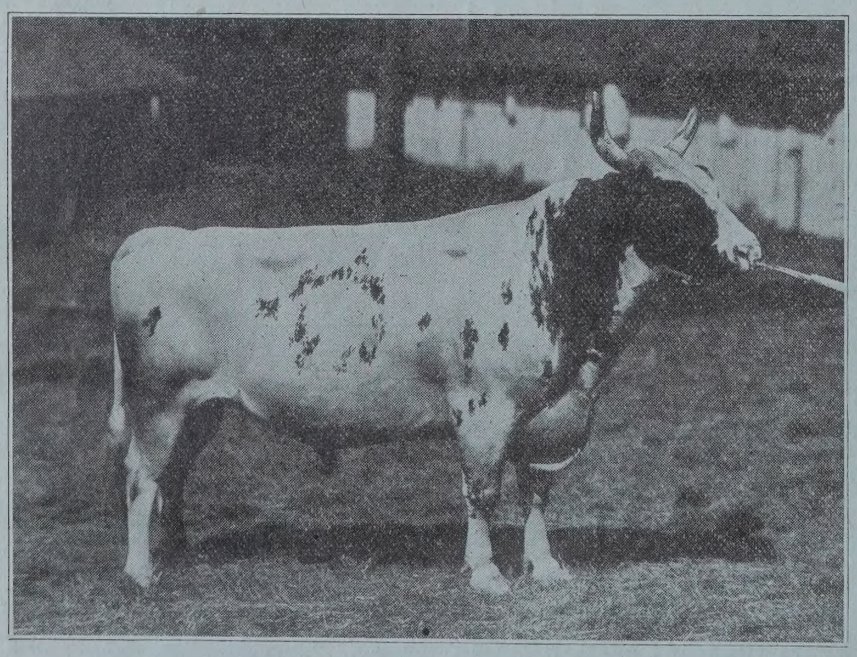
R. L. Hill, Columbia, Mo., now offers a choice lot of early spring Duroc pigs. Most of these pigs are sired by Col. Wonder II, one of the best Duroc boars in the state, Merry Chief, a splendid young boar, and Rexall Col., a good son of Select Col. II. Mr. Hill states that none of these pigs are from litters of less than 11. If you want splendid values in big type, prolific Durocs get in touch with Mr. Hill.

Bridges Bros. Poland China Herd in Fine Shape

Bridges Bros., Slater, Mo., whose herd of Poland Chinas is familiar to the readers of this paper write that everything points to a splendid year for them. They have a large number of spring pigs that represent the very cream of the best blood known to the breed. Aside from the litters by their two splendid young herd boars, Bridges' Bob Wonder, and Long Wonder Timm, this firm is able to offer litters by Big Bob, Long Big Bone, Grand Master, Smooth Columbus, Fessy's Timm, King of Wonders, and other noted boars.

No firm in the state understand handling hogs better than the Bridges boys and we can assure our readers that they will be able to pick some exceptional values from this herd.

The herd is immune and satisfaction is guaranteed—and our readers can depend on statements made by this firm. We would saggest to those who are interested that they write this firm now and ask that they reserve a good boar to be shipped when old enough.



Auchenbrain Good Gift 15487, Grand Champion Ayrshire bull at Iowa State Fair 1915, also a winner at National Dairy Show, Waterloo Dairy Show, Iowa and Minnesota State Fairs, and the largest Canadian exhibitions during the last five years.

POLAND CHINAS

Smooth Columbus
THE BOAR THAT PUT MISSOURI ON THE MAP. HEADS OUR HERD

SMOOTH COLUMBUS BLOOD has held the record in Missouri for two years—it will do it again next year. Fall pigs, either sex, by this great boar, now offered for sale.
BENNETT BROS. R. 5, LEE'S SUMMIT, MO.

Spring Boars by the Grand Champion
A desirable lot of early spring boars by The Giant, acknowledged to be one of the greatest young Poland China boars of the breed. Prices within reach of all.
WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

Poland Chinas & Shorthorns
Bred sows and gilts. The real big kind with bone and quality. A few serviceable boars. Several extra good young bulls and heifers.
Satisfaction guaranteed.
H. S. Williamson, Route 6 Centralia, Mo.

BAKER'S REAL BIG-TYPE POLANDS
We have a number of extra good spring boars sired by Big Look that we are offering worth the money. Need the room and must sell.
W. A. BAKER & SONS, BUTLER, MO.

Linhardt's Polands
I have a choice lot of extra good fall gilts sired by outstanding boars. Customers in 26 states. GIANT MAMMOTH 68375 and CHIEF BIG BONE 75856 in service. Priced for farm trade.
H. O. LINHARDT, LOHMAN, MO.

DOOLEY'S SPOTTED POLANDS
Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pair and trios no relation. Also registry furnished. Send check with first letter.
EDGAR DOOLEY, - Ettervile, Mo.

DUROC JERSEYS

THE BEST DUROC BLOOD--COL. WONDER
At recent Missouri State Fair my herd won 35 ribbons—3 championships, 15 firsts. Col. Wonder sires my champions—he will sire them for you. Choice bred gilts. Nothing but the best sent on mail orders.
CHAS. L. TAYLOR - - - - - - Olean, Mo.

Durocs With Size and Bone
I am offering a choice lot of early spring pigs with unusual size, bone and quality. Bred right and priced right. Visitors welcome.
A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

BIG EARLY DUROC SPRING PIGS
Pigs with size, lots of bone and quality sired by our big prize-winning boars, Col. Wonder II., Merry Chief, and Rexall Col., and out of big prolific sows. None from litters of less than 11. Spring pigs are cheapest to buy, costs practically nothing to ship them, and they can be grown cheaply.
R. L. (BOB) HILL ADENHILL FARM, - - COLUMBIA, MO.

50 DUROC BOARS
High Class Fall Boars, from the Big Type Herd of Mo. That produced All The First Prize Jr. Pigs at the Mo. State Fair 1915. Some rare opportunities. Sired by the great breeding boar, Unsell's Defender. From Americas most noted Duroc Sows. Make your selections early. Write today.
DR. J. B. UNSELL, - Louisiana, Mo.

DUROC HERD BOAR ! !
We offer for sale our herd boar sired by Weller's Example and out of a Whiskey & Faith sow. Also a few September boars. Booking orders for spring pigs.
J. C. Garrard & Son, McBaine, Mo.

Classified Advertising

BARRED PLYMOUTH ROCK EGGS for hatching, from extra choice, large farm raised stock. Deep clear barring, and free from smutty or brassy color. Big yellow legs and proper shape. Price of eggs, $1 per 15; $2.50 per 45; $5 per 100.
M. D. PORTER, VANDALIA, MO.

FOR SALE—Pure Pearley's Mongol Soy Beans, $3.00 per bu. Sacks furnished. L. G. Snyder, LaMonte, Pettis Co., Mo.

THOROUGHBRED S. C. REDS—Bred for eggs and standard points; deep red, healthy, fine males. Eggs 15 for 75c, 105 for $4.00. Mrs. Geo. Gerhart, Glensted, Mo. 3-1-5t

BARRED ROCKS—Eggs from big, vigorous stock that will give you some prize winners at $1.00 per setting. Exhibition mating, $2.50 per setting. Mrs. Wm. Heinman, Salisbury, Mo. 3-1-6t

R. C. R. I. REDS—Famous Kaufmann & Windheim strain; none better. Keep up with the best stock. Pen eggs $3.00 per setting; range $1.00 per 15; $5.00 per 100. Am booking orders. W. R. Elley, R 2, Columbia, Mo. 3-1-6t

EGGS—Thompson strain Barred Rocks. Eggs from pens, $3 for 15; farm range, $1 for 15; $5 per 100. Mrs. L. H. Elly, Columbia, Mo. Rt 2. Phone 36-B.

BARRED ROCK EGGS for hatching, $1 per 15; $3 per 50; $5 per 100. Winners at Springfield, Vandalia and Louisiana. F. M. Creamer, Louisiana, Mo.

R. C. RED and S. C. W. LEGHORN eggs, $1.00 per 15; $5.00 per 100. Mrs. J. W. Ezell, Houstonia, Mo.

BARRED PLYMOUTH ROCK EGGS—From A. No. 1 stock. The large, deep barred, yellow-legged kind. Price $5.00 per 100. T. J. Dunn, R-2, Moberly, Mo. t.f.

EGGS—White Rocks, $1 per 15; $5 per 100; Pekin duck, $1.50 per 12; $4 per 50; White Holland, or Emeden geese, write for prices. Grace Garnett, Marion, Mo.

INDIAN RUNNER DUCKS—White and Fawn Eggs, 15 for $1.00. Ruth Marksbury, Marshall Mo. 3-15-5t

PURE BRED WHITE ORPINGTON eggs—$1.00 for 15; $5.00 per 100. S. C. Smutz, Brunswick, Mo. 4-1-3t

BARRED ROCK EGGS — From very large hens mated with 11 lb. cockerels. Lots of quality. Eggs $1.00 per 15. Obadiah Prettyman, Fairfax, Mo.

Hazelwood Durocs
Seventy choice spring boars and gilts sired by HAZELWOOD CHIEF, by CRIMSON COL., and out of OHIO CHIEF bred sows. Get our prices.
E. P. POWELL & SON, Maryville, Mo.

HAMPSHIRES

BROOKVIEW HAMPSHIRES
Herd headed by GEN. TIPTON and SIR BROOKVIEW, both grand champions. Spring boars and gilts of choice breeding and individuality. Prices reasonable.
ISOM J. MARTIN, R 5 Lancaster, Mo.

RED POLLED

RED POLLED CATTLE
Herd established 16 Years
Young stock for sale. Young bulls sired by LOGAN 13500; Calves sired by KNOCKER 28791. Bred for milk and beef. Also offer spotted Poland China hogs and Rieds Yellow Dent seed corn.
M. L. SNYDER, - - POLO, MO.

AUCTIONEERS

THOMAS E. DEEM
AUCTIONEER
Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased Dependable service at a reasonable price. Address, Cameron, Mo.

P. M. GROSS
Live Stock Auctioneer
"Twelve Years on the Block"
Pure bred Sales a Specialty
Sales Made Anywhere
MACON, - MISSOURI

HOLSTEINS
Bought for you on small commission. What do you want? Price low. Feed short.
H. T. HOOK, JANESVILLE, WISCONSIN
(Formerly of Columbia, Mo.)

PIG CLUBS FOR MISSOURI

Every boy should have something to do during his spare time which will pay him for his work and interest him in some definite line of operation. Plans for pig feeding contests which will tend to do this have just been announced by the Missouri College of Agriculture. Each boy taking up the work will take a pig or litter of pigs at weaning time and, keeping records of weights and feed fed, make them ready for market in his own way. This procedure is going to make some people ask questions of "how and why" some boys get bigger gains and some cheaper gains than others. At the close of the contests these questions will be answered by the boys who did the feeding. In those counties where fairs or roundups are held the pig feeding contests should close with a pig show open to all pig club members. Details of these exhibitions have not been worked out, but there is evidence of much interest in this phase of the work in many localities at this early date. When taking up the work the boys will receive suggestions regarding the feeding and management of the pigs.

In addition to these, from time to time they will receive seasonable hints regarding best practices in making their pigs ready for market. None of these feeding directions need be followed unless the feeder cares to do so.

While pig club work is new to Missouri it has been successfully conducted in other states. All that remains to make it a success in Missouri is the assistance and support of every breeder and feeder of hogs. Many breeders have already offered their assistance in furthering this project but we need more such enthusiasts. More than that we need men who are in the business who will do things among the boys. Local leaders are needed to keep the boys in line and working. If the right kind, these men can do more than anyone else in furthering the pig club work because they are on the ground, have the confidence of the boys and know local conditions. However, it is not asked that these leaders do all the work. Upon application, the Agricultural Extension Service will send assistance to start the work whenever six or more boys in any locality signify their desire for the work. This is an opportunity for the hog men of the state to start something, which means more and better business for them and starts the boys right.

The detailed plan follows:

To let boys between the ages of ten and eighteen years learn by actual experience how to feed and care for pigs so as to obtain best results at least cost.

What Pig Feeding Club Members Are Expected to Do

(1) To feed in the best way possible under existing conditions one or more pigs from weaning time until the date of the local pig club show which will be held sometime between October 1 and December 20.

(2) To keep the following records:

(a) Date of begining contest.

(b) Age and weight of each pig when contest starts.

(c) Feed consumed from beginning to close of contest.

(d) Weight of each pig at close of contest.

(3) To show one pig for premiums in the local pig club show.

Deciding the Winners

The awarding of prizes shall be based upon:

	Perfect Score
(1) Rate of gain	20 points
(2) Total net profit	30 points
(3) System of management	20 points
(4) Winnings at county pig club show	30 points

Prizes

Suitable prizes will be awarded at the time of the local pig club show. If possible a state pig club show will be arranged for later and a set of liberal state prizes will be given as premiums. Winners in the local shows are eligible to compete in the state show.

A postal card will bring to every applicant, full instructions and record blanks necessary to start the work.—S. T. Simpson, Missouri College of Agriculture, Columbia, Mo.

OF INTEREST TO BREEDERS

Improving Our Live Stock

Every step taken to improve our live stock means more profit to the producers and it would seem that each step in that direction should be supported by live stock growers but unfortunately this is not true. In the last ten years twenty states have enacted laws which seek to eliminate the unsound stallions and jacks and to prevent fraudulent statements concerning the pedigree of such animals. Hundreds of farmers have patronized breeders who claimed that their animals were pure bred when in fact they were only high grades and not eligible to registration at all.

Then there is the question of unsoundness which has caused the loss of hundreds of thousands of dollars annually to the horse and mule owners of Missouri. The transmission of bad eyes has been one of the great losses but farmers go right along breeding to stallions with hereditary unsoundness of the eyes giving the matter no serious thought until the colts are four or five years old and begin to show up this weakness.

The states of Illinois, Iowa, Nebraska and Kansas all are among the 20 states which have enacted laws regulating the keeping of stallions and jacks while Missouri has not yet done anything along this line and as a consequence has become a dumping ground for unsound stock from the other states. How much longer will we let prejudice stand in the way of our own good in this matter?

One Argument in Favor of the Scrub

No system of farming can be just what it ought to be without the growing of live stock as a part of it.

Land prices are so high that only the best live stock can be expected to bring satisfactory returns. Some of the reasons why well-bred live stock should be grown are, that it takes longer to grow 100 pounds of scrub than it takes to grow 100 pounds of well-bred stock, and the scrub will eat as much each day as the well-bred, and he has to eat more days to reach the same size. Those extra days feed, then, are all lost. The only thing that anybody might argue as in favor of the scrub is that he affords the feeder a greater amount of exercise.

The scrub takes as much barn room as the well-bred—and he has to use the room longer. The well-bred animal makes you proud of your work, you take better care of him, and a wellbred animal simply makes the man a better farmer.

There is but one possible argument in favor of the scrub, and that is, that when he has gone to market and you have the money for him it makes a lighter load and does not wear out your pocket so badly.—Sam Jordan.

What Is the 400-pound Cow Worth?

In this country the conditions are such that any mature cow showing a normal year's production of an amount under 200 pounds of butterfat should be eliminated from the herd. A full-sized herd of such cows on an intensified dairy farm will not permit sufficient profits to encourage one in the dairy business. Two-year old heifers should yield at least 150 pounds of fat; three-year-old heifers, 160 pounds; and four-year-old animals, 180 pounds. Inquiries are often received as to which is the best cow to buy, viz: one that produces 400 pounds of butterfat in a year or one that produces 250 pounds. The following figures are of interest in this connection:

The 400pound cow can be bought for $200. The annual value of her product at 35 cents per pound of fat would be $140.00. Such cows usually eat about $60.00 worth of feed annually, so that the profit above feed would amount to about $80.00. In two and one-half years, therefore, the 400-pound one would pay for itself, and in five years would give a profit of $200.

The 250-pound cow usually sells for about $75.00. The annual value of her product at 35 cents per pound of fat would be $87.50. The feed cost runs about $50.00 a year, thus leaving an annual profit of $37.50. In two years the 250-pound cow will return its cost, and in five years will show a profit of $112.50.

In addition to these values one must consider the value of the heifers from each class of cows. As a permanent proposition it is the most important matter to be considered. Offsprings from the best cows are fundamental for profitable and permanent dairying. This fact is most difficult for the average dairyman to realize. Rather than dispose of his common cows and purchase at least a few good ones, he prefers to plod along for a lifetime, apparently under the impression that something will develop to justify his judgment.—D. K. Sloan.

Agricultural Exhibits

"Tom and Jim both had good Jonathans, but Tom showed a peck in a bushel box, a dirty one at that—but Jim took a half bushel box, lined it with nice, clean, white paper, packed the fruit evenly, and the box was just full. Tom sees at once why Jim beat him, yet both lots of apples might have been equal in quality. So the farm display should teach the best methods of preparing the products for the market. It should be evident that to grow good stuff is not the sole end of farming!"

The above quotation is from a bulletin just received from the State Board of Agriculture giving information about holding farmers' institutes, agricultural and live stock exhibits. Show me a community where the people maintain a good, live farm club and hold an agricultural and live stock exhibit once a year and I will guarantee that you will not find much of the land for sale in that neighborhood.

Feeding Grain to Cows on Pasture

Does it pay to feed grain to cows on pasture? The results obtained at the Missouri Agricultural Experiment Station indicate that it depends largely upon how much milk the cows give and how good the pasture is. If a cow is producing less than a pound of butter each day the necessary food can be obtained from a good pasture. If she produces more than this some grain can be fed with profit. This means that a Jersey cow should be able to get enough feed from grass to make about 20 pounds of milk daily and a Holstein about 25 to 30.

It will pay to feed grain to all giving above this amount as it becomes impossible for the animal to gather sufficient feed in the form of grass. A cow giving a pound and a half of butter daily should have about five pounds daily and for two pounds of butter, give seven or eight pounds of grain. When not more than four or five pounds of grain are fed it can be all corn. If more than this is needed, some bran or a small amount of cottonseed meal should be added. These recommendations hold good only when pastures are good. In late summer it will often be necessary to feed more grain to high-producing cows or to give some silage or green feeds to help out the pastures.—C. H. Eckles.

Thumps and Scours in Pigs

If scours appear in spite of all precautions, the following treatment has proved valuable to the Missouri Agricultural Experiment Station. Reduce the sow's feed, clean up more thoroughly than before, and give the sow a tablespoonful of sulphur in each feed for several days. It is also well to give the sow a good dose of Epsom salts. If practicable, each pig may be given a tablespoonful of castor oil, or Epsom salts, and charcoal should be provided in any convenient way. If no cheaper charcoal can be secured, it can be supplied by starting fires of cobs, and then putting the fires out before they burn out.

Thumps in young pigs result from too much feed, or too little sunshine or exercise, or both. The remedy is to reduce the sow's feed and compel the pigs to take plenty of exercise in the open air and sunshine. This treatment is only effective for pigs that have not been weaned, since thumps in older pigs is usually caused by trouble in the lungs or bronchial tubes.—L. A. Weaver.

JERSEY CATTLE

JERSEY CATTLE

Bulls ready for service. They are sired by the Owl's Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

JERSEY BULL CALVES

I have three extra fine ones for sale. Sired by Stockwells Champion. He has won 29 first and Champion ribbons at the leading State Fairs. Calves are out of very high producing cows. For breeding, etc., writ.

J. B. SMITH Platte City, Mo.

SUNSET JERSEYS--TRIO

Two fancy heifers (both bred) and a fine bull, all the the famous Blue Belle—Golden Rosebay breeding. I will sell this trio for $250. This price cannot be equalled anywhere for such stock. Send for circular, description of herd, production, etc.

The ENNIS STOCK AND DAIRY FARM, Horine Station, Mo. (Just south of St. Louis)

HOLSTEIN CATTLE

Dutchland Sir Hengerveld Rag Apple 99771

A few choice bull valves out of heay producing dams sired by the above famous bull for sale.

BLACK AND WHITE FARM
Baden Station, Mo.
Tel. Colfax 1812 R. R. 30

IN MISSOURI

Eight Bulls, 2 to 8 months, $100 to $175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.

S. W. COOKE & SON, MAYSVILLE, MO.

HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndye Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

M. E. MOORE & CO., Cameron, Mo.

ANGUS CATTLE

Angus Bargains

Registered bulls and heifers. The market topping kind. Leading families represented. Priced worth the money and satisfaction guaranteed.

Also Poland China Hogs.

J. M. JONES, R. F. D. 3, EVERTON, MO.

ANGUS CATTLE

Herd founded 1904

Young stock sired by Dean's Eric 139686. Also offer splendid herd bull for sale. Every one the right kind and priced to sell.

V. E. LAWRENCE, SALISBURY, MO.

Aberdeen-Angus

I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.

J. D. Blackwell - Fayette, Mo.

Aberdeen-Angus Cattle

I am offering 7 well bred bulls from 12 to 19 months old. Good individuals, and priced to sell. Also a few heifers. Get my prices.

ROBT. D. TURPIN, Carrollton, Mo.

100 EARLY O. I. C. SPRING PIGS

10 GOOD FALL GILTS

Guarantee and pedigree accompanies each sale. This herd has been exhibited at World's Fairs and State Fairs for years, so that most of our pigs have prize winners on both sides of their pedigrees. We can furnish pairs and trios, no kin. We are making bargain prices on early orders. Write us today. Address.

S. D. & B. H. FROST,
Box H. Kingston, Mo.

WHITE ANTS DESTROYING BUILDINGS

Our attention has recently been called to the damage done several buildings here in Columbia by the "white ants" familiar to most of our readers, no doubt who have seen them in dead trees, old rails, bridge and foundation timbers and other similar places. The experts tell us they are usually found where there is moisture but in the buildings we have examined here in Columbia that were badly infested with them, the houses were on good foundations and the timbers that had been destroyed were on a dry wall, at least two feet above the surface of the ground. In two of these houses which were apparently in a good state of preservation, had been kept well painted, there was a basement which kept the foundation timbers dry but in both houses the foundation timbers 2x10 material was honey-combed from end to end by the white ants and the timbers could be picked out with the hands. The foundation timbers and the lower ends of the studding were destroyed so that no support was given the building. The damage was discovered only when the "ants" had eaten through the siding in places and exposed their nest.

It would be well for all our readers to carefully examine the foundations of all buildings to see if these pests have a hold for there is considerable danger that buildings weakened in this way may be blown to pieces in a wind storm that would not harm a sound building. The United States Department of Agriculture in a recent publication says, tremites or "white ants" are frequently the cause of serious damage to buildings and occasionally to trees and crops. They are not really ants but owe their appearance which, except in color, superficially resembles that of ants. Like ants, too, they live in large colonies usually located in dead trees, in the foundation timbers of buildings, in wood that is in contact with the ground, or in underground passages in the earth.

In the eastern and southern portions of the country, damage from these insects to foundation timbers, flooring in basements, and other woodwork is common and sometimes serious. It is only occasionally, however, that living vegetation is attacked and then principally on recently cleared land where there is much decaying wood and humus in the soil. An infestation of corn in the prairie region of Kansas is reported to have been due to the presence of enormous numbers of the insects in the heavily sodded soil, but, says Bulletin No. 333 of the U. S. Department of Agriculture, a professional paper by Thomas E. Snyder which reports in detail on the economic importance of termites in the United States, "it should be borne in mind that such damage to living plants is usually occasional and then only local, and not in general a serious problem."

The damage that tremites do to buildings is more important. Many of the buildings in New Orleans recently demolished by a hurricane were found to have been mined by insects, probably by termites, and thus seriously weakened. The termites frequently honeycomb beams, flooring, walls and other woodwork, even as high up as the second and third floors of buildings. They obtain an entrance through underground passages, extending their subterranean galleries for comparatively long distances. Frequently the damage is not discovered until the floors have settled or the joists collapsed. In such cases, extensive repairs and the removal of the damaged timber are often necessary. All wooden farm buildings are liable to infestation as, in fact, is any timber that comes in contact with the ground. Bridges, telephone and telegraph poles, hop and bean poles, mine props, fences, woodwork in wells, wooden silos, beehives, and lumber piled on the ground have all been seriously damaged in this way.

Once they have gained entrance to a building, the termites frequently prove very destructive to many kinds of material stored in it. In houses they destroy furniture, wall paper, books, fabrics, clothing, shoes, leather goods, and food that is stored in dark, damp basements.

To prevent their attacks, the foundations of buildings and the basement floor should be made entirely of brick, stone, or concrete, and no woodwork should be in contact with the ground. This precaution is recommended particularly for the Southern States. Beams or joists should not be imbedded in concrete, as a crack will provide a means of ingress for the insects. Books, documents, and other material susceptible to attack should not be stored in unventilated rooms where they may become moist or moldy. When a building has already become infested, the only effective remedy is to tear out that part which harbors the insect and to rebuild it in such a way as to prevent future invasions, i. e., by substituting rock foundations or foundation timbers impregnated with coal-tar creosotes.

Certain woods, however, are known to be resistant to tremites. Black walnut and persimmon, for instance, among the cabinet woods, have this quality and several of the cedars and the southern bald cypress are both resistant and durable in contact with the ground. In other woods resistance for varying periods, depending upon the method of treatment, may be obtained by the use of chemical preservatives, the most effective of which are coal-tar creosotes.

In nurseries and orchards, "white ants" have frequently proved troublesome. In orange groves they have been known to eat away the bark from the base of the tree and have done similar damage to deciduous fruit trees in the Southern States and in California. Cases are on record also in which they have been troublesome in vineyards and have injured pecan, chestnut, and walnut trees. Dead timber in forests rapidly becomes unmerchantable when attacked by the insects. Injured trees, especially the oak and chestnut, suffer from attacks upon their roots and the lower part of their trunks.

Because the termites are found chiefly in recently cleared ground, this should be avoided in planting nursery stock. Rotation of crops will prevent serious damage on the farm. In greenhouses, iron frames and concrete work should replace wood as much as possible, and what woodwork is used should be impregnated with bichloride of mercury.

Ownership of The Missouri Farmer

In accordance with the law enacted by Congress which requires newspapers and magazines to file a statement showing the name of the editor, business manager, the owners of the publication and the names of any bond holders, mortgagees and other security holders, The Missouri Farmer has filed the following statement with the Postoffice Department: The managing editor is Geo. B. Ellis. The business manager is William Hirth. The Hirth Publishing Company, which owns The Missouri Farmer, is incorporated for $20,000 divided into 200 shares, 189 of which are owned by William Hirth and 10 shares by Lillian Hirth.

The Kingdom of the Subscriber

In the development of the telephone system, the subscriber is the dominant factor. His ever-growing requirements inspire invention, lead to endless scientific research, and make necessary vast improvements and extensions.

Neither brains nor money are spared to build up the telephone plant, to amplify the subscriber's power to the limit.

In the Bell System you have the most complete mechanism in the world for communication. It is animated by the broadest spirit of service, and you dominate and control it in the double capacity of the caller and the called. The telephone cannot think and talk for you, but it carries your thought where you will. It is yours to use.

Without the co-operation of the subscriber, all that has been done to perfect the system is useless and proper service cannot be given. For example, even though tens of millions were spent to build the Transcontinental Line, it is silent if the man at the other end fails to answer.

The telephone is essentially democratic; it carries the voice of the child and the grown-up with equal speed and directness. And because each subscriber is a dominant factor in the Bell System, Bell Service is the most democratic that could be provided for the American people.

It is not only the implement of the individual, but it fulfills the needs of all the people.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy *One System* *Universal Service*

Polarine and Dependability Go Hand in Hand

FRICTION REDUCING MOTOR OIL

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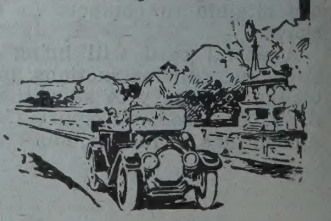

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BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE
MISSOURI FARMER
COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE
AND THE MISSOURI EXPERIMENTAL STATION

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Are You Doing Your Share?

In response to the persistent appeal which The Missouri Farmer has made during the last few months, hundreds of little school district Farm Clubs have been organized all over the state—and not only are these splendid little organizations saving a lot of money for their members but they are fostering a more kindly community spirit. As Mr. Fry of Tipton says in an article elsewhere in this issue, "I am sure there is a friendlier feeling, more co-operation and more neighborliness among our farmers than ever before. I have been road overseer for a number of years and I have had much less trouble in getting help than in former years." I don't doubt that scores of other leaders in this splendid movement could tell a similar tale. Again, in the same article he says, "Our members voted unanimously to keep on meeting regularly all summer long." Now, my friend, isn't this sort of thing truly worth while? Don't you think you ought to pull off your coat for such a program in your own school district?

And let me impress upon you that it is not so much a question of dollars as of good citizenship. It is a great privilege and a duty to play a real man's part in the World. An ox can toil and live and eat and die. First, there is the duty which we owe to our loved ones who must look to us for protection not only today but who have a right to expect us to safeguard their welfare in the years to come. The yoke of oppression is always hewn in the generation that precedes the one which is compelled to wear it. What will the farmer boys and girls of the future have a right to think of a race of fathers whose indifference permitted a flock of hungry vultures in the market place to destroy their opportunity for owning splendid farm homes of their own in the years to come?

You say you are not getting a "square deal"—that there are those who set an arbitrary price upon the fruits of your sweat and toil. You sigh as you think of the mortgage which grows larger year by year while the fertility of your soil is growing less. You silently confess to yourself that as time rolls on the vigor which in other days enabled you to battle early and late in the fields without fatigue is slowly but surely slipping away from you—and yet notwithstanding all these things you keep on idly drifting down the current of time. You make no effort to arouse the latent manhood which God Almighty has implanted within the breast of every man worthy the name. How much greater is the service which you are contributing to your community or society in general than the ox who merely toils and lives and eats and dies?

Don't misunderstand me. I am no pessimist or prophet of gloom. I think the World is a splendid place to live in and I love every beautiful flower that grows in it and listen in ecstacy to the song of every bird. On every hand we hear the gentle voices of sweet women and the golden prattle of little children—and I love the angels which are supposed to inhabit the "Beautiful Isle of Somewhere" because I believe they are like these other angels who move among us here on Earth. But it is because all these things are so splendid and beautiful that I want those who read this paper to play the part of real men—to leave the World a little better than they found it—to help solve the great burning questions of our time—to demand their rights not only because of the dollars involved but because this is the true shibboleth of good citizenship—to refuse to be human non-entites at a time when mighty changes are shaking loose the accummulated dust and cobwebs of the centuries and when your Country has a right to demand that you take a real man's part in the affairs of men. It is the farmer who has caught the real meaning of the great fight which The Missouri Farmer is making for farmer organization who shouts to his neighbor across the fence and says, "Lets do something!" who is blazing the way for a greater American Agriculture and for a farm home which shall be free and untrammeled in the years to come.

—By the Author of After-Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VIII MAY 15, 1916 NO. 10

WILLIAM HIRTH
PUBLISHER

WIREWORMS DESTRUCTIVE PESTS

True wireworms are reckoned by specialists in the United States Department of Agriculture as among the five worst pests to corn and among the twelve worst pests to wheat and oats. They attack many other crops as well, however, notably potatoes and sugar beets, and are considered one of the two most difficult groups of insects to control. To combat them successfully it is essential that the farmer should be able to recognize the various species and to distinguish them from other insects of somewhat similar appearance. To assist him in doing so the Department of Agriculture has just published Farmers' Bulletin 725, "Wireworms Destructive to Cereal and Forage Crops," by J. A. Hyslop.

Wireworms are the young or worm stage of several kinds of hard-shelled beetles, popularly known as "click-beetles," "skipping jacks," "snapping beetles," etc. In various parts of the country the name is incorrectly applied to "thousand leggers," webworms and other insects. The true wireworms, though differing greatly in size according to kind, are always elongate, more or less cylindrical, and with a highly polished skin. They have three pairs of short legs near the head end of the body and are usually yellow or reddish brown in color. Several of the most destructive varieties are described in the bulletin already mentioned. One or more of these are found in practically every part of the United States and much of the reseeding and replanting that farmers have to do is made necessary by their ravages. As each variety has its own habits, different methods of control must be used for the different groups.

Wheat Wireworms of the Norteast and Middle West

This wireworm is pale yellow, cylindrical and shiny. When full grown it is about one inch in length and about as thick as the lead in a pencil. It can be readily recognized by the two dark spots near the base of the tail. Normally it feeds upon grass roots and produces no disturbance in the meadows. When the sod is broken for corn, however, the insects gather in the drill rows or hills and destroy the seed or eat off the roots of the plants which sprout. In this way the crop often is absolutely destroyed. It happens frequently, however, that during the first year the worms feed upon the down-turned sod, and do not do their greatest harm to the cultivated crop until the second season. They require three years to turn into beetles. In addition to wheat this variety of wireworm feeds upon corn, potato tubers, carrots, turnips, and the underground stems of string beans, cucumbers and cabbage.

To control the wheat wireworm land intended ofr corn should be plowed immediately after the first cutting of hay, usually early in July. Throughout the remainder of the summer this land should be cultivated deeply. Badly infested land in corn should also be deeply cultivated even at the risk of slightly root pruning the corn. As soon as the crop is removed the field should be very thoroughly tilled before sowing to wheat. Wheat fields that are not seeded to other crops should be plowed as soon as the wheat is harvested. This kills the worms by destroying their food supply and preventing proper hibernation. Where circumstances permit, interposing between sod and corn such crops as field peas and buckwheat, which are not severly attacked by wireworms, will materially reduce the number of worms in the soil when corn is planted.

Corn Wireworms in the East and the Mississippi Valley.

Corn wireworms damage cereal and forage crops in the Middle Atlantic States, the New England States, and the Mississippi Valley. They are reddish brown in color, about 1¼ inches long, cylindriacl in shape, and have three slight lobes or prejections on the tail. These insects spend a considerably longer time in the soil than the wheat wireworms. In some cases they have been known to live in the ground as long as six years. On the other hand, they are almost exclusively confined to poorly drained and heavy soils. For this reason heavy liming and thorough tile draining will undoubtedly prove beneficial in their control. The thorough cultivation of waste land, especially along drainage ditches and creeks during mid-summer, and the deep cultivation of crops and fallow land are also recommended.

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LYONS PRACTICAL FARM PAPERS

I find that a man of 60 years cannot do as much hard work as one of 40, also that an "old feller" is apt to have more ill health than a younger one.

This is a very backward spring with us, oats and clover seeding being delayed as late as April 23, and on May 1, fully one third of the plowing to do.

We had eight acres of land where corn grew last year, to be broken again this spring, and for the first time in years we burned eight acres of heavy corn stalks.

I know that this is bad farm practice, but some times a man has to do a thing he does not like to, and the stalks were so heavy that burning was the only way we could get rid of them.

It is also bad practice to follow corn with corn, but this land had lain in clover and timothy six years, was pastured lightly, and we will use a commercial fertilizer on the corn and have given the plot a fair coating of manure.

One of the old man's jobs that fell to me this spring, was planting a new strawberry patch, and 500 fine Dunlap plants are growing, 18 inches apart, in four-foot rows.

The plants were taken from a bed planted May, 1915, each plant spaded up with a ball of dirt to its roots, and they scarcely showed the effects of transplanting.

My spade was made at home, from a foot of the middle leaf of an old buggy spring with three rivet holes drilled through it, riveted in a slot sawed in the end of an old fork handle, and it comes handy for uprooting dandelein, docks and other tap rooted plants, as well as for use in transplanting.

Three years ago I set 50 apple trees, five rows of ten trees each, and a rearrangement of fields made two rows of five trees each undesirable so they were removed this spring.

The Wheat Yield Tells the Story
of Western Canada's Rapid Progress

160 ACRE FARMS IN WESTERN CANADA FREE

The heavy crops in Western Canada have caused new records to be made in the handling of grains by railroads. For while the movement of these heavy shipments has been wonderfully rapid, the resources of the different roads, despite enlarged equipments and increased facilities, have been strained as never before, and previous records have thus been broken in all directions.

The largest Canadian wheat shipments through New York ever known are reported for the period up to October 15th,

upwards of four and a quarter million bushels being exported in less than six weeks,

and this was but the overflow of shipments to Montreal, through which point shipments were much larger than to New York.

Yields as high as 60 bushels of wheat per acre are reported from all parts of the country; while yields of 45 bushels per acre are common.

Thousands of American farmers have taken part in this wonderful production. Land prices are still low and free homestead lands are easily secured in good localities, convenient to churches, schools, markets, railways, etc.

There is no war tax on land and no conscription.

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A trench was dug around the trees and about ten inches from them with mattock and spade, and with a stiff inch and a half plank eight feet long this ball of earth and the roots it held was pried loose, loaded onto a shin boat and hauled to the new location.

Then we dug holes big enough to take in the ball of dirt and the roots, pruned the trees well, and every one of them will grow.

It took two of us and the old mare half a day to move the trees forty rods, and I figure that they are worth $5 each more than small trees, such as we set three years ago.

My father was an expert orchardist of the old school, and he did most of his apple tree pruning from the time the sap started in spring to the first of June, but I like to do this work at least two weeks earlier, as I think earlier pruning does not cause so many waterspouts.

At this date, May 2, there is no corn planted here and perhaps 25 per cent of the plowing to do. We have one field however, ready to harrow again and plant as soon as it warms up, another field all broken but three days work. Wheat is very poor, and oats just well up. Corn is selling at 85, wheat $1.25, hogs $9.30, good cows up to $75, horses $100 to $350, but horse prices are falling off some.

Gardens backward, potatoes small.

C. D. Lyon.

Remedy for Stringy Brine

Warm spring days often cause the souring of the brine in which meat is being cured that has been butchered the latter part of winter. The most common kind of souring shows itself in a string of white mold which floats near the surface and gives rise to the term of ropy or stringy brine. The Nebraska College of Agriculture says that such meat should be removed from the brine at once and be soaked in fresh water and be well scrubbed. The meat may then be repacked and new brine be added. If thoroughly boiled the old brine may be used, but the new brine is safer and is considered almost as cheap.

The danger of spoiling may be reduced either by lessening the amount of sugar or by increasing the amount of salt.

To Inoculate Seed

Coating the seed of legumes with inoculated soil before planting is a simple method of insuring soil inoculation at slight cost. County agents in Illinois have found ordinary furniture glue effective in holding particles of inoculated soil to the seeds. This method gives each individual seed some of the particles of inoculated soil which it carries with it when it is planted. The scheme requires but a small amount of inoculated soil and costs but a few cents an acre. The method is described in Farmers' Bulletin 704 of the U. S. Department of Agriculture as follows:

Dissolve two handfuls of furniture glue for every gallon of boiling water and allow the solution to cool. Put the seed in a washtub and then sprinkle enough of the solution on the see to moisten but not to wet it (1 quar per bushel is sufficient), and stir th mixture thoroughly until all the see are moistened.

Secure the inoculated soil from place where the same kind of plant as the seed are growing, making sur that the roots have a vigorous devel opment of nodules. Dry the soil in th shade, preferably in the barn or base ment and pulverize it thoroughly int a dust. Scatter this dust over th moistened seed, using from one-hal to one gallon of dirt for each bushe of seed, mixing thoroughly until th seed no longer stick together. Th seed are then ready to sow.

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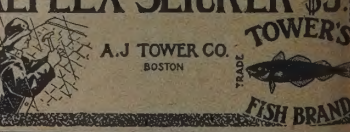


The Missouri Farmer

OLUME VIII MAY 15, 1916 NUMBER 10

A National Council of Agriculture

By William Hirth, Publisher

'here isn't a farmer who has read e Missouri Farmer in an even cas- manner during the last year who sn't realize that, without in any ree neglecting the fight for better ming methods, this paper believes problem of a "square deal" in the rket place to be the overshadowing ricultural issue and that therefore question of farmer organization i co-operation deserves the prefer- e over all others at this time. It vitally important that the farmer ll employ the best thought in his ming operations and puruse only best farming methods—but it is ially important that when the years eat and toil is at an end he shall ve something to show for the ought and methods which he has s employed. In other words, there ould be a genuine reward for better ming and never will our Agricul- al colleges or the initiative and ift of individual farmers have a r show so long as a manipulated rket can destroy in the space of a w hours the fruits of the patient l of many months. That is why e Missouri Farmer is encouraging organization of a Farm Club in as arly as possible every school district Missouri—and we do not propose cease in our efforts until we have monstrated that this can or cannot done. Once the school districts are ganized and on a firm footing it will an easy matter to perfect county— d finally a powerful, closely knitted gether State Farmers Ass'n which ll be able to deal in a big and effec- e manner with the larger problems at confront us.

However, in our humble judgment e time has come when this great vement needs a powerful directing ency from a Nation-wide standpoint when, by some means, the machinery ould be provided which will carry is great fight into every state in e Union simultaneously—for even ough the farmers of Missouri should rfect a powerful State organization would not be able to make its influ- ce felt in great matters of Agricul- ral policy which are not merely Na- n but World-wide in their scope. put it on a circumscribed basis, the rmers of Missouri could hope to ac- mplish little in affecting Live Stock arket conditions unless the farmers at least Iowa, Kansas, Nebraska, inois and Indiana were solidly be- nd them. With these great live stock oducing states united, there is little estion but what substantial head- ay could be made—and yet why not nstruct machinery which will enable to put well matured plans into fect in Ohio as well as in Texas and the Dakotas as well as in Missouri? hy should there not be some great ntral agency through which the farm- aders of the entire Country can speak a sort of "Clearing House" through hich the best thought concerning the great pertinent farm problems of the day can be assembled and perfected?

Real Machinery Needed

Notwithstanding that Agriculture is the great basic industry of the Nation upon which the prosperity and well-being of all other classes finally depends, we have never had the machinery through which definite, Nation-wide Agricultural policies could be perfected or promulgated by farmers themselves. Within the sphere marked out for them, the Federal Dep't of Agriculture and the various Agricultural colleges have been doing splendid work—but, after all, their true function is to **help** rather than **lead** the farmer. To attempt the latter would largely endanger the success of the former—for in the last analysis that industry which must be both taught and led is too weak and fragile to survive, it makes no difference how painstakingly a guardianship may be exercised over it. Governmental and state agencies are supported out of the public treasuries—and this is another reason which disqualifies them for the virile, not to say fighting farm leadership necessary at this time.

Practically every great industrial interest in the Nation has provided the machinery through which those vitally interested in it may be brought together within 24 hours—and however much they may fight for individual advantage at other times, in the hour of danger they present a solid front to the enemy. Let Congress attack the great steel or other large industrial enterprises of the Nation and within an hour the telephone and telegraph are brought into play—and strong men start for the capitol as fast as trains can carry them. Not only that, but at times when no danger threatens the leaders of all other great industries are planning for their common welfare and seeking means which will broaden the outlet for their produtcs and cheapen the cost of production, etc. And this spirit of self preservation deserves the highest commendation. But not so with the farmer. He is the brother to the ox and has neither the agencies through which he can speak for himself nor those whose understanding enables them to speak intelligently or authoritatively for him —and as a result he is the victim of whoever cares to grow fat at the expense of his sweat and toil.

Is it any wonder that the Packers Combine uncerimoniously tells him what it will pay for his hogs and cattle—that it holds the great live stock industry of the Nation in the hollow of its hands? Is it any wonder that gambling in grain futures continues to fix a ficticious value upon his crops?

In this connection, I don't want to be misunderstood. I don't want to hold out the idea that the farmer is a National cripple or invalid who is entitled to special privileges. If he is being "run over," the fault lies almost altogether with himself. What I am trying to get the farmers who read this paper to realize is that we are living in a World where everybody is chiefly looking out for himself, for this is human nature—and that it is his duty to take care of himself, not only for his own sake, but for the sake of the millions of consumers who cannot escape so long as the farmer turns the things which hold body and soul together over to a lot of industrial brigands who take as much delight in fleecing the consumer as the producer. We have never had a President who comprehended the true importance of Agriculture as a National industry—and the same is true of the average Congress which is made up mostly of lawyers who, even though they are sincere in their desire to help the farmer do not undetsand at close range the great farm problems of the day. Assuming that these general conclusions are, in the main sound, it means that the time has come when thinking farmers in Missouri and in every other state must broaden the vision of their horizon—when we must "break into the big league" and take a hand in the formation of National as well as local farm policies.

A National Council of Agriculture

To these ends, we believe the time has come when there is imperative need of the creation of what might be termed a National Council of Agriculture and hence we suggest that Congress enact a measure providing that the President of the United States shall name as members of such a Council one farmer for every 50,000 farmers or fraction thereof in every state in the Union. Since there are something over six million farmers in the United States, this would provide a total membership of somewhere between 125 and 140—considering the augmentation which would come from the fractional representation on the basis of one member for each 50,000 farmers or fraction thereof in the several states.

With 277,000 farmers here in Missouri, for instance, this would entitle us to six members in such a body. We believe that the term of membership should not be for less than six years and that the tendency should be to re-appoint a strong farm leader in order that he could grow bigger and broader as his thought and experience become the more seasoned. In every instance an effort should be made to select real farm leaders—farmers who, whether they operate large farms or small ones could bring real constructive thought into the deliberations of such a forum and also that the personnel of the Council should be made up on a non-partisan basis. We would not attach any salary to these positions but would have Congress provide funds out of the public treasury to the extent of paying the necessary traveling expenses and hotel bills for each member for a ten days convention every year at which time the members of the Council could enter upon a thorough discussion of the great farm problems of the day. Provision should also be made for a permanent Secretary, the publishing of reports, etc., and paying the expenses incurred by necessary call meetings of the Executive Committee, etc. In order that the thought and action of such a body of men might be untrammeled, we would have them absolutely independent of any other governmental agency. We do not believe that there is a farmer in the United States who would not sincerely appreciate the honor of membership in such a National Council at the hands of the President and furthermore we believe that every President would strive to appoint only men whose breadth of thought and experience as farmers would enable them to render real service in a forum of such great and far reaching importance.

What Such a Council Could Do

The central thought we have in mind is the creation of a picked National body of farmers who, once every year, can take in hand, thresh out and formulate definite policies with reference to the great pertinent farm questions of the day. At the present time there is in progress in Washington an investigation of Live Stock market conditions. As our readers well know, the National Live Stock Ass'n in its annual convention at El Paso in February expressed great dissatisfaction over the existing state of affairs and pledged itself to raise a fund of $250,000 with which to conduct an investigation. Subsequently, similar action was taken by the Live Stock growers of Texas and Kansas through their respective state organizations. Along about this time Congressman Borland of Missouri introduced a resolution calling upon the recently created Federal Trade Commission to make an inquiry—and so far as we know the matter rests there at this time. That an investigation through a powerful Congressional Committee would have been preferable to one at the hands of the Federal Trade Commission is a view to which we have held from the beginning—but the chief point we wish to cite is that there is no great central authority at this time which can speak for the farmers of the whole Country and which can take a hand in the direction of matters of this kind which involve the very life of American Agriculture. Had such a body of men as the one we suggest been in existence during the last few years, it goes without saying that this great question would not have been abandoned to the hap hazard interest of Congress but that on the contrary a definite and well planned course of action would have been mapped out before any move was made.

Again, there has been the great question of a Federal Agricultural Credit System which has engaged the attention of Congress for a number of years—and should the bill which was enacted some days ago prove satisfactory, this will be true in spite of rather than because of any co-operation which the thinking farmers of the Nation have been able to give to this subject. So, also, there are few more vital problems at this time than an adequate merchant marine which will protect farmers against extortionate ocean freights as well as supply them with enough ships to transport their surplus products to the markets of the World.

Then there are such problems as dealing in grain futures which has long been a source of injustice to the farmer and which nothing short of a powerful Nation-wide effort will ever change. Again, think of the powerful impetus which such a body of men could give to the things for which the Department of Agriculture and the different Agricultural Colleges are fighting—the extent to which they could popularize the needed reform in farming methods?

The Overshadowing Problem

But above everything else, such a National body is needed to help solve the deplorable state of farm marketing conditions which exist at this time and which can never be changed without the adoption of definite, Nation-wide plans. There must be some power which will put an end to the chaos which reigns at this time and which hammers into being a plan that is practical—for until there is some central authority to which the farmers of every state will listen with profound respect we will continue to stumble around amid a babel of sound and half baked conclusions which are as varied and numerous as the sands of the sea. For this one great overshadowing reason alone we believe the creation of some representative authority of this kind is imperative.

Also we must realize that we are living in a radically different World than the one which we knew prior to August 1914—and once the great European tragedy comes to an end it means the introduction of mighty changes which cannot help but vitally affect the American farmer who is, in truth, one of the greatest inter-national business men in the World. Surely the time is here when the best farm thought is necessary, not only in the solution of purely domestic Agricultural questions but in those larger matters which affect the well-being of the great business of farming not only here at home but in every mart and market upon the habitable Globe.

Undoubtedly when peace comes there will be a tremendous foreign demand for the raw materials of the American farm—and if by manufacturing them into the finished product here at home employment can be given to tens of thousands of additional men, thus furnishing a greater demand for the food stuffs the farmer produces on the one hand and paying him a better price for the great leading materials of manufacture on the other, should we not, through some powerful concentrated authority be able to point out and do our part in bringing about these needed changes in the American way of doing things?

We believe that almost from the beginning such a body of men as we have here suggested would become the center of Agricultural attention throughout the land—that their annual conventions would become the rendezvoux not only of the brightest farmers in the Nation but of Agricultural leaders in the scientific world from every state in the Union and that for the first time in the history of American Agriculture we would begin to present a solid front on those great questions which involve the future destiny of ours farms which means, in fact, the destiny of the Republic. With such a great directing power we believe the question of farm organization and co-operation would speedily take definite form in every important farming state. In any event we give the suggestion to our readers for what it may be worth and shall welcome a letter from any farmer candidly expressing his opinion.

HEAVY SILAGE FEEDING REDUCES COST OF FATTENING CATTLE

The University of Missouri recently marketed five lots of two-year old steers which had been fed experimentally during the past winter at the Station farm. The cattle were used in a trial to determine the value of a heavy ration of silage in connection with a high protein concentrate, without additional grain, for fattening two-year old steers.

The cattle used were choice grade Herefords purchased on the Kansas City market in December at a cost of $7.44 per hundred pounds. They were shipped to the feed lots and after allowing a few days in order to obtain a normal fill the experiment started on December 20th. On account of the expense of purchasing, freight and feed the cattle cost $7.64 per hundred pounds at the beginning of the trial. They were fed for 133 days and sold on the Chicago market May 4th. The accompaning table gives the facts of principal interest.

Each lot was fed all of the corn silage and alfalfa hay it would consume from the start. It will be noted that the quantity of silage eaten was much greater in the lots which did not receive shelled corn. In lots 1 and 2 the proportion of shelled corn and cottonseed meal and linseed oil meal was kept at six pounds of corn to one of meal throughout the trial. The cattle were gradually accustomed to the grain ration in the three lots receiving shelled corn. After the first 30 days they were fed all they would clean up within a reasonable length of time. Lots 3 and 4 were started on two pounds per head daily of the high protein concentrate and gradually increased to seven pounds near the close of the fattening period. In these lots the meal was scattered over the silage at the time of feeding in such a manner as to insure its even distribution among the cattle.

Pigs were allowed to follow the cattle in order to save such feed as was wasted by the steers. In Lots 1, 2 and 5 four pigs to the lot were used while Lots 3 and 4 had but one pig each. In figuring the financial results, gain on the hogs was credited to the steers at $8 per hundred pounds. The pig in Lot 3 lost a small amount in weight and this was charged to the cattle at the same rate.

In obtaining the financial results the following prices were used in determining feed costs; corn 70c per bushel; corn silage $4.50 per ton; cottonseed meal $37 per ton; old process linseed oil meal $37 per ton; alfalfa hay $14 per ton. The corn silage was made from corn which would yield approximately sixty bushels of corn per acre. The growth of stalk, however, was heavy and it was not thought to contain an undue proportion of corn.

From the data it may be seen that a larger daily gain in live weight is made where corn is fed in addition to a high protein concentrate with silage and hay. A fairly satisfactory finish was obtained, however, without the corn. The market price received for the additional gain particularly in the case of Lot 1 did not justify the superior finish. It seems from the per cent of dressed beef obtained that the price of $9.60 per hundred pounds for Lot 1 was too low and $9.75 per hundred for Lot 5 was too high in comparison with the other lots. An inspection of the beef in the coolers disclosed practically no difference in the value of the beef obtained from the different lots, although that from Lots 1 and 2 showed a slightly superior finish.

It will be observed that the shrinkage in shipping was no greater in the two lots which ate a large quantity of silage than in the other three lots. All lots had access to timothy hay for thirty hours before loading and the silage was reduced to one-half the last time the cattle were fed in the lots. No treatment other than this was given to avoid shrinkage. All lots were handled alike in shipping.

From this test it appears that the cost of fattening cattle at the prices given can be reduced by the extensive use of silage fed in connection with a high protein concentrate and alfal hay. The total cost of feed per ste fed to Lot 3 was $26.07 and to Lot $27.44, while in Lot 1 it was $40.85, I 2 $38.63 and Lot 5 $33.88. In ratio where corn is fed only in the form silage the hogs are practically elmi nated as a factor in cattle feedi While it is possible that the best fini can not be obtained on fat cattle wit out the addition of corn during t latter part of the feeding period such rations as were fed to Lots 3 a 4, it is possible to make a choi grade of beef without additional co By the extensive use of corn sila and high protein concentrates t capacity of a farm to fatten cattle c be greatly increased and our farmi operations intensified.—H. O. Allis Animal Husbandry Department, M souri Experiment Station.

SUMMARY OF STEER FEEDING TRIAL

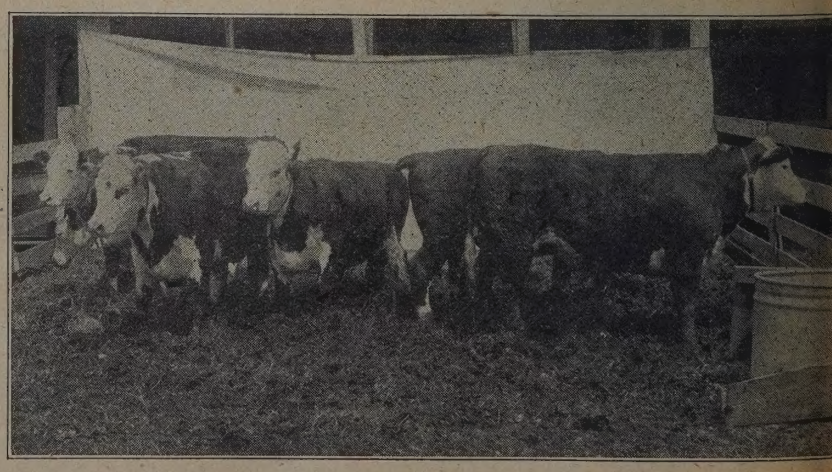
Lot	I	II	III	IV	V
Number of steers	6	6	6	6	6
Average final weight in lots, lbs.	1286.94	1249.44	1199.77	1243.05	1206.66
Average initial weight in lots, lbs.	925	923	938	926	912
Average daily gains, per steer, lbs.	2.721	2.454	1.968	2.383	2.140
AVERAGE DAILY RATION PER STEER					
Shelled corn,	15.597	15.242	.....	.....	15.274
Cottonseed meal,	2.600	.....	5.055	.....	.....
Linseed oil meal,	.....	2.540	.....	5.055	.....
Corn silage	17.468	16.466	36.222	37.620	16.263
Alfalfa hay,	3.687	2.267	3.001	4.027	3.897
*Gain on hogs per lot	38.66	51.10	—6.4	3.1	36.33
Cost of gain per 100 lbs. on cattle (crediting gain on hogs at $8 per cwt.)	$10.42	$10.58	$10.15	$8.57	$10.88
Selling price in Chicago	$9.60	$9.75	$9.65	$9.65	$9.75
Percentage of dressed beef	63.53	64.19	62.38	61.33	62.58
Shrinkage per head in shipping, lbs.	48.89	39.44	43.11	39.71	30.00
Net profit per steer	$6.77	$9.32	$9.87	$14.56	$10.53

*Minus sign in Lot 3, gain on hogs, indicates that in this lot a loss was incurred instead of a gain.

AFTER THE BEEF TRUST

During Farmers' Week the Missou Cattle, Swine and Sheep Feeders' A sociation passed resolutions urgi Congress to make an investigation a find out to what extent the Beef Tru was responsible for making prices live stock and live stock products a to pass such laws that would relie farmers of this great menace to t live stock industry. As a result that resolution Congressman Borla of the Kansas City district introduc a resolution in Congress requesti the Judiciary Committee to make i quiry and determine whether or n there was sufficient cause for maki such an investigation.

The Missouri Cattle, Swine a Sheep Feeders' Association was re resented before the Judiciary Co mittee by Judge William H. Walla who besides being a great lawyer a good farmer and cattle feeder. W have not space for the full speech Judge Wallace before the Committ but will give our readers the mo essential points in the address: The are two parties to the proceeding, t cattle feeders and the packers. T great bulk of the cattle of the Unit States are produced by small farme men owning eighty or one hundr and sixty acres. Probably ninety-fi per cent of all the cattle in Ameri are now produced by these sma farmers, and down the centuri farmers have been among the world toilers. Except brakemen on freig trains, Judge Wallace says, farme exceed all others in hardship and e posure. If the thermometer is o hundred in the shade they must lab beneath the blazing sun to gath their crops. If it is twenty belo zero or if there is storm or sleet, it then they must face the storm looking after their stock.



The above picture shows the steers in Lot IV. This group brought $9.65 per pounds in Chicago and made a profit of $14.56 per head. This Lot was fed an avera daily ration of 37.62 pounds corn silage, 5.05 pounds of oil meal and 4.02 poun alfalfa hay. These steers made an average daily gain of 2.38 pounds for the who feeding period of 133 days.

"I have nothing to say" continues the Judge, "as to the environments and habits of the packer—as to whether he lives in penury or opulence, as to whether he lives like Lazarus or like Dives or Croesus but the question logically arises, How are these two parties getting along in the great workaday struggle of human existence? Have their hopes and labors for themselves and their families been turned into ashes; or have they heaped fabulous millions of money? Let the plain truth be told." The story of the cattle feeder is a deplorable one. Most cattle feeders have lost money for several years.

"Not long ago there was prepared for the Interstate Commerce Commission reports from fifty-six farmers in Iowa as to how they succeeded in feeding cattle in 1915, the year just gone by. These reports were sworn to. Fifty-three of these farmers stated under oath that they had lost money feeding cattle in 1915, some of them as much as $19 a head. Only three of them stated that they had made money, and the combined profit of all of the three was only a little over $600. These reports typify the fate of the feeders during the past two years. Thousands of them have gathered their corn, gone to one of our great markets, borrowed money, bought feeders, taken them to their pens, fed them their corn, and then brought them back and sold them to the packers without realizing a cent for their corn or even for the grass they ate. They have gone back home to their families as empty, so far as their small crops were concerned, as if they had lived in the line of march of a devastating army in Belgium or Poland or Servia; as empty as if in their unsuspecting honesty they had fallen into a den of "confidence men"; except that they have not been beaten, as empty as the hapless victim whom the good Samaritan found by the roadside.

"Whether we study natural or revealed religion, it was doubtless the intent of the Creator that the good things of life should be somewhat equally distributed among his creatures. Let us see how the packers have observed this Divine rule. By way of comparing the status of the packers with that of the cattle feeder I present for your astonishment the following table—taken from The Wall Street Journal of January 26, 1916, and showing the capitalization and profits of the packers in 1915. The packers here named are what are known as the "Big Four."

	Swift	Armour
Sales	$500,000,000	$425,000,000
Net profit	14,087,500	11,000,000
Per cent on sales	2.8	2.6
Per cent on stocks	18.7	55.0
Net working capital	62,355,000	56,581,954
Per cent to sales	12.4	13.3
Surplus	45,850,000	98,733,117
Per share	$61	$493
	Morris	**Cudahy**
Sales	$160,000,000	$116,162,000
Net profit	2,321,414	723,642
Per cent on sales	1.45	0.62
Per cent on stocks	77.3	(com.) 17.6
Net working capital	23,768,535	8,224,543
Per cent to sales	14.8	7.0
Surplus	29,510,270	6,050,270
Per share	$983	(com.) $175

You will observe from the above that the net profits for the year 1915 were: Swift, $14,087,500; Armour, $11,000,000; Morris, $2,321,414; Cudahy, $723,642. The per cent on stocks is: Swift, 18.7; Armour, 55.0; Morris, 77.3; Cudahy (com.), 17.6. In studying the question of trusts some years ago I remember that a New York lawyer, who it was said had organized more trusts than any other man in the United States, said that the usual rule was to add four portions of water to one portion of value. If this rule obtains with the packers, and the presumption is it does, you can see what a tremendous money-making machine they have. I invite your special attention to the surplus as given in the above table: Swift, $45,850,000; Armour, $98,733,117; Morris, $29,510,270; Cudahy, $6,050,270. The combined surplus, it will be noticed, of the "Big Four," is $180,000,000. They have this enormous sum after declaring their dividends. Some months since some English envoys were in Ameica engaged in an arduous endeavor to borrow one-half billion dollars for a government on whose possessions the sun never sets; yet here are four business concerns that have a surplus of $180,000,000, and a net working capital of over $150,000,000.00, and loan companies with loans running up into the millions, as will be seen further on.

Judge Wallace then proceeds to show positive evidence that the packers are maintaining a wicked, illegal conspiracy and combination known as the "Beef Trust." The Missouri Cattle, Swine and Sheep Feeders' Association would have Congress investigate the methods of the packers and suppress the great crime against society of which the packers are proven guilty. "It is our hope that when the evidence of this wicked conspiracy is laid bare by the Trades Commission the testimony will be presented to the Department of Justice, which we trust will see that the law is enforced and its supremacy upheld.

"Then, we wish a law passed by Congress which will break up this nefarious system by which a conspirator gives to his co-conspirator, by "wiring" or otherwise, information which prevents the farmer or other shipper from receiving the just benefit which comes from open competition in our great markets—a law which will make this offense a felony only and punishable only by punishment in the penitentiary. What do these multi-milionaires care for a fine? They will grind the face of the hapless feeders of our land and reimburse themselves in forty-eight hours.

"We wish Congress to pass a law making it a felony for men to form a Trust to control the price of meat, a great food product upon which the masses depend for strength and sustenance. Expunge the word "fine" from the statute books.

"Much as we believe punishment is necessary for the protection of society from human greed, we also wish Congress to pass adequate laws to prevent the continuance or recurrence of the awful crime which we have been depicting."

IMPLEMENT TROUBLES

We have been having some unpleasant experience and to tell of it may help others. Among our implements are a check row corn planter and a sulky plow, the first three, and the second two years old, both of which have given us some trouble ever since we had them. Both were sold us by the local dealer and are made at the same factory, but repeated complaint to the local dealer has been without result, and when in Columbus in January, I went to the branch house and lodged a complaint there. The plow did not scour well in some soils, and the planter, while it is almost infallible as to the dropping of corn, did not handle some grades of fertilizer just right, all of which was laid before the manager of the branch house.

He said that he had never heard of our trouble before, and would attend to it at the right time so a few days ago up drove an expert with half a delivery wagon load of parts, and the way he did go after those implements was fun.

An entirely new bottom, with a different shape mold board, was put on the plow, and that expert was not afraid to follow the plow around the field a dozen times, to see if he could make it fail to scour under the very worst conditions he and the driver could devise. When it was settled that the new bottom would scour in any soil we have, he said "where is that —— corn planter you have trouble with?" Then he said several things but represented here by more —— —— spaces, and told us that our planter was one of a few hundred sent out three years ago, with fertilizer attachment that did not work right, that the company had sent the local dealer new attachments to be placed on all such planters and that he had simply failed to pay any attention to our planter.

I am writing this to advise others, who have like troubles, to do as I did. If your machine or implement does not work as it should, and if the local dealer cannot or does not put it in first class condition, write to the factory where it was made, or to the nearest branch house, and tell them of your troubles.

In our case, the firm who sold us the two implements, lost the sale of three planters last year, simply because "Lyon's machine don't work right," and it did not work right because it might have taken our dealer half a day to come to our place and put on new attachments.

C. D. Lyon.

Suggestions for Concrete Tanks

A good mixture for a concrete tank may be made of one part Portland cement, two parts of clean, coarse sand, and four parts of screened gravel or crushed rock. Where neither gravel nor crushed rock is available, use one part of cement to three of sand. If less cement is used than the amount given the mixture will not wear.

The foundation should be about six inches thick, enough so that there will be no danger of heaving from frost. It should be reinforced with woven wire.

The sides of the tank may be reinforced the same as the foundation, care being taken that the reinforcement is placed near the outside wall. Only wire or iron of good quality should be used, as rusted material only fills space and does not reinforce.

There should be continuous reinforcement around corners. Where the wire or other material laps, the laps should be several inches.

The form for the tank should be so made as not to crack the cement when taken apart.

After the forms are removed, the inside of the tank may be waterproofed by applying a coat of concrete paste made of pure cement and water mixed to the consistency of cream.—College of Agriculture.

What is Acid Phosphate Worth?

In the average of 22 years work by the Ohio Experiment Station at Wooster, 21 at Strongsville and 12 years each at Germantown and Carpenter, acid phosphate, used at the rate of 80 to 120 pounds per acre, has returned a little more than 8 bushels of corn for 100 pounds of phosphate, the fertilizer being spread on all the land with the grain fertilizer drill just before planting the corn.

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PREVENTION SPELLS PROFIT IN LIVE STOCK RAISING

The task of the management of any business, not only consists in so conducting affairs, that there may be a fair degree of profit, but also that losses may be prevented. In many cases even the profits will take care of themselves if the losses can be eliminated.

The farmer as a rule has been very slow to learn the lesson of loss prevention, because in the first place he has so commonly been led to look upon himself and vocation as upon something to which the laws and rules of ordinary business do not apply and in the second place losses are so often due to the forces of nature over which he thinks he has no control, that he does not worry much about it and simply takes a gambler's chance.

Under the condition of the predatory farming of the pioneer, when land was cheap and plentiful such an attitude was no particular disadvantage but with the tightening up of agrarian economic conditions, the old system of extensive farming with poor business methods or none at all must fall and the farmer of today is already compelled to put a not inconsiderable amount of headwork into his affairs.

In spite of the fact, that to nothing is the human mind more resistant than to new ideas, a change in the business of farming is well under way and this change is for the better. It will bring greater prosperity, a more healthy independence and a higher and more just civilzation, the latter always having a material foundation.

The Loss Problem a Factor

One of the first evidences of this step on the road of progress is the increasing number of animals now to be found on our farms. We are commencing to correlate animal husbandry and crop growing, slowly learning that in successful farming the two must go hand in hand.

To many this change brings new problems. Some have had adequate experience with livestock, others have not, while it must not be forgotten that the handling of livestock requires more exacting care, when we are dealing with the more profitable but also more delicate improved breeds of today in the place of the long-horned steer, razor-back hog, or broncho of our fathers.

In the business of successful animal husbandry, the loss problem, referred to above is continually making its presence known, seriously demanding attention. Its solution requires a rich fund of information of such a variety of factors, as proper feeding, markets and marketing, suitable selection of animals and types, maintenance and care.

Foremost among the loss factors we recognize injury and disease, and their prevention rests to a very large extent with the farmer himself. Not only is he the one upon whom the animals, whatever they be, depend for proper care, but in the face of disease he is the one who should recognize its existence at a time when it is still possible to cut it short or to prevent further losses.

Takes Close and Careful Study

In order to acquit himself of this task, which after all he owes to himself more than anybody else, he must be willing to familiarize himself with the subject of disease and above all be prepared to give careful attention to many details in connection with his stock.

It is far from us to demand of the animal husbandryman, that he qualify as an expert in animal diseases, but he should set himself to acquire at least a working knowledge of the principles underlying animal sanitation and disease prevention. It may be a difficult thing for us to learn that in dealing with disease our greatest achievements rest on prevention and not on care. Intelligent disease prevention is a comparatively recent acquisition and it certainly is this when we contemplate the fact, that people have for ages looked for cure as the only salvation from the evils of disease. The passion for cure is bred into us so deeply that often we cannot think of anything else. Not that we in the least deprecate the splendid advance made in the cure of many diseases, but we must recognize the fact that this is more the field of the trained expert, while disease prevention is something in which nearly everybody can achieve something or can render efficient aid.

It deeply concerns the ones who depend upon the rearing of animals for a living or profit and their business equipment should contain a cetain amount of knowledge of the underlying facts of disease and the principles of prevention.

A certain part of the reading during the long winter evenings may well be devoted to this subject. There is no lack of literature on this topic and its perusal would mean infinitely more than the stuff that so many of us are apt to absorb. To inform ourselves on the questions of the day is a duty of any intelligent citizen, which should not be neglected. This can be done, however, without restricting ourselves to this alone, or without forgetting that there are so many subjects of a more immediate interest to our own well-being and success. To learn how to keep our herds free from tuberculosis, how to handle an outbreak of hog cholera, how to meet the advance of contagious abortion is certainly far to be preferred to the contributions to confusion dished up by third-rate politicians, exploiters and space writers.

The efficiency of the individual in his own field is after all the best guarantee of general welfare, and the stockmen are especially confronted with many problems demanding knowledge and attention to detail for their solution.

Farmers Should Inform Themselves

Returning to the diseases just mentioned as an example, the stockman has it in his power to have or not have tuberculosis in his herd. He is the one to take the initiative in its eradication from a herd already infected, he is the one upon whose vigilance depends whether or not it shall be introduced into a clean herd.

In hog cholera, it is the farmer again who is the first to discover the existence of the disease and even if he may not be familiar with it, it is up to him to take the initial steps towards its recognition and the prevention of further spread. If he has read about the disease or has had previous experience with it, he will know that sickness or deaths in a herd of hogs must never be passed up without a definite attempt to discover the actual causes, whether it pertains to suckling pigs in the spring or well developed marketable porkers during the fall. If informed he will also know where to turn for help and will not permit the first patent medicine vendor or would-be expert to cause him to do the wrong thing.

If even but slightly informed on the subject of infectious abortion, he will suspect something more serious than a mere accident, when his cows at apparently odd times, "slink" their calves. It is he who will look into the cause of it because he will be forewarned. And he will know that neglect may mean unprofitable business if not financial ruin. He will also know that he must bestir himself with preventive measures and not wait until his herd is affected throughout.

The diseases mentioned are only a few among the many which continually threaten our success in animal husbandry. The animal husbrandryman should know about them and be continually on the alert. He may learn his lesson by bitter experience and he may do so by gathering a little information beforehand. The latter method certainly is the least expensive, but it will require a certain amount of effort. This effort, however, will put money in his purse.

Little Things Require Attention

But not only does stock-raising for profit require study and information, it requires constant attention to details. In no instance is this more apparent than in the care of brood animals. There was perhaps a time once, when such care was not very imperative, but with the gradual improvement of our breeds of livestock, much of this has been changed. By means of skillful selection in breeding, certain especially desirable qualities have been developed, but this has often been accomplished at the expense of body vigor or by the sacrifice of certain protective qualities. Compare for instance the udder of our most highly improved dairy breeds with that of the cattle in the wild or semi-wild-state. In the latter the organ is just sufficient for the purpose intended by nature. It will nourish a calf only for so long as it is absolutely necessary. It is small and almost completely concealed within the space bounded by the thighs. There it is protected against injury and its functional activity is moderate and does not constitute anything resembling a strain. In the former on the other hand, the udder will furnish nutrition to many more than the normal offspring and will do so long after the calf is in its natural state has be weaned. It has developed enormo proportions, has exceeded the limi of its protective space. Hence it h become exposed to a great variety injuries; other animals may readi step on it, fence wires or thorns brambles can easily sratch it, etc. I secretory function is manifold that its prototype and its natural resis ance to infection has been large sacrificed. It is the udder that read ly "cakes," the one peculiarly predi posed to "garget" and other disease and when the dairyman complai that it is always the best udder th goes wrong, he is usually telling mo truth than poetry.

Something similar is seen in co nection with the birth function. An mals close to the state of natur rarely have trouble when they gi birth to their young, while in our i proved breeds difficulty is very fr quently met with. Even frequent enough to compel us to reckon with and this we must do, if we are not be occasionally confronted with gra losses arising from this source.

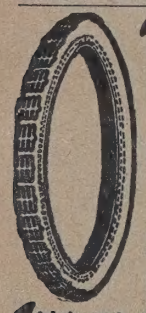
Good Animals Demand Good Care

As long as we maintain animals inferior breeding, we may be incline rightly or wrongly to leave everythi to nature, but when we are engag in raising our more profitable, high bred and expensive animals, we ca not afford to do so any longer. T valuable mare or cow about to gi birth must be an object of our co cern. We must be on hand in ord to see to it that everything takes pla normally and while actual assistan is not often necessary, we must present to render it, if things do n progress according to program.

The amount of loss sustained neglect of such animals is quite co siderable and at least some of o breeders may well follow the examp of their colleagues of the old wor who would not think of permitting valuable dam to approach the bir period without more or less consta observation.

When engaged in raising stock, w must be reconciled to supervise th parturition of our mares and cows an even with our ewes and sows we ma be able to prevent losses by rende ing timely assistance, when the tim for doing so arrives.

This is merely one of the many d tails which demand the attention the animal husbandryman. There a many others just as important. The all make for the prevention of losse for the stopping up of many holes, b and small, through which the profit are apt to slip away. Strict and co sistent attention to them is merel sound business, no more and no les —Dr. L. Vants, North Dakota Agricul tural College.



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30x3 in.	$ 8.60	$2.30	36x4 in.	$17.45	$4.65
30x3½ in.	10.85	3.10	35x4½ in.	21.20	5.60
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34x4 in.	16.70	4.35	37x5 in.	26.30	6.60

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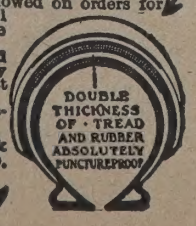


This Church is Breeding Shorthorns

A country church near Ravenwood in northwest Missouri, is the cente of a community devoted to breedin Shorthorns. In the past three month the twenty-six members of the organ ization—and to be eligible to mem bership in this special effort, one i required to live within five miles o the church—have acquired one hun dred registered Shorthorns and tw hundred high-grade cows. Twelve reg istered bulls have been placed in serv ice. the latter, however, are owne privately by this group of individual within the circle. The matter of con venience determined this item.

The community is known as "Har-

mony". The Shorthorn Circle is but one of various interests which the community is encouraging and it is a logical plan for the improvement of the cattle stock in the community. By this method prospective buyers are more readily attracted because they have larger numbers of one breed from which to make selections. The advertising and other expenses can be held to the minimum and at the same time the best of results assured.

In too many communities do we find the stock representing a half dozen or more different breeds, the result being that co-operation is almost eliminated; that the individual breeders must find their own markets and with only a few salable stock, they are at a disadvantage as regards attracting buyers.

There is now a growing inclination to adopt one breed in a community and adhere to that breed and the results are gratifying.

Frank D. Thompson,
Lincoln, Nebr.

OPPORTUNITY IN LIVE STOCK FARMING

It is becoming a generally recognized fact that livestock is the basis of all permanent agriculture and the safest means of maintaing soil fertility. There are regions in which agriculture thrives for a time without livestock forming a part of the business of the farm. While it is possible to keep up the fertility of the soil for a time by the use of commercial fertilizers and cover crops alone, it is not a permanent method of agriculture. This is due to the expense or cash outlay which is involved and which necessitates the selling of all crops from the farm, which is a poor practice. Where the system of farming calls for a large cash outlay, as is the case in the purchase of a large amount of commercial fertilizer, the tendency is to lessen the amount used and consequently the soil is gradually depleted in fertility. Such sections cannot compete with livestock centers in the maintenance of the fertility of the soil and the returns from the farms. The investigations conducted by experts in many sections of the United States show that the labor income from all livestock farms is considerably higher than from farms upon which livestock represents but a small per cent of the capital invested. In other words, too many of the farms of the country are under-capitalized in the amount of livestock carried.

Livestock farming also provides a market for farm crops which in many instances are waste or cannot be sold to advantage owing to the fact that they may be damaged or are unsalable. Nearly every farm produces a large amount of feed of a bulky nature and there is no channel through which such feed can be marketed to better advantage than some form of livestock.

There is seldom an over-production of livestock and livestock products, which has a tendency to create a healthier market for such products. Livestock markets are usually more staple than those of most farm produce, largely due to the constant demand and because of being of a nonperishable nature. It is true that market conditions are frequently unsatisfactory, but when such is the case it is possible to hold the livestock until such time when the market has improved.

During the last decade the population of the United States has increased more rapidly than the amount of livestock produced so that during the past few years an actual shortage has existed. While this shortage has been overcome to some extent, the country does not have its normal supply at the present time. Export trade in meat has again been established and no doubt will be continued, owing to the fact that the European countries will be less able, after the war, to produce their own supply of meat than before the present war.

In the development of our system of agriculture we have followed the path of least resistance, with the result that only the more fertile and easily tilled lands have been made use of. There are large areas of land in every section of the United States that are rough, hilly and untillable, which must be utilized in economic agriculture. There is no type of farming to which such lands can be used to better advantage than livestock. Many of these regions are at some distance from railroads and markets. When the crops produced in such sections are fed to livestock the expense of marketing has been solved, as the livestock can be driven to the market.

The production of livestock on an economic and sound basis is essential in most communities for the carrying on and the development of a successful agriculture. Especially trained men will be in demand to aid in building up and reclaiming areas and reshaping the system of agriculture that will be followed in many sections of the country. This offers one of the largest fields of work in the future for properly trained men along these lines.

One of the most fertile fields for the future in Animal Husbandry, lies in the breeding of purebred livestock. Farmers are beginning to realize the importance of breeding a better class of animals upon their farms. Many of these farmers, however, are not in a position to follow the production of pure-bred animals, consequently, they will be the buyers of the surplus animals produced by the breeder of pure-bred stock. The demand from the farmers for good sires will be much greater in the future than it has been in the past. The general demand for improved livestock will have a tendency to keep the price of such animals at a figure which will make the breeding of pure-bred animals a profitable undertaking.

The bulk of the market animals will always be produced by men who are not engaged in the breeding of pure-bred animals. Such producers realize the importance of the use of good blood, even though the breeding females may be grades. With the prevailing price of market animals there is an unusual opportunity to produce the type which the market demands.

In order to be successful as a producer of pure-bred stock or market animals it is highly important that all phases of the subject be thoroughly understood. The person must not only be a close student of breeding, but must follow closely the breeding side of the work. Community centers can be developed for the breeding of pure-bred livestock which may become the means of universal improvement in the livestock of a community. No one is better fitted for such leadership than a man who has had a thorough training in the fundamentals of the livestock business.

The economical feeding of livestock is of importance. Conditions have changed during the last decade with the constant increase in the price of grains and farm feeds. The utilization of cheap feed in the growing of young stock and the maintenance of breeding animals, must be fully appreciated. Fattening rations have changed so that the use of expensive grains has been eliminated to keep down the cost of production.

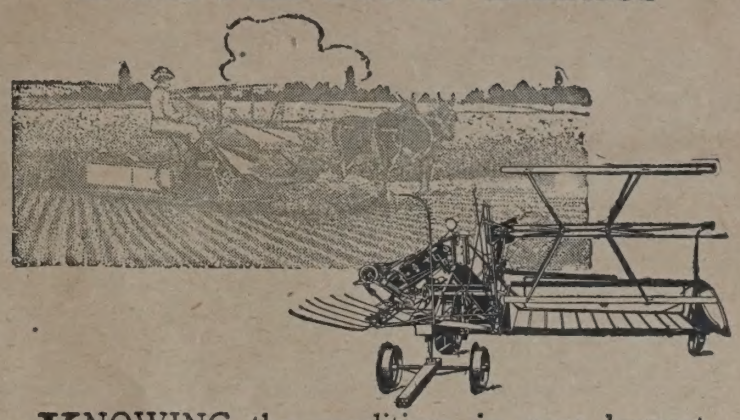
With the general increase in livestock production there will be a growing demand for managers of livestock farms. To be fully qualified for such work will require the same general knowledge of the problems of breeding and feeding as are required for any practical phase of this work. The establishment of a pure-bred herd requires a considerable amount of capital. There are, however, many owners of tracts of land who are willing to invest capital in the establishment of such plants if they can secure competent managers for their business.

While the establishment of pure-bred herds, the production of market animals, and the management of livestock farms seem to provide the largest fields and greatest opportunities in Animal Husbandry, the educational and research phase must not be overlooked.

With this generally increased interest in livestock production it will be necessary to conduct demonstrations in various phases of livestock. Agricultural instructors in the vocational schools and county agriculturists must have a thorough training in matters pertaining to livestock, as they will find the big problems of the people to be those of livestock breeding and management. The United States Department of Agriculture is rapidly extending its line of work and will demand a number of thoroughly well-trained men each year. No line of work offers a greater opportunity than that of Animal Husbandry research. New problems relating to breeding, feeding and nutrition are constantly to be solved, which will require a large number of competent men.

W. H. Tomhave,
Pennsylvania State College.

Own An IHC Binder



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Devoted to Better Farming, Better Farm Homes and Better Citizenship.

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William Hirth - - - Publisher
Geo. B. Ellis - - Managing Editor

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ADVERTISING FARM PRODUCTS

It is said the man who is the farthest from market is the one who has nothing to sell but the fellow who has something to sell and does not know how or where to find a buyer must live in the same neighborhood. The last forty years have shown wonderful progress in advertising and great fortunes have been made by men who understood the game.

We think about the last man to avail himself of the opportunity for making money by advertising is the farmer but he too is coming to learn its advantages. We have known farmers who had a horse or a cow to sell who would put a price on the animal then wait weeks or months for a buyer when if they had spent not more than twenty-five or fifty cents with the local paper they would have found a buyer and saved several dollars in feed bills. There are many articles farmers have for sale from time to time that can be sold more quickly and possibly for a better price by advertising but where this kind of publicity will pay best is where the farmer is producing a superior article.

People who have money to buy what they want are usually willing to pay a premium for quality and the best way we know of to find these people is to let them know what you have to sell through some publication they are likely to read. But the man who builds up a good trade in advertising must produce an article with superior quality. This is one of the benefits most men will get by systematic advertising, they will find it will stimulate them to produce a good article and to improve on it and as their reputation spreads their profits will grow and they will use all their skill to produce the best.

The man who decides to try advertising as a means to more profitable farming should select a name for his farm, which as a matter of course should in some way incorporate his own name and then make that name a guarantee for quality and honest dealing.

It was not our aim in suggesting the above title to discuss the details of advertising but merely to get farmers to thinking about the question of first trying to produce something of good quality, whether it be, fruit, butter, poultry or live stock, it matters not and then through advertising find the man who is willing to pay a fair price for it.

COMMUNITY BREEDING

We have frequently discussed in The Missouri Farmer the value it would be to any community if all the farmers, or at least many of them, would form a community breeding club and would produce only one breed of horses, cattle, sheep, hogs or poultry. The following letter just received from a reader in Morgan County suggested this article:

"As Secretary of the Versailles Farmers' Club I am writing you for any information or assistance that will save us money or help us in any way.

"We perfected a permanent organization in March. We meet in the court house the last Saturday in each month, 2 p. m. At our April meeting we carried out a program previously arranged which consisted of talks on various farm topics by farmers and townsmen. It was suggested and discussed that the club members who are cattle feeders and breeders select one breed of beef cattle and grade up their herds by buying pure bred sires and gradually work into the pure bred business. No certain breed was agreed upon and so we did not accomplish much. We have enthusiastic farmers at our meetings and good attendance but we must accomplish some undertaking if we expect to hold the interest. "We are in our infancy as a club and will appreciate any suggestions you may give us."

L. E. D., Versailles.

The better farming and better marketing program our Morgan County friends have started in to develop is along the lines The Missouri Farmer has been advocating for a long time and there is abundance of work to do that ought to hold the farmers together permanently. We have in mind one neighborhood that has been organized for about six years and the interest is as good now as it was at the start but their sole work has been better farming and better social conditions. They have so far attempted nothing in the way of better marketing. We mention this merely to suggest to our inquirer that there is no need to get discouraged because the members of any farm club do not take up any new proposition on the first suggestion. The matter of community breeding clubs is one of great benefit to the members if they can get together and hold together for a few years. The first few years are the difficult ones because the benefits are greater and greater as the club grows in members, in number of animals produced and in reputation.

It is not necessary to get all the farmers into such a club to make it go at the start for if only three or four men will cooperate their success will gradually bring others to see the advantages and cause them to join.

The first advantage in a breeding club is that it enables the members to get a better sire than individuals can afford to buy. If but four men who own thirty or forty cows all told will join hands they can buy a high class bull that will cost each man no more or possibly less than if he should buy only a grade or an inferior pure bred animal. It is an advantage, of course, to have two or three clubs so that bulls may be exchanged after a year or two of service.

It is a very simple matter where such clubs are formed to lay the foundation for pure bred herds. The sire should without question be a pure bred animal wherever possible and always where the aim is pure bred herds. But where the members of the club have limited capital if each one will buy only one pure bred cow or heifer it will take but a few years to grow into the pure bred business and do it without any great outlay of money. And all the time the grade herd is being improved and made more profitable than where the usual methods are followed.

Another advantage the club member has over the individual breeder is in the better opportunity for selling when he has a surplus. The club can advertise all the stock belonging to its members as cheaply as one could advertise a smaller number. Again where there are several animals to select from it is more attractive to buyers.

The question our correspondent raises of agreeing on the breed is an important one though not an insurmountable difficulty. The success of the club will not depend, as we have already stated of getting every breeder in the neighborhood to join but will depend only upon the intelligence and cooperation of a few men. There is so little difference in the merits of the leading breeds of beef cattle that it ought not be a hard proposition to get a few men together on a breed and particularly is this true where there are no pure bred herds already established. Men certainly can not and will not stand in their own way of success because of a personal preference in choosing between a Shorthorn, Hereford, Angus or Galloway. Men are succeeding with all of these breeds and it is largely a matter of personal fancy as to which is the best. If a good herd or two of any breed is already established why not start with that breed? If herds are already in existence of two breeds it will not be fatal to success to start two clubs because of the rivalry that may stimulate greater effort although we do not want to be understood as advocating more than one breed where it is possible for the farmers to agree.

One of the important things is to establish a reputation for high class stock and when that is done the benefits will be so apparent that no one will want to breed any other class of animals. Remember "great oaks from little acorns grow" and we think it is quite possible to start a club with a very few members that will in a few years grow into a community and perhaps a county-wide cooperative enterprise.

WHERE DO YOU STAND?

The St. Joseph Stock Yards Journal says the highest price paid on that market for hogs within a period of more than five years was paid last Saturday, May 13, when one load sold for $9.87½ a hundred. We would ask our readers to compare the prices farmers are now getting for their fat hogs with the prices they were getting last October and November. Can you figure out any legitimate reason why the packers should be permitted to hammer the very life out of prices in the fall and early winter when the bulk of hogs are going to market and then put them up in the spring when they want to sell their products?

Do our readers not think that the fight The Missouri Farmer started months ago is beginning to bear fruit? This agitation has now reached Congress and it is said by those in a position to know that the big packers are beginning to get pretty nervous over the situation. We hope Congress will go ahead with this investigation and find out just what is the matter and in some way make it impossible for any combination of men to arbitrarily fix the price of any food product. If Congress does this, however, it will be because the great majority of farmers demand it. Every farmer should throw the weight of his influence into the fight and keep a close watch on his Congressman and Senators.

We have few farmers or live stock men in Congress and the average Congressman knows very little about farmers' profits and losses and the only way to get them interested is to let them know that farmers are not getting a square deal and that they are demanding action by Congress.

But to get back to the question, "Where do you stand?" we want to make this personal to every reader of this paper. No farmer who sells hogs, cattle, sheep, butter, eggs or wool has any valid excuse for staying out of this fight. One farmer acting alone can do little, but if the whole body of more than six million farmers in the United States will act together, they can get just about what they want, that is within the bounds of reason. There are plenty of other troubles besides the fight against the packers for farmers to remedy and it will take the help of all to right them. This work must begin at home, first, with each individual farmer and then the school district, the county, the state, and finally the nation. The sooner every individual takes it upon himself to do all he can, to cooperate with his neighbors without prejudice the sooner we will get relief. This is an appeal to each and every farmer who reads this paper to go to work and organize a farm club in his neighborhood if not already organized and be ready to join the state-wide organization that is now in the process of organization.

LOOK OUT FOR FAKIRS

There is abundance of evidence every year that Barnum was right when he said "people like to be humbugged" or at any rate there are a lot of people always ready to bite at fakirs schemes. The United States Department of Agriculture has just issued a warning to farmers about buying the "miraculous" wheats that are offered for sale most every year. The department has investigated the merits of most all these wheats and does not find that they possess superior merit. These wheats have been sold at fabulous prices and are sold under the different names, "Jerusalem," "Alaska," "Mummy," "Egyptian," and "Miracle," but whatever the name farmers who want to protect themselves against fraud will do well when considering the purchase of seed wheat away from home to buy only of a reputable seedsman or from some one who can furnish a good reference. As to the merits of new varieties that information can usually be obtained by writing the Experiment Station.

Land Bank Wins First Step

The first step toward a rural credit scheme for Missouri has been won. The committee in charge of the circulation of petitions for the Gardner Land Bank announces that forty-one thousand and five hundred voters have signed the petitions asking that the land bank proposition be submitted to the voters for their approval at the November election.

If the proposition carries a majority vote Missouri will be the first state to adopt a real rural credit system under the control of the State. The Missouri Farmer takes a great deal of pride in the success of the movement for it was the first agricultural paper in the state to advocate a land bank and from the start has endorsed and promoted the plan embodied in the Gardner Land Bank Act.

BARNYARD GOSSIP

A few days ago I heard two town residents comparing notes on their experience—buying nursery stock. The first one was telling what a fine lot of shrubbery he had bought from an agent and among other things was a "weeping mulberry" 4 feet high for which he had paid $1.50. "Why," said the second man, I sent an order direct to a nursery and among the plants I bought was a "weeping mulberry" fully as large as yours is and it cost me just 65 cents." On comparing prices it was found that the man who had bought from the agent had paid about twice as much as the man who had bought direct from the nursery and both had bought the same grade of stock. And this was about the difference: Along in January when farmers are not very busy one of these men wrote to three or four reliable nurseries for their catalogs and prices and at his leisure he made out a list of what he needed, sent the order in and was treated just as well as any agent could have treated him and saved about one-half of the bill. Now, although many of them can not be trusted but just like a great many other things we do, it is the system that is wrong. Any reliable nurseryman will list his stock by grades and at the expense of a postal card you can get a catalog and send in your order at a cost of two cents for a stamp. When we buy from the agent we pay his salary and expenses on top of the nursery price. The above example merely illustrates the need for a more direct and simple plan for buying and selling in order that the farmer may have his rightful share of the dollar.

We have just read a news item from Jefferson City stating that the state game warden has found out by costly experiment that the English pheasant and Hungarian partridge are not suited to the environment found in Missouri. A state game farm was established near Jefferson City and thousands of pheasants and partridges were hatched and distributed throughout the state but after five years effort very few of these birds are to be found. Then an effort was made to propagate the common quail (Bob White) but that too, proved a failure. It is a well known fact that it is very difficult to raise the common quail in close confinement. There is just one way we can make Missouri a great game preserve and that is to depopulate the state, tear down our towns and cities, stop the frequency of the automobile and the railroad train, let our fields grow up to weeds and bushes, turn civilization back a hundred years or more and then we can have the wild turkey, the pheasant, the deer and the bear just like Daniel Boone found them when he was fighting Indians around the Boonslick country.

But after all—the grafters to the contrary notwithstanding—is not Missouri doing a greater service and being put to very much greater use for both man and God now in A. D. 1916, than it was in 1716? Nature unaided by man stocked our forests with buffalo and bear but Nature aided by man has replaced these wild animals by the far more beautiful and useful. Shorthorn, Angus, Hereford, Galloway and other improved breeds of cattle. If we would have an environment in which the bear and buffalo would thrive we must destroy the work of more than a hundred years of civilization and progress. Is not the Brown Leghorn chicken just as beautiful a bird and many times more useful than the pheasant? If you want to see beautiful things look about you and you will find them a plenty.

"SENSE AND NONSENSE"

If this job is perpetrated on you folks again, nobody will be to blame but Hirth. He has asked me to commit it and I have had much misgiving about it, as well as dire forebodings.

The trouble is, you see, that it takes a lot of sense to write nonsense, and I am desperately short on the first named commodity. Most any one no matter how little he knows can once in a while write sense, and talk it some times, but it takes a real artist to do a fancy job in either writing or talking nonsense. It is a very dangerous past time too, sometimes it results in genuine humor, but more often the only result is the laugh the other fellow gets at seeing a writer or speaker make a fool of himself.

If I could write, speak, or act such nonsense as would create genuine mirth and jolly laughter I might get a lot better wage at that than I do at the job I hold, trying to talk and act sense as well as my limited capacity will permit. The average human persons either he ones or she ones are not hunting sense very vigorously. Excitement and nonsense are the commodities chased most.

In an audience made up of the common herd let one man talk the most profound philosophy and many of his hearers will snore on him, but let two painted fools take the platform and every body takes notice, and they can quote the fool when not a syllable of the "sense" could be recalled.

It is doubtful if the majority are able to detect really high class humor from low grade stuff. It might be unfair to draw such a conclusion, but we judge from the "signs of the times." A certain Charlie boy with big shoes, and a little mustache, a cane and a cocked hat, gets the most "dough" for dispensing his nonsense to us "braves." I may be no "just judge" but it seems to me that the humor of this Charlie chap is of a very low grade, but somehow the folks seem to like it, Charlie knows they like it, and they pay the good price to get it. So, I say, go to it, Old Boy, its good business., "Give 'em" what they will pay for whether they need it or not. The devil is doing the same.

I am a timid soul, and it has taken much effort of my bean, and anguish of—lend me a word, please,—to go to the boneyard and exhume old sense and nonsense, clean him up, renovate him and put a little fat on him and make him ready to work, and the worst may yet be to come and if it comes, I am right here going to say that I will not be responsible for what may happen.—Sam Jordan.

WHERE SHALL WE GO FOR GUIDANCE

The marketing of cattle or any other live stock, while not a strictly technical subject dealing with animal husbandry, is of primary importance to the student interested in the practical production of live stock, because a knowledge of the "ins" and "outs" of marketing is essential to large profits for the farmer. H. W. Mumford, in Circular 163, of the Illinois Station, "Economic Factors in Cattle Feeding," says, "A knowledge of market conditions and the factors which affect them is essential to a thorough understanding of cattle feeding." A man may be able to handle the raising and feeding of cattle, as well as the best, yet, if he does not know the markets, he will not be able to do much better than the man who is only a mediocre herdsman but who is a good salesman.

As a rule, men learn what they know of markets and marketing through hard knocks in the school of experience. With students, however, many of the things about marketing could be so studied that they would at least have an idea concerning the workings of markets and would not be entirely ignorant of this phase of the live stock trade. There is a vast amount of material dealing with the productive side of the business, but as yet little has been done to guide the beginner or amateur in the way of "going up against" the middleman and packer. Much has been written on the marketing of fruits, vegetables, and farm produce other than live stock. Probably the cause for this has been due to some sort of a check placed upon the agricultural experiment stations that has hindered them from turning to this field of the live stock industry.

The present Secretary of Agriculture, Hon. David F. Houston, stated, at the beginning of his term, that the Office of Markets, of the United States Department of Agriculture, would give special attention to the study of the live stock markets, so as to benefit the farmer in his struggle with the middleman. So far very little has been done. This inactivity leads one to believe that there is a reaosn. What is the reason? Some people and the radical agricultural press, if such a thing exists, lay the blame at the door of the packer. Just how true these assertions are is a question that can not readily be answered. However, the fact remains that so far very little has been done by the so-called "Government Experts" on the live stock situation, and it is time that the students are taught something concerning the marketing of live stock and the factors influencing current prices.—D. C.

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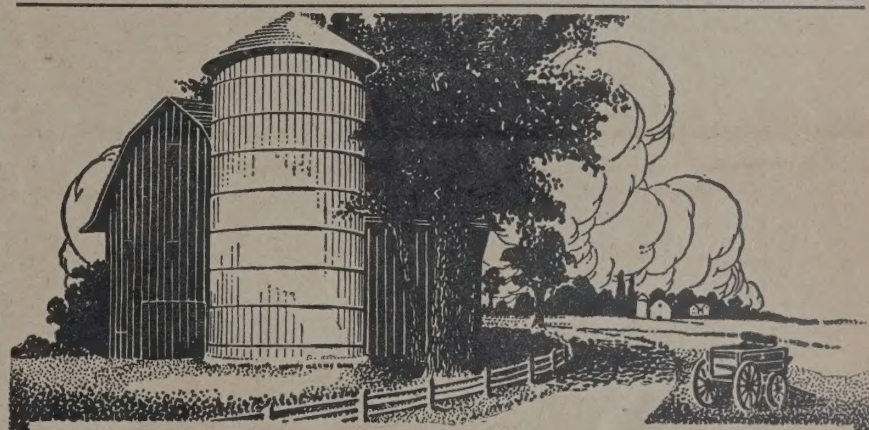

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David Dunne

A Romance of the Middle West

By BELLE KANARIS MANIATES

CHAPTEA VII

"Whar wuz you, Dave, all the time we wuz in town?" asked Barnabas, as they drove homeward.

"In Judge Thorne's office."

"Judge Thorne's office! What fer?"

"He asked me there, Uncle Barnabas. He was my father's lawyer once, you know."

"So he wuz. I hed fergot."

"He warned me against my temper, as you did, and he told me—all about my father."

"I am glad he did, Dave. He wuz the one to tell you."

"He says that every time I come to Lafferton I must come up and report to him."

"Wal, Dave, it does beat all how folks take to you. Thar wuz Joe wanted you, and now Mart Thorne's interested. Mebby they could do better by you than we could. Joe's rich, and the Jedge is well fixed and almighty smart."

"No," replied David stoutly. "I'd rather stay with you, Uncle Barnabas. There's something you've got much more of than they have."

"What's that, Dave?" asked Barnabas curiously.

"Horse sense."

Barnabas looked pleased.

"Wal, Dave, I callate to do my best fer you, and thar's one thing I want you to git some horse sense about right off."

"All right, Uncle Barnabas. What is it?"

"Feedin' on them fairy stories all day. They hain't hullsome diet fer a boy."

"The Judge reads them," protested David. "He has the same book of fairy stories that Joe gave me."

"When you've done all the Jedge has, and git to whar you kin afford to be idle, you kin read any stuff you want ter."

"Can't I read them at all?" asked David in alarm.

"Of course you kin. I meant, I did n't want you stickin' to 'em like a pup to a root. You're goin' down to the fields to begin work with me this afternoon, and you won't feel much like readin' to-night. I wuz lookin' over them books of your'n last night. Thar's one you'd best start in on right away, and give the fairies a rest."

"Which one?"

"Life of Lincoln. That'll show you what work will do."

"I'll read it aloud to you, Uncle Barnabas."

When they reached the bridge that spanned the river Old Hundred dropped the little hurrying gait which he assumed in town, and settled down to his normal, comfortable, country jog.

"Uncle Barnabas," said David thoughtfully, "what is your religion?"

Barnabas meditated.

"Wal, Dave, I don't know as I hev what you might call religion exackly. I b'lieve in payin' a hundred cents on the dollar, and a-helpin' the man that's down, and—wal, I s'pose I come as nigh bein' a Unitarian as anything."

The distribution of the purchases now began. Sometimes the good housewife, herself, came out to receive the parcels and to hear the latest news from town. Oftener, the children of the household were the messengers, for Barnabas' pockets were always well filled with candy on town days. At one place Barnabas stopped at a barn by the roadside and surreptitiously deposited a suspicious looking package. When he was in front of the next farmhouse a man came out with anxious mien.

"All right, Fred!" hailed Barnabas with a knowing wink. "I wuz afeerd you'd not be on the watchout. I left it in the manger.

They did not reach the farm until the dinner hour, and the conversation was maintained by M'ri and Barnabas on marketing matters. David spent the afternoon in being initiated in field work. At supper, M'ri asked him suddenly:

"To whom did you give the flowers, David?"

"I've made a story of it, Aunt M'ri, and I'm going to tell it to Janey. Then you can hear."

M'ri smiled, and questioned him no further.

When the day was done and the "still hour" had come, Janey and David, hand in hand, came around the house and sat down at her feet. It was seldom that any one intruded at this hour, but she knew that David had come to tell his story.

"Begin, Davey," urged Janey impatiently.

"One day, when a boy was going to town, his aunt gave him a big bouquet of pink roses. She told him to give them to some one who looked as if they needed flowers. So when the boy got to town he walked up Main Street and looked at every one he met. He hoped to see a little sick child or a tired woman who had no flowers of her own; but every one seemed to be in a hurry, and very few stopped to look at flowers or anything else. Those that did look turned away as if they did not see them , and some seemed to be thinking, "What beautiful flowers!' and then forgot them.

"At last he met a tall, stern man dressed in fine clothes. He looked very proud, but as if he were tired of everything. When he saw the flowers he didn't turn away, but kept his eyes on them as if they made him sad and lonesome in thinking of good times that were over. So the boy asked him if he would not like the flowers. The man looked surprised and asked the bay what his name was. When he heard it, he remembered that he had been the attorney for the boy's father. He took him up into an office marked private, and he gave the boy some good advice, and talked to him about his mother, which made the boy feel bad. But the man comforted him and told him that every time he came to town he was to report to him."

M'ri had sat motionless during the recital of this story. At its close she did not speak.

"That wasn't much of a story. Let's go play," suggested Janey, relieving the tension.

They were off like a flash. David heard his name faintly called. M'ri's voice sounded far off, and as if there were tears in it, but he lacked the courage to return.

CHAPTER VIII

Two important events calendared the next week. The school year ended and Pennyroyal, the "hired help," who had been paying her annual visit to her sister, came back to the farm. There are two kinds of housekeepers, the "make-cleans" and the "keep-cleans." Pennyroyal was a graduate of both classes. Her ruling passions in life were scrubbing and "redding" up. On the day of her return, after making onslaught on house and porches, she attacked the pump, and planned a sand-scouring siege for the morrow on the barn. In appearance she was a true exponent of soap and water, and always had the look of being freshly laundered.

At first Pennyroyal looked with ill favor on the addition that had been made to the household in her absence but when David submitted to the shampooing of his tousled mass of hair, and offered no protest when she scrubbed his neck, she became reconsiled to his presence.

On a "town day" David, carrying a huge bunch of pinks, paid his second visit to the Judge.

"Did she tell you," asked the tall man, gazing very had at the landscape without the open window, "to give these flowers to some one who needed them?"

There was a perilous little pause. Then there flashed from the boy to the man a gaze of comprehension.

"She picked them for you," was the response, simply spoken.

The Judge carefully selected a blossom for his buttonhole, and then proceeded to draw David out. Under the skillful, schooled questioning, David grew communicative.

"She's always on the west porch after supper." He added naively; "That's the time when Uncle Barnabas smokes on the east porch, Jud goes off with the boys, and I play with Janey in the lane."

"Thank you, David," acknowledged the Judge gratefully. "You are quite a bureau of information, and," in a consciously casual tone, "will you take a note to your aunt? I think I will ride out to the farm to-night."

David's young heart fluttered, and he went back to the farm invested with a proud feeling of having assisted the fates. The air was filled with mystery and an undercurrent of excitement that day. After David had delivered the auspicious note, a private conference behind closed doors had been held between M'ri and Barnabas in the "company parlor." David's shrewd young eyes noted the weakening of the lines of finality about M'ri's mouth when she emerged from the interview. Throughout the long afternoon she performed the usual tasks in nervous haste, the color coming and going in her delicately contoured face.

When she appeared at the supper table she was adorned in white, brightened by touches of blue at belt and collar. David's young eyes surveyed her appraisingly and approvingly, and later he effected a thorough effacing of the family. He obtained from Barnabas permission for Jud to go to town with the Gardner boys. His next diplomatic move was to persuade Pennyroyal to go with himself and Janey to Uncle Larimy's hermit home. When she wavered, he commented on the eclipse of Uncle Larimy's windows the last time he saw them. That turned the tide of Pennyroyal's resistance. Equipped with soft linen, a cake of strong soap, and a bottle of ammonia, she strode down the lane, accompanied by the children.

The walk proved a trying ordeal for Pennyroyal. She started out at her accustomed brisk gait, but David loitered and sauntered, Janey of course setting her pace by his. Pennyroyal, feeling it incumbent upon herself to keep watch of her young companions, retraced her steps so often that she covered the distance several times.

At Uncle Larimy's she found such a fertile field for her line of work that David was quite ready to return when she pronounced her labors finished. She was really tired, and quite willing to walk home slowly in the moonlight.

It was very quiet. Here and there a bird, startled from its hiding place sought refuge in the higher branches. A pensive quail piped an answer to the trilling call from the meadows. A tree toad uttered his lonely, guttural exclamation. The air, freshening with a coming covey of clouds, swayed the tops of the trees with mournful sound.

David full of dreams, let his fancy have full play, and he made a little story of his own about the meeting of the lovers. He pictured the Judge riding down the dust-white road as the sunset shadows grew long. He knew the exact spot—the last bit of woodland—from where Martin, across level-lying fields, could obtain his first glimpse of the old farmhouse and porch. His moving-picture conceit next placed M'ri, dressed in white, with touches of blue, on the west porch. He had decided that in the Long Ago Days she had been wont to wear blue, which he imagined to be the Judge's favorite color. Then he caused the unimpressionable Judge to tie his horse to the hitching post at the side of the road and walk between the hedges of sweet peas that bordered the path. Their pink and white sweetness was the trumpet call sounding over the grave of the love of his youth. (David had read such a passage in a book at Miss Rhody's and thought it very fine and applicable.) His active fancy took Martin Thorne around the house to the west porch. The white figure arose, and in the purple-misted twilight he saw the touches of blue, and his heart lighted.

"Marie!"

The old name, the name he had given her in his love-making days, came to his lips. (David couldn't make M'ri fit in with the settings of his story, so he re-christened her.) She came forward with outstretched hand and a gentle manner, but at the look in his eyes as he uttered the old name, with the caressing accent on the first syllable, she understood. A deep sunrise color flooded her face and neck.

"Martin!" she whispered as she came to him.

David threw back his head and shut his eyes in ecstatic bliss. He was rudely roused from his romantic weaving by the sound of Barnabas' chuckle as they came to the east porch.

"You must a washed every one of Larimy's windows!"

"Yes," replied Janey, "and she mopped his floors, washed and clean-papered the shelves, and washed and scrubbed the old gray horse."

"Pennyroyal," exclaimed Barnabas gravely, "I wonder you ain't water-logged!"

"Pennyroyal 'd rather be clean than be President," avered David.

"Where's M'ri?" demanded Pennyroyal, ignoring these thrusts.

"On the west porch, entertaining company," remarked Barnabas.

"Who?"

Pennyroyal never used a superfluous word. Joe Forbes said she talked like telegrams.

Barnabas removed his pipe from his mouth, and paused to give his words greater dramatic force.

"Mart Thorne!"

The effect was satisfactory.

Pennyroyal stood as if petrified for a moment. Than she expressed her feelings.

"Hallelujah!"

Her tone made the exclamation as impressive as a benediction.

M'ri visited the bedsides of each of her charges that night. Jud and Janey were in the land of dreams, but David was awake, expecting her coming. There was a new tenderness in her good-night kiss.

"Aunt M'ri," asked the boy, looking up with his deep, searching eyes and a suspicion of a smile about his lips, "did you and Judge Thorne talk over my education? He said that he was going to speak to you about it."

Her eyes sparkled.

"David, the Judge is coming to dinner Sunday. We will talk it over with you then."

"Aunt M'ri," a little note of wistfulness chasing the bantering look from his eyes, "you aren't going to leave us now?"

"Not for a year, David," she said, a soft flush coming to her face.

"He's waited seven," thought David, "so one more won't make so much difference. Anyway, we need a year to get used to it."

After all, David was only a boy. His flights of romantic fancy vanished in remembrance of the blissful certainty that there would be ice cream for dinner on Sunday next and on many Sundays thereafter.

CHAPTER IX

The little trickle of uneven days was broken one morning by a message which was brought by the "hired man from Randall's."

"We've got visitors from the city tew our house," he announced. "They want you to send Janey over tew play with their little gal."

Befitting the honor of the occasion, Janey was attired in her blue-sprigged muslin and allowed to wear the turquoises. David drove her to Maplewood, the pretentious home of the Randalls, intending to call for her later. When they came to the entrance of the grounds at the end of a long avenue of maples a very tiny girl, immaculate in white, with hair of gold and eyes darkly blue, came out from among the trees. She regarded David with deep, grave eyes as he stepped from the wagon to open the gate.

"You've come to play with me," she stated in a tone of assurance.

"I've brought Janey to play with you," he rejoined, indicating his little companion. "If you'll get in the wagon, I'll drive up to the house."

She held up her slender little arms to him, and David felt as if he were lifting a doll.

"My name is Carey Winthrop. What is yours?" she demanded of Janey as they rode up the shaded, graveled road.

"Janey Brumble," replied the visitor, gaining ease from the ingenuousness of the little girl and from the knowl-

edge that she was older than her hostess.

"And he's your brother?" indicating David.

"He's my adopted brother," said Janey; "he's David Dunne."

"I wish I had a 'dopted brother," sighed the little girl, eyeing David wistfully.

David drove up to the side entrance of the large, white-columned, porticed house, on the spacious veranda of which sat a fair-haired young woman with luminous eyes and smiling mouth. The smile deepend as she saw the curiously disfigured horse ambling up to the stone step.

"Whoa, Old Hundred!" commanded David, whereupon the smile became a rippling laugh. David got out, lifted the little girl to the ground very carefully, and gave a helping hand to the nimble, independent Janey.

"Mother," cried Carey delightedly, "this is Janey and her 'dopted brother David."

David touched his cap gravely in acknowledgment of the introduction. He had never heard his name pronounced as this little girl spoke it with the soft "a." It sounded very sweet to him.

"I'll drive back for you before sundown, Janey," said David, preparing to climb into the wagon.

"No," objected Carey, regarding him with apprehension, "I want you to stay and play with me. Tell him to stay, mother."

There was a regal carriage to the little head and an imperious note—the note of an only child—in her voice.

"Maybe David has other things to do than to play with little girls," said her mother, "but, David, if you can stay, I wish you would."

"I should like to stay," replied David earnestly, "but they expect me back, and Old Hundred is needed in the field."

"Luke can drive your horse back, and we will see that you and Janey ride home."

So Carey, with a hand to each of her new playmates, led them across the driveway to the rolling stretch of shaded lawn. The lady watched David as he submitted to be driven as a horse by the little girls and then consituted himself driver to his little team of ponies as he called them. Later, when they raced to the meadow, she saw him hold Janey back that Carey might win. Presently the lady was joined by her husband.

"Where is Carey?" he asked.

"She is having great sport with a pretty little girl and a guardian angel of a boy. Here they come!"

They were trooping across the lawn the little girls adorned with blossom wreaths which David had woven for them.

"May we go down to the woods—the big woods?" asked Carey.

"It's too far for you to walk, dear," remonstrated her mother.

"David says he will draw me in my little cart."

"Who is it that was afraid to go into the big woods, and thought it was a forest filled with wild beasts and scary things?" demanded Mr. Winthrop.

The earnest eyes fixed on his were not at all abashed.

"With him, with David," she said simply, "I would have no afraidments."

"Afraidments?" he repeated perplexedly, "I am not sure I understand."

"Don't tease, Arthur; it's a very good word," interposed Mrs. Winthrop quickly. "It seems to have a different meaning from fear."

"Come up here, David," bade Mr. Winthrop, "and let me see what there is in you to inspire one with no 'afraidments'."

The boy came up on the steps, and did not falter under the keen but good-humored gaze.

"Do you like to play with little girls, David?"

"I like to play with these little girls," admitted David.

"And what do you like to do besides that?"

"I like to shoot."

"Oh, a hunter."

"No; I like to shoot at a mark."

"I like to read, and fish, and swim, and—"

"Eat ice cream!" finished Janey roguishly, showing her dimples.

The man caught her up in his arms.

"You are a darling, and I wish my little girl had such rosy cheeks. David can you show me where there is good fishing?"

"Uncle Larimy can show you the best places. He knows where the bass live, and how to coax them to bite."

"And will you take me to this wonderful person to-morrow?"

"Yes, sir."

Carey now came out of the hall with her cart, and David drew her across the lawn, Janey dancing by his side. Down through the meadows wound a wheel-tracked road leading to a patch of dense woods which, to a little girl with a big imagination, could easily become a wild forest infested with all sorts of nameless terrors—terrors that make one draw the bedclothes snugly over the head at night. She gave a little frightened cry as they came into the cool, olive depths.

"I am afraid, David. Take me!"

He lifted her to his shoulder, and her soft cheek nestled against his face.

"Now you are not afraid," he said persuasively.

"No; but I would be if you put me down."

They went farther into the oak depths, until they came to a fallen tree where they rested. Janey, investigating the forestry, finally discovered a bush with slender red twigs.

"Oh," she cried, "now David will show you what beautiful things he can make for us."

"I have no pins," demurred David.

"I have," triumphantly producing a paper of the needful from her pocket. "I always carry them now."

David broke up the long twigs into short pieces, from which he skillfully fashioned little chairs and tables, discoursing the while to Carey on the beauty and safety of the woods. Finally Carey acquired courage to hunt for wild flowers, though her hand remained close in David's clasp.

When they returned to the house Carey gave a glowing account of the expedition.

"Sit down on the steps and rest, children," proposed Mrs. Winthrop, "while Lucy prepares a little picnic dinner for you."

"What will we do now, David?" appealed Carey, when they were seated on the parch.

"You mustn't do anything but sit still," admonished her mother. "You have done more now than you are used to doing in one day.

"Davey will tell us a story," suggested Janey.

"Yes, please, David," urged Carey, coming to him and resting her on his inquiringly, while her little hand confidently sought his knee. Instinctively and naturally his finger closed upon it.

Embarrassed as he was at having a strange audience, he could not resist the child's appeal.

"She'll like the kind that you don't," he said musingly to Janey, "the kind about fairies and princes."

"Yes," rejoined Carey.

So he fashioned a tale, partly from recollection of Andersen but mostly from his own fancy. As his imagination kindled, he forgot where he was. Inspired by the spellbound interest of the dainty little girl with the worshiping eyes, he achieved his masterpiece.

"Upon my word," exclaimed Mr. Winthrop, "you are a veritable Scheherazade! You didn't make up that story yourself?"

"Only part of it," admitted David modestly.

When he and Janey started for home David politely delivered M'ri's message of invitation for Carey to come to the farm on the morrow to play.

"It's going to be lovely here," said the little girl happily. "And we are going to come every summer."

Janey kissed her impulsively. "Good-by, Carey."

"Good-by, Janey. Good-by, David."

"Good-by," he returned cheerily. Looking back, he saw her lips trembling. His gaze turned in perplexity to Mrs. Winthrop, whose eyes were dancing. "She expects you to bid her good-by the way Janey did," she explained.

"Oh!" said David, reddening, as two baby lips of scarlet were lifted naturally and expectantly to his.

As they drove away, the light feet of the horse making but little sound on the smooth road, Mrs. Winthrop's clear treble was wafted after them.

"One can scarcely believe that his father was a convict and his mother a washerwoman."

A lump came into the boy's throat Janey was very quiet on the way home When they were alone she said to him, with troubled eyes:

"Davey, is Carey going to be your sweetheart?"

His laugh was reassuring.

"Why, Janey, I am just twice her age."

"She is like a little doll, isn't she, David?"

"No; like a little princess."

The next morning Little Teacher came to show them her present from Joe.

"I am sure he chose a camera so I could take your pictures to send to him," she declared.

"Miss Rhody wants her picture taken in the black silk Joe gave her. If you will take it, she won't have to spend the money he sent her," said the thoughtful David.

Little Teacher was very enthusiastic over this proposition, and offered to accompany him at once to secure the picture. Miss Rhody was greatly excited over the event. Ever since the dress had been finished she had been a devotee at the shrine of two hooks in her closet from which was suspended the long-coveted garment, waiting for an occasion that would warrant its debut. She nervously dressed for the "likeness," for which she assumed her primmest pose. A week later David sent Joe a picture of Miss Rhody standing stiff and straight on her back porch and arrayed, with all the glory of the lilies of the field, in her new silk.

(To be continued.)

MOTHER'S APRON STRINGS

When I was but a verdant youth
I thought the truly great
Were those who had attained in truth
To man's mature estate.
And none my soul so sadly tried
Or spoke such bitter things
As he who said that I was tied
To mother's apron strings.

I loved my mother, yet it seemed
That I must break away
And find the broader world I dreamed
Beyond her presence lay.
But I have sighed and I have cried
O'er all the cruel stings
I would have missed had I been tied
To mother's apron strings.

Oh, happy, trustful girls and boys,
The mother's way is best!
She leads you midst the fairest joys
Through paths of peace and rest.
If you would have the safest guide
And drink from sweetest springs,
Oh, keep your hearts forever tied
To mother's apron strings.

—Nixon Waterman.

Give Farmers What They Want

To The Missouri Farmer:

I have been reading with much interest your articles on farm organization. Keep up the good fight, I am for you in all you say. I made a most desperate effort last spring to organize Howard County for a farm agent. But am sorry to say I failed. It seemed impossible to arouse the farmers, I just couldn't get helpers. My argument was to sell higher in place of buying cheaper. I advocated sending farmers to our legislatures in place of lawyers. This ruffled the lawyer and he at once got busy, they passed the word around to defeat the cause I am told and it became impossible to do anything. I made speeches all over the county and then sent to Columbia for a man, and explained to them what I wanted, what we were trying to do. We advertised it widely and had a splendid crowd. Our court room was full of people from all over the county. I met the man before time for the meeting and explained to him in detail what we were trying to do. And if you believe me he never mentioned a packer, cheap money, legislation or anything on that line. He talked on "soil and soil fertility." I have no doubt we needed that talk, but when a man goes to church he doesn't want politics, and if he goes to such a meeting as we had he don't want to hear that kind of a talk. They began to leave and by the time he had finished half were gone. Now such men simply paralyze such a movement. I registered my complaint with the college and they sent us a Mr. Gromer who was fine, but the damage was done, only a handful to hear him, and I thoroughly discouraged and sick. No one took up the movement and there it lies today. If some one will take up the movement I am more than willing to help.—C. T. B., Howard County.

Hatching Trouble Due to Negligence

Incubators holding from 150 to 250 eggs have given best results here, says F. S. Jacoby of the Ohio agricultural college. Their operation is more definite and certain than that of machines of different sizes.

During the hatching season, Mr. Jacoby says, one may reasonably expect to get 70 per cent hatchings if the stock is healthy and care is taken in handling the machine. Most instances of incubator failure are due to poor ventilation or improper regulation of the temperature in the room in which the incubator is kept.

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WHERE THERE'S DRINK THERE'S DANGER

Write it on the work-house gate,
Write it on the schoolboy's slate,
Write it on the copy book,
That the young may often look,
Where there's drink, there's danger."

Write it on the church-yard mound,
Where the rum-slain dead are found;
Write it on the gallows high,
Write for all the passer's-by,
Where there's drink, there's danger."

Write it in the nation's laws,
Blotting out the license clause;
Write it on each ballot white,
So that it can be read aright,
Where there's drink, there's danger."

Write it on our ships that sail,
Borne along by storm and gale;
Write it large in letters plain,
Over every land and main,
Where there's drink, there's danger."
—Frances E. Willard.

FROM SOUTHEAST MISSOURI

Editor, Missouri Farmer:

Dear Sir:—I like your paper very much. I think it in class by itself. Have never read a paper that I liked better. Your's is always full of something good and the trash that is used to fill space in most farm papers the most of us have read from three to a dozen times before is left out. I believe you are really trying to help us. That you realize our difficulties and are trying to help us get together so we can help each other. I am in hearty accord with you in the stand you take against the methods of the packers. It seems to me they are engaged in a gigantic robbery. Taking from both, producer and consumer at the same time.

I paid $7.50 per cwt. in the fall for feeding shoats. They seemed to be worth it then. On December I was offered $5.00 for some of the same kind. The price the packers pay as you well know has depreciated about $2.00 or more per cwt. but the retail price of meat has not changed much. Something should be done as soon as possible. It seems to me that organization and co-operation of farmers is a very pressing need. I hope Mr. Hirth and Mr. Ellis will each find time to come to St. Francois County and address the farmers. I would like to see your paper read in every farm home in the state. Yours truly.

J. C. Ballard.

THEY LIKE DAVID DUNNE

We were sure our boys and girls of The Missouri Farmer family would like the story "David Dunne" but we wanted to find out just how discriminating they were in studying the different characters in the story. Another reason we had in asking them to write was to find out just what a fine lot of boys and girls really do read and enjoy The Missouri Farmer. And then we know it will help any boy or girl to develop the art of expression by getting them in the habit of writing good letters for publication.

In making our request for letters in a recent issue of the paper we inadvertently asked only for boys to write but the very first letter was a splendid one from "Irene" one of our fine little girl readers and we are going to give it first place to amend for our oversight. So next time we want all our boys and girls to know the invitation is extended to each of them to write a nice little letter either about "David Dunne" or some other matter of interest.—The Editor.

Irene's Letter

Montgomery City, Mo.

To the Editor:—

I have noticed in The Missouri Farmer that you want to know what some of your boy readers think of the story, "David Dunne." Though I am a girl I am very much interested in the story, and am always glad when the paper comes so I can read it. I think David is the main, and best character, but I am much interested in Joe Forbes, Miss Rhody, M'ri, and Janey. I don't like Jud much because he is not kind to David and Janey.

I hope this will be printed in The Missouri Farmer as this is the first letter of this kind I have written.

Irene.

(A very nice letter indeed and it is printed just as it was written, not a correction needed.—Editor.)

A Boy Friend on "David Dunne"

Brashear, Mo., May 15, 1916.

The Missouri Farmer:—

In answer to your favor, asking that your boy readers write you a letter telling what we think of the story "David Dunne" and which of the characters interest us most? I think the story is excellent and I am anxious to receive the remainder. The character which interests me most is David because one can sympathize with anybody more readily when they have a similar experience—my mother having died when I was eighteen, four years ago next Sept. 3rd. She was a good Christian mother and the day before she died she called me to her bed side and said, "Ralphy (for that is what she always called me) always be a good boy and never do anything that you would be ashamed for mother to know." She also asked me, what is home without a mother? I told her I did not know but I do know now. The memory of those words are as plain in my mind as if they were spoken but yesterday and they have been a guiding help to me all along the way I neither drink intoxicating drinks or use tobacco in any form of which mother was justly proud.

My father and I are batching, the rest of the children are married and gone, one brother in Colorado, another brother and sister five and six miles respectively from home.

In a conversation with father the other day regarding a petition which a neighbor boy and I signed he expressed his thoughts that we should not have signed it because we were not tax payers. I told him I would be this fall, but if we are not now we are good enough to go to war and fight for him and others who signed it that are too old to go to war.

Wishing you a happy future and may success ever crown your efforts. Here is one dollar for which please send the good news on to our home.

Ralph.

(Your father may have been right about the legal objection to your signing the petition but I think you have the decided advantage in the argument for the moral right to sign a petition when you are subject to call for the defense of your country. I hope you may write The Missouri Farmer again when you think of something of interest.—The Editor.)

THE GREEN CURRANT WORM

To The Missouri Farmer:

Will you please give me information as to what treatement my gooseberry bushes need. For the last two years small green worms begin working on the bushes soon after they bloom and by the time the berries are large enough to use the worms have the bushes almost stripped of leaves. As a result the berries are inferior.

Thanking you for any information you may give me.

Mrs. J. W. Burch.

Doubtless this is the green currant worm which strips the foliage off currant and gooseberry bushes and of course destroy the fruit. The remedy is to dust when the dew is on with hellebore 1 part and dry-slaked lime 4 parts; another formula is Paris green 1 part, dry-slaked lime 4 parts. The first is to be prepared after the fruit is three-fourths grown.

Five hundred tons of train stopped without a tremor!

The hand that plies the brakes and pulls the throttle controls your comfort.

It's a *skilled* hand that brings a million pound Wabash steel train from high speed to a dead stop, within a furlong; without causing a jerk or jar. It's a *skilled* hand that starts a Wabash train so gently and smoothly, yet so quickly that not a second is lost getting "under way."

One reason for the *extraordinary skill* of Wabash trainmen is the Instruction Car, established by the men themselves. This car, equipped with every train mechanism, gives demonstrations all along the line; keeping the men at top-notch skill.

Expert handling of trains is a special contribution to comfort, via

the new Wabash to Chicago

New steel equipment gives the Wabash two solid steel trains to Chicago and two other Chicago trains with steel equipment.

New double track has been laid; miles of it. Curves have been eliminated; grades reduced and 90 lb. rails put in.

New Pacific-type engines have been purchased; 2,000 h. p. giants that pull easily and smoothly, and maintain schedules.

New telephone dispatching promotes punctuality and safety; and block signals safeguard every mile of the way.

Altogether the Wabash has reason to be especially proud of its passenger train service and wants *you* to test it. Trains at

9:00 a.m. *Steel parlor car* — **12:05 noon.** *Solid steel train* — **9:17 p. m.** *Solid steel train* — **11:55 p. m.** *Steel equipment*

"Follow the Flag" WABASH

Lv. St. Louis	9:01a.m.	12:05noon.	9:17p.m.	11:55p.m.
Lv. DelmarSta.	9:15a.m.	.....	9:32p.m.	.....
Ar. Chicago	4:53p.m.	7:45p.m.	7:00a.m.	7:40a.m.

Get tickets from your nearest Agent or at 309 North Broadway and Union Station, St. Louis

J. D. McNamara, Passenger Traffic Manager, St. Louis, Mo.

WORK OF MISSOURI POULTRY EXPERIMENT STATION.

"What is the work of a poultry experiment station?" This question is often asked by people who visit this Station. This would lead one to believe that because of a lack of knowledge concerning the work done, the people do not get the full benefit of the experiment station.

To give it in as few words as possible, we might say the work of a Poultry Experiment Station is to find out the things we don't know about poultry, then give this information to the public through the press, in bulletins, in lectures, correspondence, etc.

Is there any question concerning poultry you want to know? Is there any experiment you would like to see tried? If so, you should write it out and send it to an experiment station where the officials in charge will be glad to conduct the experiment or secure the information of whatever nature it may be, and report the same to you. Where people make use of experiment stations properly, they are of immense value as well as a point of economy to the entire state. To illustrate, if 5,000 people wanted to know the results of some one experiment, it is more economical to support an experiment station to conduct the experiment than for each of the 5,000 people to conduct the experiments separately, for that would mean 5,000 experiments tried. Then, too, the men in charge of these experiments at experiment stations devote their entire time to the experiments while others have other duties to perform which often makes a difference in the results observed.

The cost of the many experiments with poultry is therefore much less if conducted by an experiment station than by the people.

Missouri is perhaps as generous as any state in the support of its Poultry Experiment Station, yet one egg per year at market price for each person in Missouri will more than support the institution, and every one is cordially invited to send his problems to be worked out, whether he is a producer or consumer. It is not necessary that it be a deep problem with a big name, for some little problems are just as interesting and instructive. An example of a simple problem is, "how to boil an egg so it will pe smoothly?" It has been found by experimental work that the age of the egg is the principal factor which determines whether the white sticks to the shell or not, for if the egg is less than two days old, the shell does not come off satisfactorily, while an egg three or more days old, the shell comes off easily. Taking the eggs out into cold water perhaps assists some.

There are many experiments in progress at all times at this experiment station, the one which is perhaps best known is the egg laying contest from which many observations are made. This test begins November first of each year and continues for one year. Other experiments such as breeding, etc., continue for a number of years, while many experiments are determined in a few days or weeks, all tests being tried in season as near as possible; i. e., incubation and brooding tests are made in the spring, moulting tests in the fall, while other tests are made any time.

The first six months of the Fifth National Egg Laying Contest closed April 30th. The weather remaining cool, not as large a number of hens went broody as was expected, therefore the egg record for April was higher than for the same month in either of the previous contests.

The high water mark in egg production has been reached during either March or April in all contests held here at this Station, and during both March and April this year, the records have surpassed all previous records. The records for the first six months beginning November first each year; 1st contest, 63 eggs; 2nd contest, 68 eggs; 3rd contest, 76 eggs; 4th contest, 76 eggs; 5th contest, 81 eggs.

CHICKENS DYING WITH GAPES

To The Missouri Farmer:

I have some disease in my little chicks which I think is gapes. They will stand and stretch their necks and I can hear them breathe. Please give me a remedy and I will appreciate the information. Mrs. S. N. Groves.

The trouble is very likely gapes from the description you give and there is no very satisfactory remedy. The best thing to do is to kill a burn every chick you see gaping and then go to work and clean up the yards and try and get rid of the infection. If you want to try doctoring the sick ones put them in a clean coop and keep it clean while you are treating the chicks. Take a horsehair and double it to form a loop. Then dip the horsehair into a camphor or creolin solution and then holding the chick in the left hand with neck well stretched open the mouth and look for the gape worm which ordinarily may be seen in the throat. Putting the horsehair loop down the throat and withdraw it with twisting motion you can extract the worms. A little practice will give you the skill to extract them and every worm taken out should be burned.

A remedy some report effective is to place the chicks in a coop and give them a pint of water in which you put 30 drops of camphor spirits mixed with a little sugar. They will drink the camphored water if not allowed any other drink.

Generally it is not worth the trouble of bothering with sick chicks and the best way is to catch every sick chick kill and burn at once. Every worm the chick throws out will increase the danger of the disease spreading. The best plan is to change the yards occasionally and plow up the old yards and cultivate in some crop. Move the coops from place to place over the farm. A brood of little chicks will do very little harm in a corn field and may do a lot of good by eating insects injurious to corn. When the gapes are discovered we would clean up all the coops and houses and thoroughly wash with lime and crude carbolic acid or some other disinfectant. Then if possible move the chickens all to clean grounds. On the old grounds spread fresh lime until the ground is pretty white then spade or plow the ground and plant to some crop. In the fall plow the ground again and sow to rye and next year treat the ground the same way and if this is done thoroughly you will be pretty safe to let the chickens back on the old yards.

You say this is too much trouble? Well all the work of raising chickens is trouble and then if you lose them it is double trouble. If you would plan your poultry yards in two divisions and then after using one for two years for poultry, use it the next two years for a truck patch and change the poultry to the other yard you wo get the full benefit of the poultry manure in the truck patch and greatly reduce the danger from such diseases a gapes. Some poultrymen use small portable houses for the chickens and move then from one part of the farm to another, keeping the chickens always on clean ground. This is not a very difficult thing to do if you just get in the way of doing it.

BUCKSHOT BY THE PROFESSOR

If there's anybody in your neck of the woods who has been yelling for war, tell him that he is going to have a chance down across the Rio Grande in a few days. Then watch him squirm and twist.

It's one thing to be brave as a lion around the old stove in the cross roads general store—but quite another thing to dodge bullets amid the cactus and sage brush down in old Mexico. Don't get the idea that I am for peace at any price. Not by a long shot—but I can't help but get tickled when I think how a lot of the "loud" boys are going to "dodge" when they get a chance to go up against the real thing.

Old John D. seems to have as hard a time to find something that agrees with his stomach as the rest of us have hustling around to find something to put in our stomachs at all.

Better pay a little attention to the kind of fellows that are keeping company with that daughter of yours. A rumpus now is better than a divorce later on.

The fiddlers down in the land of forked tails and cloven feet can't hold a candle to the number of candidates down in my county.

Whenever Woodrow writes Emperor Bill a note, old John Bull sees that the censor doesn't hold it up. What old John thinks of "Bill" and what "Bill" thinks of John would break up a Sunday school convention.

What the harvest will be next fall depends a good deal on the fellow behind the cultivator in the meantime. Getting the weeds is more important just now than settling fine points of International Law.

They tell me that old "Josh" Simpson thought he "had 'em" the other day when a friend took him into a moving picture show and the piano started playing "Dixie" with nobody within 20 feet of it to do the "pickin."

A lot of fathers never give their children a kind word and then in later years they wonder why they leave home.

Rake up a five dollar bill somewhere, wrinkle up your old skin flint face into a real smile and tell your wif to go buy her the best hat she can find.

Some men are mean enough to deny the "kids" the privilege of going to the circus. Don't do it—for there are mighty few things in this World that are as generously worth the money as a good show nor to which we look back with more pleasure in the years to come.

To get that boy of yours really interested in the farm, it would be a good idea to make him a present of a gilt or two and give him what he can make out of them. All of us love most of the things that are really and truly our own.

There are a pile of farmers who howl about not getting a "square deal" for the things they produce but who haven't got energy enough to stand up for their own interests. I feel sorry for a natural born fool because he can't help it—but I haven't got much use for a fellow who has the sense but who lacks the initiative to take care of himself.

A solicitor for this paper approached an old tight wad farmer the other day and asked him to give him a dollar for three years subscription. The old tight wad shifted his "chaw" to the other side and said, "Naw, I guess not. I don't read farm papers much nohow and then I am gitten several fur nuthin' anyway"—and men of this type go a long way toward answering the question, "Why don't farmers stand together?"

A pile of the little school district Farm Clubs have saved a lot of money for their members and are fostering a friendlier neighborhood spirit—and it is up to the men who are blazing the way with these splendid little organizations to save our farm homes from the dangers which threaten them at this time.

There never was a tariff schedule written that wasn't "class legislation" and the public has always paid the bill and made the best of it. But now because it is proposed to exempt the Land Bank bonds from taxation a lot of fellows are throwing a duck fit about the "constitution."

By Old Jim Riley

Th' gang in my county are tryin' to keep a certain feller thats got "wheels" in his head from runnin' fur County Clerk because its one of th' best payin' offices in th' county an' because he don't belong to th' "bunch." So I said, "Why don't you git him to run fur th' Legislater—cause any durned fool is supposed to have sense enuff fer that"—and they all said that was a capital idee. Notice where that Professer feller has been seein' fallin' stars? Guess th' drug store must a switched brands on him.

HOW MUCH PROFIT

is there in a pig? That depends on the man, on the feed, and on the pig. But how do you know when the combination is right to produce best results? **Keep a Farm Account Book and let it be**

THE PRACTICAL FARM ACCOUNT AND RECORD BOOK

Complete Account of Hogs .. .. ., 19 14

Date	Person, Firm, or Account	Item, Description, Price	Cash Received	Cash Paid	Labor Hours Man	Labor Hours Horse	Labor Hours Tractor	Amount Charged	Amount Credited
Nov. 1	Corn Account	100 bus. corn @ 60 ¢						60 00	
Dec. 10	" "	80 bus. corn @ 64 ¢						51 20	

Charge the pigs with the corn they eat and then—

THE PRACTICAL FARM ACCOUNT AND RECORD BOOK is a splendid 176 page book, well bound and ruled on extra quality ledger paper. It is designed to contain the accounts of the average farm for five years. This is especially desirable for the purpose of comparison. The book also contains forms for crop, stock, employment, and insurance records.

THE PRACTICAL FARM ACCOUNT AND RECORD BOOK

Complete Account of Corn Crop , 19 14

Date	Person, Firm, or Account	Item, Description, Price	Cash Received	Cash Paid	Labor Hours Man	Labor Hours Horse	Labor Hours Tractor	Amount Charged	Amount Credited
Nov. 1	Hog Account	100 bus. corn @ 60¢							60 00
Dec. 10	" "	80 bus. corn @ 64¢							51 20

Give the corn crop credit and that transaction is closed. Remember that in farm bookkeeping perhaps the greatest number of transactions will be between accounts on your farm.

We will give **The Missouri Farmer** for 3 years, either renewal or new subscription and a copy of **The Practical Farm Account and Record Book** for $2.25.

The Missouri Farmer, Columbia, Mo.

Live Stock Notes

R. P. ROYCE, Fieldman

Salisbury's Angus Sale Called off

We regret to announce that the sale of Angus cattle scheduled by E. H. Salisbury, Kirksville, Mo., for May 26 has been declared off. This announcement was made necessary because of a very disastrous fire the night of April 23 in which Mr. Salisbury lost thirty head of Angus cattle and eighteen head of registered Percheron stallions and mares. In addition to the loss of livestock, Mr. Salisbury's house and four large barns were totally destroyed. This is one of the most disastrous farm fires of recent years and Mr. Salisbury will lose a good many thousands of dollars over his insurance. We feel sure the fellow breeders of Mr. Salisbury will be deeply grievd to learn of his misfortune.

McGowan Plans a Fall Sale

Judge B. B. McGowan, New London, Mo., who has been advertising spotted Polands in this paper for the past two years is planning to hold a fall sale. This will be his first public sale and naturally the judge is bending every effort toward having an offering that will be a credit to himself and the breed.

Judge McGowan is one of the most ardent advocates of the spotted Poland China we have ever met and his herd is among the best in the state.

Andrews Stock Farm will hold Annual Sale in October.

Jim Andrews, proprietor of the Andrews Stock Farm, Lawson, Mo., whose annual sale of spotted Poland Chinas is always one of the events of the fall sale season advises us that he will "be on deck" in October with an offering that will make all the boys take notice. Mr. Andrews has been quietly doing things with his herd during the past two years and with good luck will be able to show something for his work. Watch this paper for further announcement.

Richly Bred Jerseys at Reasonable Prices

J. B. Smith, Platte City, Mo., is offering the readers of this paper a splendid opportunity to purchase exceptionally well bred Jersey cattle at prices that are in the reach of all. The Smith herd has been before the buying public for a number of years and at the various dairy shows this herd has always held its own. Mr. Smith has labored long to produce a Jersey type that would combine to the highest degree the highly desirable qualities of the Island bred Jersey and the American type. How well he has succeeded can be judged by his winnings and the records of his herd—all of which Mr. Smith will be glad to furnish any of our readers who may be interested.

Sunset "Correct Type" Jerseys

Notice change of ad of this old established Missouri Jersey herd in this issue of The Missouri Farmer. To keep the herd within their farm limit of 100 head they expect to sell 50 or 60 head of all ages, consisting of cows, bred and open heifers, young bulls, heifer and bull calves. They can fit out small herds for beginners and especially solicit this business. Mr. Ennis has been breding from carefully selected foundation stock for sixteen years and beginners buying now will secure the benefit of this sixteen years of work and will start right at the point that Mr. Ennis has reached after sixteen years of hard work. These cattle have not been bought up to re-sell but are simply surplus in the herd and are exactly the same stock in every way as will be left in the herd.

Mr. Ennis considers any of them good enough to remain in the herd and not one of them is being offered for any fault except a few old cows that have lost one quarter, will be sold at low prices and are very valuable for breeding as they were among the best cows in the herd. This herd has always been tuberculin tested, being one of the first herds tested when State Veterinarian Luckey began this work some ten years ago. It tested clean the very first time just as it did the last time, July, 1915. They have prepared a special circular, listing about fifty head, which they will be pleased to send on request. The breeding of th Sunset Herd is unexcelled as it is along the lines of Blue Belle and Golden Rosebay, two of the greatest cows ever imported. Prospective purchasers should ask for circular and mention their wants. Address, The Ennis Stock & Dairy Farm, Horine, Mo. (Just south of St. Louis.)

Will G. Lockridge to have a great offering for Fall Trade

Will G. Lockridge, Fayette, Mo., whose herd is so well known to the readers of this paper will have a great lot of pigs by The Giant, 1915, grand champion, Missouri State Fair, to offer the trade this fall. This herd has been before the public for a number of years and a fact worth noting is that it has been getting better every year. From a modest beginning it has come to be reckoned among the prominent herds of the state. Each year Mr. Lockridge has added a few real top sows until at the present time few herds can show a more uniform lot of big, roomy brood sows with quality. Naturally such sows when mated to a boar of the caliber of The Giant can hardly fail to produce a type of hog that will please any of our readers who are looking for extreme size. Mr. Lockridge is already receiving numerous inquiries and inasmuch as he will only offer the tops of his spring pigs it will be well to write him at once. Kindly mention this paper.

Blackwell's Angus

J. D. Blackwell, Fayette, Mo., writes that the demand for his cattle has been unusually active this spring and were it not for the fact that he maintains a large herd he would have been completely sold out. As matters stand, however, he still has on hand a number of young, well bred bulls and heifers that can be bought worth the money. If interested, write Mr. Blackwell at once.

Moore & Co.'s Holsteins

In a recent letter from W. H. Zimmerman, manager of the M. E. Moore Holstein herd at Cameron, Mo., he states that they have just completed a seven day test of one of their splendid cows, Violet Wayne Skylark 89705. This cow, although ten years old, gave 524.4 lbs. of milk yielding 21.4 lbs. of butter. In view of the age of this cow and the rather unfavorable weather during the test, the record is certainly good and Mr. Zimmerman is to be congratulated. This herd is the oldest herd in Missouri and for years it has been looked upon as one of the very best in the country.

Mr. Zimmerman advises us that t have a number of richly bred young bulls for sale and are prepared to make very attractive prices in order to move them at once. Please be good enough to mention this paper when you write.

Now is the Time to Buy O. I. C. Spring Pigs

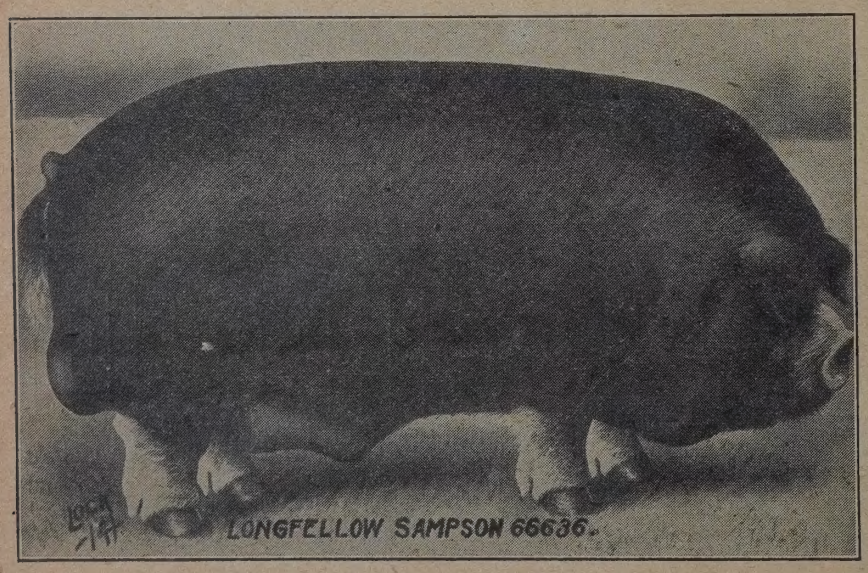
Our readers who are interested in O. I. C. swine can not afford to overlook the offering advertised by S. D. & B. H. Frost, Kington, Mo. This vetran firm has been in the business of producing pure bred hogs so long, and is so wellknown to our readers that it is not necessary to dwell on their standing. Just now they are offering a splendid lot of spring pigs to be shipped at weaning time. These pigs are of early farrow, carry as good blood as the breed affords, and has been given an excellent start in life. Messrs. Frost will be glad to quote prices on single pigs, or pairs, trios or more of unrelated stock. Their herd is large and they are in a position to furnish beginners with foundatio stock. Every pig is guaranteed and the pedigree accompanies each animal sold. Write for prices and other information.

Richards & Son Pleased with Longfellow Sampson

J. F. Richards Jr. of the firm of J. F. Richards & Son, Bevier, Mo., recently told the writer that they were more than pleased with the way Longfellow Sampson was crossing on their sows and that the litters by him were every whit as good as those by their former herd boar Pawnee Price and were really showing more bone.

Messrs. Richards purchased Long fellow Sampson at the W. E. Williams depersion sale last fall and at the time the opinion was freely expressed that they secured one of the real bargains of the year.

Messrs. Richards are planning an October sale, and the buying public will do well to keep this sale in mind as it will undoubtedly afford exceptional opportunity to secure some choice boars by this splendid sire. The ability of Longfellow Sampson as a sire is unquestioned and breeders from now on are going to appreciate his blood more and more.



Longfellow Sampson formerly at the head of W. E. Williams herd and now at the head of the "Pen-Yr-Hyl" herd of J. F. Richards & Son at Bevier, Mo.

POLAND CHINAS

Smooth Columbus
THE BOAR THAT PUT MISSOURI ON THE MAP. HEADS OUR HERD

SMOOTH COLUMBUS BLOOD has held the record in Missouri for two years—it will do it again next year. Fall pigs, either sex, by this great boar, now offered for sale.

BENNETT BROS. R. 5, LEE'S SUMMIT, MO.

Spring Boars by the Grand Champion

A desirable lot of early spring boars by The Giant, acknowledged to be one of the greatest young Poland China boars of the breed. Prices within reach of all.

WILL G. LOCKRIDGE - - - - - - - Fayette, Mo.

Poland Chinas & Shorthorns

Bred sows and gilts. The real big kind with bone and quality. A few serviceable boars. Several extra good young bulls and heifers. Satisfaction guaranteed.

H. S. Williamson, Route 6 Centralia, Mo.

BAKER'S REAL BIG-TYPE POLANDS

We have a number of extra good spring boars sired by Big Look that we are offering worth the money. Need the room and must sell.

W. A. BAKER & SONS, BUTLER, MO.

Linhardt's Polands

I have a choice lot of extra good fall gilts sired by outstanding boars. Customers in 26 states. GIANT MAMMOTH 68375 and CHIEF BIG BONE 75856 in service. Priced for farm trade.

H. O. LINHARDT, LOHMAN, MO.

DOOLEY'S SPOTTED POLANDS

Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pair and trios no relation. Also registry furnished. Send check with first letter.

EDGAR DOOLEY, - Ettervile, Mo.

DUROC JERSEYS

THE BEST DUROC BLOOD--COL. WONDER

At recent Missouri State Fair my herd won 35 ribbons—3 championships, 15 firsts. Col. Wonder sires my champions—he will sire them for you. Choice bred gilts. Nothing but the best sent on mail orders.

CHAS. L. TAYLOR - - - - - - Olean, Mo.

Durocs With Size and Bone

I am offering a choice lot of early spring pigs with unusual size, bone and quality. Bred right and priced right. Visitors welcome.

A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

BIG EARLY DUROC SPRING PIGS

Pigs with size, lots of bone and quality sired by our big prize-winning boars, Col. Wonder II., Merry Chief, and Rexall Col., and out of big prolific sows. None from litters of less than 11. Spring pigs are cheapest to buy, costs practically nothing to ship them, and they can be grown cheaply.

R. L. (BOB) HILL ADENHILL FARM, - - COLUMBIA, MO.

DUROC HERD BOAR!!

We offer for sale our herd boar sired by Weller's Example and out of a Whiskey & Faith sow. Also a few September boars. Booking orders for spring pigs.

J. C. Garrard & Son, McBaine, Mo.

Hazelwood Durocs

Seventy choice spring boars and gilts sired by HAZELWOOD CHIEF, by CRIMSON COL., and out of OHIO CHIEF bred sows. Get our prices.

E. P. POWELL & SON, Maryville, Mo.

HAMPSHIRES

BROOKVIEW HAMPSHIRES

Herd headed by GEN. TIPTON and SIR BROOKVIEW, both grand champions. Spring boars and gilts of choice breeding and individuality. Prices reasonable.

ISOM J. MARTIN, - Kahoka, Mo.

RED POLLED

RED POLLED CATTLE

Herd established 16 Years

Young stock for sale. Young bulls sired by LOGAN 13500; Calves sired by KNOCKER 28791. Bred for milk and beef. Also offer spotted Poland China hogs and Rieds Yellow Dent seed corn.

M. L. SNYDER, - - POLO, MO.

AUCTIONEERS

THOMAS E. DEEM
AUCTIONEER

Selling pedigreed live stock is my specialty. Eight years of success in this line has proven that my customers are pleased Dependable service at a reasonable price. Address, Cameron, Mo.

P. M. GROSS
Live Stock Auctioneer
"Twelve Years on the Block"
Pure bred Sales a Specialty
Sales Made Anywhere
MACON, - MISSOURI

HOLSTEINS

Bought for you on small commission. What do you want? Price low. Feed short.

H. T. HOOK, JANESVILLE, WISCONSIN
(Formerly of Columbia, Mo.)

INTESTINAL WORMS IN PIGS

Intestinal worms are common in hogs and are particularly injurious to growing pigs. Insufficiently fed, neglected pigs living in dirty pens and yards, fed from filthy troughs, drinking contaminated water, bathing in old hog wallows, and rooting and sleeping in manure piles and stack bottoms soon become infested with worms; consequently they do not thrive, but develop into pot-bellied, rickety, profitless runts. Pens should be kept clean and dry and the manure frequently removed.

It has been asserted by various experienced feeders of hogs that a mixture of charcoal, ashes, lime, salt, sulphur, and copperas kept where the hogs can eat it will tend to prevent worm infestation. There is not as yet positive experimental evidence in support of the idea that such a mixture will prevent worm infestation, but the mixture does appear to satisfy the hog's desire for mineral substances and probably is of value as a tonic and appetizer. It may be made up in the following proportions:

Charcoal Mixture

Charcoal, 1 bushel.
Hardwood ashes, 1 bushel.
Salt, 8 pounds.
Air-slaked lime, 4 pounds.
Sulphur, 4 pounds.
Pulverized copperas, 2 pounds.

Mix the lime, salt, and sulphur thoroughly and then mix with the charcoal and ashes. Dissolve the copperas in two parts of hot water and sprinkle over the whole mass, mixing it thoroughly. Keep some of this mixture in a box before the hogs at all times, or place in a self-feeder.

Santonin, which was formerly widely used as a remedy for worms in hogs, is practically unobtainable at the present time owing to foreign conditions.

The following treatment has been found to be very effective against intestinal worms in experiments conducted by the Zoological Division of the Bureau of Animal Industry: Withhold all feed and water for 24 hours, then give each pig from 1 to 4 ounces of castor oil to which has been added oil of American wormseed as follows: Small pigs, 2 to 3 months old, 35 drops; pigs weighing 50 to 100 pounds, 50 to 100 drops, larger pigs, 1 teaspoonful.

Each pig should be dosed separately if the best results are to be obtained.

Dangerous to Drench Hogs

Drenching hogs is dangerous, as they are liable to get the remedy into the lungs. With sufficient assistance pigs may be held, the mouth kept open by means of a couple of loops of wire or rope, and the medicine given directly in a tablespoon. By this method, though it is troublesome, one may be certain that each pig gets his proper dose. After dosing, the pigs may be fed and watered. Repeat the treatment in 10 days.

Further information on swine husbandry will be found in Farmers' bulletins issued by the department, a list of which may be obtained upon application to the Division of Publication.

CARROLL COUNTY COOPERATION

Cooperation has proved a great boon to thousands of farmers in other states. We are often told that farmers won't work together because each one is so firmly wedded to the idea of doing things his own way. It is true that men in the country are compelled to think for themselves and work out plans which are different from those used by others, but when it becomes necessary for them to work together they can do so very effectively. This is clearly shown by a number of Carroll County groups.

Cooperative Beef Club.—For thirty years a beef club has been in operation in Prairie township, Carroll County. The rules and plans of the club are now so well organized that it may be regarded as a model to be followed with profit by many other sections of the state. Butchering takes place every Friday afternoon and the carcass is divided among sixteen families. Similar organizations have succeeded very well in many other parts of the country. It is quite general customary for each family to receive a different portion of the carcass so that in a few weeks or months any unequal division which may occur one week will be counterbalanced by a corresponding advantage or disadvantage in later weeks. Sometimes each family in turn furnishes an animal approved by a committee of the club and does the butchering. Sometimes the committee purchases and butchers the animal without calling on any member of the club and then sells the meat. In this case we have practically cooperative buying from members of the organization but without profit to those members who sell what they have bought for that purpose.

An Ice Club.—A number of enterprising farmers formed an ice club made up of men who join in purchasing a wagon-load of ice from a neighboring town and distribute it to the members of the club. In some sections a possible outgrowth of the idea might be a community ice-house, especially if a group of homes were clustered about a cross-roads, but where artificial ice is available it is often cheaper and always more sanitary than that obtained in winter from ponds or streams.—W. M. Cook, County Agent, Carroll County, Mo.

Sweet Clover May Pay in Three Ways

Honey, hay, and seed—three crops from the same acre—are the things that make white sweet-clover a promising forage crop for use under some conditions.

Sweet-clover will do better than alfalfa on lands which are wet, dry, hard or sandy. Two crops of hay, yielding about four tons an acre, may be expected under favorable conditions. Sweet clover seed sells for about $12 a bushel. Four, six or even eight bushels an acre are not uncommon yields. One crop of hay may be taken off and the second crop allowed to mature for seed. The bees can get a big supply of honey while they are helping to fertilize the blossoms.

Sweet-clover is one of our earliest pasture crops, and pigs do almost as well on it as on alfalfa. Tests at the Iowa experiment station showed that they did better on sweet-clover than on medium red clover. When the pasture becomes short, they will eat the big tap roots down as far as they can dig. Of course, this kills the plant. The Iowa station reports that hogs will not root out the plants if their grain ration is supplemented with meat scraps or tankage.

Besides being a good hay, seed and honey crop, sweet-clover, a legume, enriches the soil. The fleshy tap roots go deep after water and nutrients, and besides adding nitrogen from the air they add more than a ton of dry matter in roots to an acre. Being a biennial, sweet-clover fits into some rotations much better than alfalfa.

Sweet-clover has its disadvantages. There is a characteristically bitter vanilla flavor about the hay. If cut late, the hay has a woody stem that will not be eaten by stock. When cut young, however, it approaches alfalfa's in feeding value.

To get the best results, it is necessary to inoculate for sweet-clover. Two hundred pounds of soil from an alfalfa or sweet-clover field, having an abundance of bacteria present scattered on an acre and harrowed in will usually inoculate the plants thoroughly.

From ten to fifteen pounds of hulled seeds an acre will give a good stand. If planted alone, or with a nurse crop, it should be planted early. If allowed to reseed itself, it will grow indefinitely.—Minnesota Experiment Station.

Profit and Number of Acres

The size of business often has much to do toward making the farm profitable. Farm-management records show that farms are often either too small or too large for the most successful farming. There may be too few as well as too many acres. A man may not have enogh land or he may be "land poor", thereby rendering all his acres unprofitable.

About 30 years ago a Wisconsin farmer with a large family was deep in debt. His farm consisted of 120 acres, half of which was under the plow. For 12 years the farmer had not been quite able to meet his interest. To him the whole farm consisted of unprofitable acres. He finally decided that the farm was too small for the most efficient use of the labor available. Having an opportunity, he bought an adjoining 80 acres of cleared land, going in debt the full amount of the purchase price. From that time on the farm was prosperous, and in 10 years the entire farm was paid for and enough additional money saved to build a good house and barn. During this period there had been no great change in prices of farm products. The smaller farm had been unprofitable because the overhead expenses were too high for so small a business. In this case acres were made profitable by increasing their number.

In the early nineties a North Dakota farmer owned 3 quarter sections of land. His farm was quite heavily mortgaged and for a number of years he had not been able to pay interest in full. His family was small and for most of the work he had to depend on working, or trying to work, too many acres. Finally, he sold a quarter section and paid his debts. Seven years later he had $5,000 in the bank. In this period only account in part for this creased prices of farm products during farmer's increased prosperity. In this case all the acres had been unprofitable largely because there were too many of them.—J. C. McDowell, Office of Farm Management.

Relative Qualities of Fence Posts

The North Dakota Experiment Station estimates the life of a fence post made from cement at forty-eight years while that of steel is only thirty years. By dividing the cost of a post by the number of years in service will give the annual cost of a post. A good Osage orange post will last as long as a steel post and stands at the head of all post timbers for endurance Of course there is a great difference in the life of different posts made from the same kind of timber but the following is the average time the verious post timbers will last:

Osage orange, thirty years; locust, twenty-three and one-half years; red cedar, twenty and one-half years; mulberry, seventeen and one-half years; catalpa, fifteen and one-half years; burr oak, sixteen and one-half years; chestnut, fourteen and three-fourths years; white cedar, fourteen and one-third years; walnut, eleven and one- half years; white oak, eleven and one-half years; pine, eleven and one-fourth years; tamarack, ten and one-half years; cherry, ten and one-third years; hemlock, nine years; sassafras, eight and nine-tenths years; elm, eight and three-fourths years; ash, eight and one-half years; red oak, seven years; and willow, six and one-fourth years.

Classified Advertising

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JERSEY CATTLE

Bulls ready for service. They are sired by the Owl's Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

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I have three extra fine ones for sale. Sired by Stockwells Champion. He has won 29 first and Champion ribbons at the leading State Fairs. Calves are out of very high producing cows. For breeding, etc., writ.

J. B. SMITH Platte City, Mo.

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A few choice bull valves out of heay producing dams sired by the above famous bull for sale.

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Eight Bulls, 2 to 8 months, $100 to $175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.

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Young bulls and heifers from A. R. O. cows. Sired by Sir Korndye Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

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Also Poland China Hogs.

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Young stock sired by Dean's Eric 139686. Also offer splendid herd bull for sale. Every one the right kind and priced to sell.

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10 GOOD FALL GILTS

Guarantee and pedigree accompanies each sale. This herd has been exhibited at World's Fairs and State Fairs for years, so that most of our pigs have prize winners on both sides of their pedigrees. We can furnish pairs and trios, no kin. We are making bargain prices on early orders. Write us today. Address.

S. D. & B. H. FROST,
Box H. Kingston, Mo.

DISPLACEMENT OF HORSES BY TRACTORS

In investigating the value of the tractor from the farmer's point of view, specialists of the Department of Agriculture recently obtained from over 400 owners of tractors in Illinois reports as to the number of horses which the tractor had enabled them to do away with in the farm work. The following analysis of about 200 reports from typical corn-belt farms is taken from Farmers' Bulletin 719, "An Economic Study of the Farm Tractor in the Corn Belt."

"Many men look to the tractor to enable them to do away with the use of horses for farm work, at least in great part. To date, however, the tractor has not displaced horses to the extent commonly expected by purchasers, but its greatest advantage, as before mentioned, lies in the fact that it does the heavy work quickly, and thus completes it within the proper season, since it places at the farmer's command a large amount of power when needed.

"The tractor does displace horses to some extent, but only in about two-thirds of the cases where it is used on the same number of acres previously farmed. In these instances the horses displaced average only about four, and represent slightly less than 50 per cent of the cost of the tractor outfit. The number of horses displaced does not appear to vary to any great extent with the size of the outfit, about as many horses being laid off after the purchase of a small outfit as after buying a large one. The number will vary under different conditions, however, the principal influencing factors being the number of acres farmed per horse and the distribution of the work throughout the year. In the corn belt, horses are seldom displaced on farms where the average tilled acreage per horse is 30 or more. On the farms in Illinois where horses were displaced by the tractor, one horse had been kept for each 20 acres of tilled land. After the purchase of the tractor one horse was kept for each 30 acres of tilled land, or approximately the same as on farms on which no horses were displaced.

"There is much work on most farms for which it is neither practicable nor profitable to use the tractor. This is especially true in the corn-belt section, where cultivating frequently requires more power at one time than any other farm operation. Few, if any, tractors, according to reports received, are utilized for such work with entire satisfaction, and it is, therefore, necessary to retain a considerable number of horses after the tractor is bought.

"A study of the distribution of horse labor on a typical corn-belt farm, indicates that the peak load, that is, the greatest amount of work, comes about the end of May, which is the season when corn cultivating is at its height.

"On 92 Illinois farms where no change in the acreage was made after the purchase of the tractor, an average of 12 horses per farm had previously been kept. Two hundred and sixty-three horses were displaced on these farms, an average of not quite three horses per farm. On 31, or about one-third, of these farms, no horses were laid off.

"The raising of colts is an industry of considerable importance on farms in the corn belt, and it would seem natural to expect that where tractors were bought and the work stock thus relieved of the heavy field work the percentage of brood mares kept would be increased, and that the chances of raising more and healthier colts would be enhanced. It was found, however, that on a large group of farms in Illinois the brood mares constituted 33 per cent of the work stock before the tractors were bought, and while the work stock decreased to some extent after the purhcase of the tractor, the percentage of brood mares increased only 3 per cent, making the percentage now kept amount to 36 per cent."

SHORTHORNS MAKE FINE SHOWING IN MILK TEST

The Independence (Iowa) Testing Association offers some interesting records made in a recent test held under the supervision of the state, Mr. Frank Barrickman being the official tester.

The association covers 25 herds of Shorthorns, Holsteins, Guernseys and Jerseys. During the month of March the cows that produced 30 lbs. of butter fat or over, included 11 Shorthorns, 5 Holsteins and 2 Jerseys.

Roxie, a Shorthorn entered by Cook's Grove Farm produced 50.7 lbs. of butter fat at a feed cost per pound of 9c. This was the highest production of butter fat and the lowest cost per pound shown in the test.

Bertha, also a Shorthorn entered by D. E. Sullivan was the next highest, producing 47 lbs. of butter fat at a cost of 10½c per pound. This is the next highest record of production and the next lowest cost per pound with the single exception of Star, a Shorthorn entered by J. Fernau, her feed cost being 9c and her production 34.6 lbs. While the yield of this cow was sixth and her milk yield seventeenth in the list, her average test was the highest, being 5.9. Both Roxie and Bertha showed a test of 5.1. This percentage was only exceeded by a Jersey entry showing 5.4 with an aggregate butter yield of 31 lbs. at a feed cost of 15c per pound. The comparative yield of milk from Roxie, 995 lbs., and the highest Holstein entry, 1569 lbs., is striking in view of the fact that the Holstein milk tested but 2.8 with an actual butter fat yield of 43.9 lbs. as against Roxie's yeild of 50.7 lbs. and the feed cost per pound of the Holstein was 17½c as against 9c for the Shorthorn.

Frank D. Thompson.

Ralph Bingham discovers the "national joy smoke"

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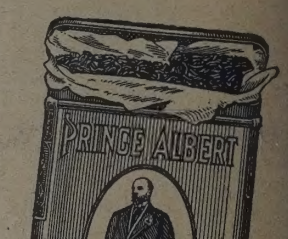

You buy some Prince Albert and try it right away—in a cigarette or a pipe—because it is so good you will be sorry you didn't know it long ago.

Prince Albert is sold everywhere in toppy red bags, 5c; tidy red tins, 10c; pound and half-pound tin humidors and in pound crystal-glass humidors with sponge-moistener tops that keep the tobacco in fine condition all the time.

R. J. REYNOLDS TOBACCO CO.
Winston-Salem, N. C.

POSSUM HOLLER DOIN'S

A fairly good bunch rounded up at "Hez" Brown's Store last Saturday and "Jep" Thompson lighted the fuse by saying, "Well, all of you fellers that have been yellin' for war had better finish plantin' corn as quick as you kin, 'cause before you git it laid by the bullets are goin' to be whizzin' down across the Rio Grande. There ain't no way stoppin' it now. It's just like kickin' a barrel into th' river above Niagry Falls. It's just a matter of time until it's goin' over and it's the same way down on the Mexican border. There may be a little more of this diplomatic stuff but afore long it means war just as certain as the Lord ever made little apples—and I wouldn't be surprised to see it start any minit."

"I think you'v' got it sized up about right" said the Judge as he contemplatively crammed some long green down into his old cob pipe. "And let me tell you gentlemen, it's goin' to be a lot nastier job than most of us is figgerin' on. I don't look for many big battles 'cause they ain't goin' to meet us in the open more than they have to—but there'll be a pile of bush-whackin' as we used to call it durin' the Civil War and many an American soldier boy is goin' to bite the dust when there ain't no enemy in sight. There'll be a treacherous Mexican behind every rock and clump of sage brush. Somehow the Greasers seem to haven gotten the idee that they can lick the United States. They think Villa is one of the greatest generals that ever lived and if we git into a real sure enough scrap, I wouldn't be surprised to see him commandin' the whole outfit. Of course, in the end, we'll lick the stuffin' out of 'em but we'll have to pay a big price to do it—and I am thinkin' that after we've had five or six thousand of our soldiers killed and have spent four or five hundred million dollars, a pile of the American people are goin' to want the flag to stay there fer good."

This last remark alarmed "Jep" Thompson who blurted out, "But Woodrow said at Philadelphia over a year ago that we would never annex another foot of new territory in th' Western Hemisphere." "I know he did," calmly replied the Judge, "but the people will have sumthin' to say about that before it's all over. We said we didn't want no new territory when we started in to lick Spain either but we took water on it—and to this day the most of us are sorry that we didn't take Cuby and let the Phillipines alone. The only reason we want to git rid of the Phillipines is because they are within gun range of the Japs. You see Mexico is naturally a part of the United States. It ain't like takin' land down in South Amerika. And we are livin' in a pretty practical kind of a World. Just mark my prediction—if we git a lot of men killed and spend hundreds of millions of dollars cleanin' up Mexico we are goin' to stay there fer all time to come. I feel sorry for the poor ignorant "greasers." They'v' bin imposed on by a lot of big land-lords for years an' have bin no better off than a bunch of slaves—and after they find out the way we do things they'll be tickled to death to have us stay. Don't you think that every Mexican who's got a thimble full of brains and who has watched the murderin' and robbin' which has took place under old Diaz, Madero Huerta, Villa and Carranza is heart sick of the whole business? No, boys, if we ever unfurl the old flag over the Palace in Mexico City it's mighty apt to stay there—and it will be the best thing that ever happened for the Mexicans and there ain't a foreign country that won't be glad of it."

"I don't think that would be right" said "Jep." "The Mexicans is just as much intitled to liberty as anybody else an th' American people can't consistently deny 'em this right. From Bunker Hill down to this minit we'v' stood fur government by th' consent of th' governed." "Oh, I know all that," replied the Judge, "but what's the use of talkin' about liberty in a Country where liberty ain't got no place to lay it's head? What's the use of talkin' about liberty in a Country where a handful of thieves are out after the stuff and where 95% of the population woudn't know a constitution from a long horned steer? The only thing I am sorry about is that we'v' fiddled around and talked with that old whiskered Billy Goat down there so long that it's goin' to cost us two li[illegible] today where it wouldn't have cost one-three months ago."

At this stage of the game, Old Jim Riley dropped in and with a wink to the rest of the crowd proposed to take up a collection to send old "Chouce" Baker to Kansas City to have him converted by "Billy" Sunday. No sooner was the proposal made than everybody but "Jep" Thompson yelled, "I am in!" "Jep" allowed it would be "playin' a mean trick on Billy." "Why," said he, "Billy would stand a better show tryin' to round up my old blind mule"—to which "Chouce" replied sarcastically, "Whenever I need convertin' I won't let an outfit that's too blamed lazy to cut a little stove wood for their wives to cook vittles with pay my railroad fare."

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE MISSOURI FARMER

COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE AND THE MISSOURI EXPERIMENTAL STATION

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"Americanism"

That we are living in the midst of one of the most remarkable epochs in the World's history is apparent to all thinking men. In fact it is so remarkable that for the time being the most of us have been overwhelmed by its true significance and not until the storm shall have passed and the atmosphere shall have beccome somewhat cleared of the flying debris will we be able to understand the larger meaning of a cataclysm which is without a counterpart in all human history. That in the public press and in the public forum here in the United States we should be profoundly moved by these remarkable passing events is entirely natural —for as a people we think and talk in untrammeled fashion. Again, there is ample reason why we should be deeply concerned. In the first place, we constitute the most powerful neutral nation in the World at this time and hence there is a certain moral responsibility which we cannot escape even if we would. Again, we have in the vaults of our great banking houses two-fifths of the World's gold supply at this time—and this alone will compel us to play a larger part in the World's affairs from this time forward than ever before. Lastly, our commercial interests are as wide as the ends of the Earth and in order to maintain our proud position in this respect in the years to come we will have to "play ball" —nor can we afford to "muff" it very often if we would uphold the enviable prestige and wealth which is ours at this time.

And yet, should we not be able to assume these profound responsibilities without losing our heads? Is it not in fact a time above all others when we should not fly off on some wild and mistaken tangent? Sooner or later peace will come to troubled Europe and unless the writer is greatly mistaken, in that hour her statesmen will realize the folly of a tragedy which will have changed the boundary lines of nations very little and yet which has sent to an untimely grave the flower of European manhood while generations yet unborn will be compelled to stagger under war debts without precedent in history. The thing I protest against is the hysteria and frenzy which here lately seems to be taking possession of many of our people and which apparently proceeds upon the theory that the whole World has gone permanently mad and that war rather than wholesome thrift and culture are to be the chief ambitions of Nations from this time forward. In saying this I do not for one moment plead against an adequate Navy and Army—for within reasonable limitations such agencies are guarantees of peace and as such deserve the support of all right thinking men. But let us go about the creation of these forces in an orderly and quietly determined manner. Let us have it clearly understood that these measures are purely defensive and that in the future as in the past ours shall be a land pledged to the conquests of peace rather than of those of the sword. For, rest assured, the World has not gone permanently mad—and once the smoke of battle clears away and the marching legions return to the domestic love and quiet of their saddened firesides it will be many a long day before they willingly enter upon another tragedy such as the one which has made the very rivers of France, Belgium and Poland run red during these long weary months.

Above everything I protest against the mistaken zeal of those who are seeking to sow the seeds of discord among our own people by raising the false issue of "Americanism." That the German should sympathize with the "Fatherland" or that the Frenchman should be deeply concerned over the fate of France—these sentiments are but natural and yet never has there been an hour when our beloved Republic was in danger that these men have not instantly rallied to the flag. As Baron Stueben was the chief military genius back of the Colonial Army, so Lafayette bared his breast in the cause of American liberty—and together they constitute a splendid heritage of our hallowed past. And so, at peace among ourselves, let us not indulge in the belief of a mistaken security—while upon the other hand let us keep the fires of peace and liberty ever brightly burning upon the altar of the Nation.

—By the Author of After-Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

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WILLIAM HIRTH
PUBLISHER

LYONS PRACTICAL FARM PAPERS

Nearly every Saturday afternoon, from three to five o'clock, from four to ten farmers may be found, waiting for the women folk to get through trading, and as they wait, they occupy the chairs set on the sidewalk by the hospitable hardware man, and the liveryman, whose places join. I often help to make up the crowd, and we have some good farmers meetings, as the talk is always mainly on seasonable farm topics.

We got to talking on early planting, the other day, and there was scarcely a dissenting voice to the proposition that taken as a rule early planting of all farm crops is best. May 10-25 is the season that most of the corn is planted here, and in speaking of the variation in time of planting, two men said that they had successfully planted as early as April 25, while I once planted six acres April 20, making an extra heavy crop. Four of seven present had planted Leaming as late as June 25 and grew mature crops. One had matured Sanford flint corn planted July 15, and I told of once planting two acres of Leaming July 5.

This corn did not mature enough for seed, but it made a heavy crop of ears, and I recall the fact that I fattened my hogs with it. All agreed that the Leaming corn of 1916 is not as early as that of twenty years ago, but that it is more fermentive than it was then. I remember it thirty-five years ago, when three neighbors and I sent to the originator for a bushel of seed, and only one of the four planted it the second year, as it was not large enough to suit our soil and climate, but at our fair last fall I saw two samples of pure Leaming of eleven inch ears.

Three of the seven men had planted garden beans on May 5-6, and here I was early man again, for I had planted ten days earlier and they were coming up.

It is my rule to plant beans early, rows two feet apart, three or four beans to the hill, about a foot between hills, for the bunch varieties, and if they come up well thin to two plants. If the weather is cold and wet, they sometimes rot, in which case I only lose a little time and an hours work, if they come up well I have extra early beans for table use

Father used to market fruit and vegetables to near by towns with spring wagon and team, and often had sweet corn to sell by July 10. In order to do this, he always sprouted his seed, often getting sprouts an inch long before planting, getting the seed in the ground by April 25, and I have known him to sell small ears of sweet corn at 30 cents a dozen.

Writing this May 19, we are done planting corn, and had a white frost this morning. A few years ago, about 1895, we had a heavy snow on this date, and in 1880, no corn was planted.

It is dry but rain is promised.

C. D Lyon.

TO CONTROL THE HOUSE FLY

Flies are best controlled by caring for manures, the places where they breed. (a) Haul out and spread the manure once a week. (b) Store the manure in a dark shed—flies do not breed in dark places. (c) Treat the manure to kill the maggot and eggs. Where it is necessary to have manures exposed to flies, it may be treated with borax or hellebore as follows:

Borax.—Powdered borax sprinkled over the manure at the rate of three-fifths pound to 8 bushels of manure and 2 or 3 gallons of water poured over the borax-treated manure to wash the borax into the manure will kill the maggots and keep the eggs from hatching. The outer edges of the manure pile should be carefully sprinkled as this is where the maggots congregate for pupation.

Hellebore.—Powdered white hellebore when made into a solution by mixing one-half pound of hellebore to 10 gallons water and sprinkled over the manure gives good results in killing the fly maggots. This solution can be made up into large quantities and kept until wanted for use.

The manure can be treated in the stable without moving it. The manure composition will not be changed by using either the Hellebore or Borax. Animals will not be in any danger when manure is treated in the stables as the poison is washed into the manure.

Maggot Trap.—This is a simple method to kill the fly in maggot stage—full information can be had by writing to Bureau of Entomology, Washington, D. C.

Screen the Privy Closets.—Have the closet provided with a keg or barrel of air slaked lime and use freely to dry up the closet material.

Traps.—Make or buy fly traps. Place them in windows at the stables, hog pens, and chicken houses.—Press Bulletin.

Beautifying Grounds Increases Farm Value

A few trees, shrubs and flowers planted in appropriate places about the house and other buildings actually add to the cash value of the farm and, at the same time, give a simple beauty and inviting appearance to the farm home that make it a more pleasant place to live in.

When buying a farm, many are only too glad to pay more for a place that is neat, well arranged, and made attractive by such things as lawn, shrubs, orchard, and grove, all in their right places.

F. A. Aust of the Agricultural Experiment station of the University of Wisconsin offers these hints on home grounds planting: (1) The house is the central feature and should occupy the most prominent location; (2) Other buildings are best put farther from the road and should, if possible, be screened off by trees and shrubs; (3) The lawn, being the foreground of the home, should look inviting, and should seem to say, "Come and rest," rather than "Keep off"; (4) Shrubs are of good service, especially for filling in empty-looking places and screening off unsightly objects, (5) Vines give shade and beauty to the porch, and may be well used to cover fences, walks, and out-houses; (6) Flowers lend variety and color, but as a rule should be made into borders rather than to occupy conspicuous places; (7) Walks, drives, etc., are best when inconspicuous; (8) Straight rows of trees or shrubs, and straight walks and drives are apt to be stiff and formal; curves are more graceful and pleasing; (9) Beauty lies, first of all, in simplicity and harmony. A few shrubs and trees arranged with some plan are more effective than a multitude scattered about aimlessly. Every single plant should fit in its place and not be out of tune with the rest.

Improvements in Kerosene Lighting

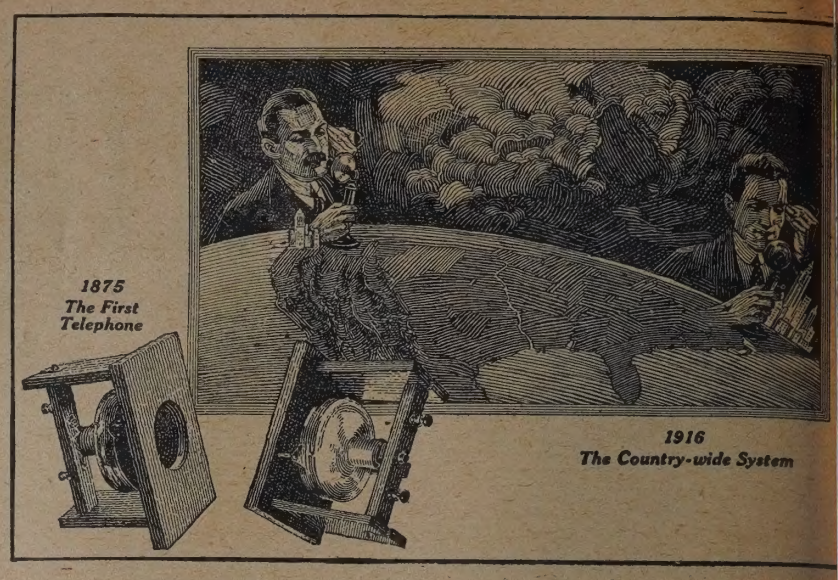
In artificial lighting there are two important factors to consider; (1) The cost per unit of light, and (2) the character of the light obtained with respect to its efficiency for the purpose for which it is intended. While the old style kerosene lamp probably furnishes the cheapest light which can be obtained, it is also the most inefficient, in that the yellow light produced is very far from the daylight which it is intended to replace. The most efficient light is the light which most nearly resembles daylight .

Up to a few years ago it was not considered possible to burn kerosene except in a wick lamp and other forms of fuel were advocated which could be burned under the so-called incandescent mantle because by means of this mantle a light much more closely resembling diffused daylight could be obtained. With the introduction of the mantle lamp for kerosene, however, artificial ligthing in the farm home can be made very efficient as the character of the light depends not on the fuel but on the character of the mantle which is used. The kerosene mantle lamp requires somewhat more care than the ordinary lamp. The mantles are fragile and tend to blacken if the wick is not kept properly trimmed. Portable mantle lamps have also been devised for the use of other fuels.

With the introduction of denatured alcohol a fairly cheap fuel for lightin has been made available. Alcohol i in some respects more desirable tha kerosene in that there is less dange of fire because alcohol can be extin guished with water; there is less ten dency for the blackening of the man tles; and possibly most desirable o all, the disagreeable odor of burnin kerosene is done away with. At pres ent, however, even denatured alcoho is much more costly than kerosen and unless these secondary considera tions just mentioned outweigh the dif ference in cost kerosene should b used. The mantle lamps are mor costly than the ordinary kerosen lamp, ranging up from $3.00, while th ordinary lamp can be bought for fro 50 cents to $1.00. The character o the light from the two styles of lamp however, cannot be compared an where any amount of close work, suc as reading or writing or sewing, is t be done by artificial light the ligh which is least harmful to the eyesigh should receive first consideration.—F M. West, Assistant Agricultural Chem ist, University Farm, St. Paul.

A Helping Hand

We could make The Missouri Farm er much more interesting if we coul induce our readers to write more fo the paper. We want you to feel tha this is your paper—a real farm an home paper with nothing in its col ums you would object to coming int your home. But it must be more tha that—it must be both instructive an interesting and to this end we urg our readers to write us their experi ences about farming or farm life tha we may build up a great family circle



Forty-one Years of Telephone Progres

The faint musical sound of a plucked spring was electrically carried from one room to another and recognized on June 2, 1875. That sound was the birth-cry of the telephone.

The original instrument—the very first telephone in the world—is shown in the picture above.

From this now-historic instrument has been developed an art of profound importance in the world's civilization.

At this anniversary time, the Bell System looks back on forty-one years of scientific achievement and economic progress, and gives this account of its stewardship:

It has provided a system communication adequate public needs and sufficiently advance of existing conditio to meet all private deman or national emergencies.

It has made the telepho the most economical serva of the people for social a commercial intercourse.

It has organized an opera ing staff loyal to public i terests and ideals; and by policy of service it has w the appreciation and good w of the people.

With these things in mi the Bell System looks f ward with confidence to future of greater opportun and greater achievement.

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The Missouri Farmer

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There is Something Lacking

By Geo. B. Ellis, Managing Editor

Agriculture needs a new declaration of independence. One hundred and forty years ago when the great Thomas Jefferson wrote the Declaration of Independence, among other eternal truths he penned this one: "All experience hath shown, that mankind are more disposed to suffer, while evils are sufferable, than to right themselves by abolishing the forms to which they are accustomed." This is just as true of the wrongs inflicted upon society by false economic theories and customs as it is of bad political government. But the time has come when the burdens placed upon agriculture are no longer sufferable and we need something of the spirit of 1776 to free ourselves from the political bondage under which agriculture has so long been a patient sufferer.

Missouri is among the few great farming states of the Union—quite half the population of this state is rural but when it comes to taking part in the government of the state the voice of the farmer is seldom heard and less often heeded. Farmers have a larger representation in the legislature than any other branch of the state government but even there the representation is not in proportion to their relative numbers. If we have had a real farmer in the executive offices it was so long ago it has been forgotten. Do these things just happen so or may we find a real cause for them?

Farmers Are Not Equally Represented

Missouri has sixteen members in the National Congress but there is not one of them capable of representing the agricultural interests in matters that vitally affect the life and prosperity of country people. A few months ago when the packers were bleeding the meat producers to the point of bankruptcy and the Missouri cattle, swine and sheep feeders through their state association demanded relief, they had to get their plea before Congress through one who represents the largest packing district in the state and who though both able and honest will as a matter of course be largely influenced by the will of the people in his own district. The farmers and feeders who have been losing money feeding cattle and hogs in the face of a world shortage of meat animals can give plenty of reasons for making an investigation of how the packers control the markets but when this matter went to Congress with their grievances all that body has done after four months deliberation is to instruct a committee to make inquiry and find out if any investigation is needed.

Missouri has a great State University upon which millions of dollars have been spent under the management of a board of curators not one of whom is a farmer or more than remotely interested in farming and yet the largest of the scientific departments of the University is the College of Agriculture. The latter department has a salaried force of seventy-five or more who are employed to instruct farmers and to train teachers for farmers but out of the whole bunch not more than four or five are real Missouri farmers. Perhaps it would not matter much, if the teaching in the College of Agriculture was confined to merely abstract technical subjects, whether the teachers had any successful experience in farming or not. But when there is a demand for information on every conceivable practical subject relating to every phase of farming and of farm management and when the College of Agriculture essays to teach farmers all these things then in the name of reason is it not about time that men of successful experience as well as good training be chosen for farmers' instructors?

Rural Credits and Farm Marketing the Leading Questions

There are just now a number of very important public questions receiving attention but if I were asked to name those of very first importance I should after very careful consideration give first place to "rural credits" and "farm marketing." In naming these two first I am sure I do not under value the importance of such pressing needs as good roads, rural high schools and better transportation. A sound system of rural credits which has kept the land well under the control and in the hands of the farmers has been the stability of both Germany and France for almost a century.

A simple business-like plan for the marketing of farm products under the management of farmers has changed the little country of Denmark from a condition of bankruptcy in 1889 to the most prosperous of all the countries of Europe twenty-five years later. But here in America where we sometimes forget ourselves and boast that we have the most intelligent agricultural population in the world, the small farmers are yearly crowded to the wall and forced to become tenants, the tenants are reenforcing the class of hired-men and already fewer than one-fifth of the farm owners of America own approximately three-fifths of the land. At that rate how long will it be until a few men will own the land and we in "free America" will be facing the same problems which have produced revolution and famine in both Mexico and Ireland? But in the face of these serious and vital questions to be considered and settled either in the interest of the farmers and the country or in favor of a land lord system, the President of the United States when he selected his "farm adviser" for the Cabinet overlooked and ignored the six million farmers of the country and the scores of scientifically trained men whose lives have been spent in the betterment of farm conditions and chose for the Secretary of Agriculture a man who neither by sympathy, training or occupation was fitted for his place.

And so it is in all our institutions in this state, in other states, and in the Nation the men who are chosen to represent farmers and to speak for them wherever and whenever the farmer's interest may count with the interest of others are not always able to do it.

Farmers Must Manage Their Own Affairs

And so I say "something is lacking" before the farmers of this country may hope to get a square deal and that something is a declaration of independence to be entered into by and between the six million farmers of America that they are going to take the management of their own affairs into their own hands and direct them in their own way. Before the recent Conference on Marketing and Farm Credits held in cooperation with the National Council of Farmers' Associations at Chicago, Sir Horace Plunkett, founder and president of the Irish Agricultural Organization Society, a patriot farmer who has spent thirty-six years of his life working for the emancipation of the Irish farmer from a sytem of oppresion unknown to any other civilized country had this to say on this question: "If you would solve the rural problem you must approach it from three points of view. You must regard agriculture as an industry, as a business, and as a life. To the industry must be applied the teaching of modern science, and that is the work of government and of educational authorities. Into the business must be introduced the methods practiced by those engaged in every other occupation, and far the most important of these methods is combination, whenever things can be done more efficiently or more economically, collectively than individually. **This, we hold, is the function of voluntary effort. It is work which cannot be done for the farmers, but must be done by them, and even the way in which they are to do it cannot be taught to them by governmental agencies."**

Must Build From the Bottom

The Missouri Farmer has since its establishment six years ago been trying to get the farmers of the state to see this one essential thing and that is that the work of bettering the business side of farming "is work which cannot be done for the farmers, but must be done by them independent of outside interference." It is a big problem but a vital one to get the farmers of a great country like the United States to working in a large cooperative combination for their own betterment and for the good of the whole country but by building from the bottom on a safe foundation it can and must be done.

Now just a word about how to get farmers to help themselves. There are approximately ten thousand rural school districts in Missouri. There are twenty-five to thirty farmers living in each of these districts and most surely at least ten men may be found in the most backward and unpromising district who are ready and willing to stand together for their individual gain and for the general good of the community. But whether there are ten or but two such men we want to begin right and like all other structures the place to begin is on the foundation. Just as we suggested in a recent article in The Missouri Farmer that in many neighborshoods no more than two or three men could find it to their mutual advantage to cooperate in the breeding of pure bred animals so why can not two or three men cooperate in the buying of binder twine, fertilizers, coal, feeds, seeds and other like products?

A Few Men Can Start the Work

We do not want to be understood as advising that an organization of a few men is the most desirable but it is a start and if these few men can demonstrate that they can save money by working together others will soon be wanting to unite their efforts and the usefulness of the organization will grow and its benefits multiply. A few weeks ago an energetic farmer called a few of his neighbors together and proposed the organization of a farm club when they all asked "what can we do?" This was in a neighborhood where a considerable acreage of wheat is sown and the leader who had prepared himself for such questions proposed that they club their orders for binding twine and buy their twine from the State plant at Jefferson City. The state plant is selling twine in 1000 lb. lots for 9 cents a pound which is a big saving this year over retail prices. These few farmers saved enough on the price of twine for this harvest to pay the wages of a good farm hand for three months and no one would have thought about it had they not been called together by one some are unkind enough to call "cranky". In a very short time these men will buy several tons of fertilizer for next year's wheat crop and by clubbing their orders and buying in car lots they can make a saving of one to two dollars a ton and that amount of saving applied to the whole fertilizer bill for the state would mean a saving of more than one hundred thousand dollars. When one thing has been bought another will be suggested and the saving will reach millions of dollars a year to Missouri Farmers.

The whole thing lacking to make

farm organization a success is for farmers to depend upon their own efforts and to direct their own agencies. The farmer who is awake to his own interest and who has at heart the good of his community and his state will be ready to join his neighbors in the organization of a farmers business club and this is the only kind of organization that will give the men who produce the world's food and clothing an equal chance to share in the good things of this life. Let our motto be "Farming is a business controlled by business farmers."

COOPERATION AT WORK

In the cooperative marketing of farm products, Denmark and Ireland stand head and shoulders above all others in the brillancy of their achievements and the permanency of results. Fifty years ago the farmers in both of these countries found themselves in a pitiable condition—worse than the farmers in any part of the United States ever were or ever dreamed of being. They were destitute, despondent and hopeless, and there was nothing but poverty in sight. Up to 1880 Danish and Irish farmers had gone along in the same old way—small farms, small crops, small prices, discontent, discouragement, discord, disease, degeneration and decay. But a few rare spirits saw a vision and became convinced that farmers must combine and work together in order to prosper individually. A cooperative creamery was organized at Olgod in Denmark in 1882, and now there are over 1,300 of these creameries, exporting over a million dollars worth of butter every week. Denmark has 36 cooperative bacon factories, 510 cooperative egg testing associations, 1,200 cooperative retail societies, 560 cooperative savings banks with deposits of over $215,000,000, also 519 cow testing associations and 1,260 cattle breeding associations. Denmark is about one-fourth the size of Illinois, and yet she exports annually over $90,000,000 worth of butter, eggs, cheese and meat! From poverty and destitution 40 years ago it has come to be the richest country per capita in Europe according to its population, and 89 out of every 100 families own their own homes. And we behold today a new Denmark!

And we behold a new Ireland. No country could possibly be in a more pitiable condition a few years ago, and yet today Ireland is commencing to blossom like a rose. In many parts it is said to be as rich and prosperous now as the best portion of our own great Middle West. And this great regeneration has come about through the efforts of a band of cooperative missionaries—Sir Horace Plunkett, a nobleman, Mr. R. A. Anderson, a farmer, Mr. George W. Russell, the brilliant editor of the Irish Homestead, and Rev. Father Thomas A. Finlay, professor of economics in the National University of Dublin. Each of these has been preaching the gospel of cooperation over Ireland during the last 20 years. It took 50 meetings, covering a period of more than a year, before these missionaries could get the farmers to organize a creamery. The first one was established in Limerick in 1889. It was a year before another one started. Today Ireland has nearly 500 cooperative creameries, 980 cooperative societies all told, with a paid-up capital of over a million dollars and an annual turnover of something like $12,000,000. And so we are told that the salvation of Ireland is being worked out by a big cooperative scheme in which local societies, the wholesale society, the agricultural department of the government, the Irish Agricultural Organization Society, the Irish Homestead and the society of United Irish Women are all playing important parts. This is cooperation at work. W. M. Stickney.

LOOK OUT FOR CLOVER BLOAT

A correspondent says that he has lost a fine steer which was running on a pasture of white clover of very rank growth, and he can attribute the cause of death to nothing else but bloat. From the appearance of the steer when found dead he thinks it was the bloat which caused death but he says "I have never known of white clover causing bloat and would like to know about it."

In ordinary seasons there is very little danger of bloat running on white clover and especially where the clover is well mixed with bluegrass or other grasses but where white clover makes a vigorous growth like it has this year and when it constitutes practically the entire grazing there is considerable danger. The two dangers in our opinion are first, when changing from dry feed to pasture and second, about the time it is in full bloom. If cattle owners will change from dry feed gradually they will not run so much risk of bloat. For this reason it is always best to feed the cattle several days after they are turned on the pasture and where there is danger of bloat we would turn on the clover just after feeding the dry feed and not allow them to graze only for a short time, say twice a day and follow this up for several days.

When the clover is coming in full bloom if there is any notice of disposition to bloat it will be best to find another pasture for a while at least until the bloom begins to brown at least. Bloat is caused by the rapid fermentation of the food in the stomach, at least this is one cause, and it has been found that blossoms of white and red clover and also of alfalfa contain a great deal more sugar than does the leaves. The Kentucky station has found that red clover blossoms contains as much sugar as 3.6 per cent, alfalfa 2.8 per cent and white clover 2.4 per cent. In the fermentation of the food the sugar is converted into carbon dioxide gas and from this farmers will readily understand why it is that that red clover causes more trouble than white clover when it has fifty per cent more sugar in the blossoms.

The Bureau of Animal Industry in Diseases of Cattle says that bloat "may be caused by any kind of food which produces indigestion. When cattle are first turned into young clover they eat so greedily of it that tympanitis (bloat) frequently results; turnips, potatoes, and cabbage may also cause it; middlings and corn meal also frequently give rise to it. In this connection it may be stated that an excessive quantity of any of the beforementioned foods may bring on this disorder, or it may not be due to excess, but to eating too hastily. Sometimes the quality of food is at fault. Grass or clover when wet with dew or rain frequently disorders digestion and brings on tympanitis; frozen roots or pastures covered with heavy frost should also be regarded as dangerous. When food has been eaten too hastily, or when it is cold and wet, the digestive process is imperfectly performed, and the food contained in the paunch ferments, during which process large quantities of gas are formed. The same result may follow when a cow is choked, as the obstruction in the gullet prevents the passing up of gas from the stomach, so that the gas continues to accumulate until tympanitis results.

Farmers will generally have no trouble in diagnosing the trouble from the distressed and swollen condition of the animal. If relief is not obtained in time, the animal breathes with difficulty, reels when walking and in a short time may fall and die from suffocation. The Kentucky station recommends for "acute bloating, 1 quart of a 1½ per cent solution of formalin, followed by placing a wooden block in the animals mouth, and gently exercise if the animal can be gotten up. Formalin is a trade name for a 40 per cent solution of formaldehyde gas in water and may be obtained at any drug store for 40 cents a pint. One-half ounce of formalin in 1 quart of water makes the proper solution with which to drench the animal."

In urgent cases tapping the paunch with a knife or better with trocar. This is a sharp-pointed veterinary instrument incased in a sheath which leaves the sharp point of the trocar free. The instrument or knife is stuck through the wall of the paunch in the hollow just in front of the hip bone, equally distant from the last rib the hip bone and the transverse processes of the back bone. If a knife is used it may be difficult to keep the cut from closing but where the trocar is used the sheath is left in as long as any gas is escaping.

TEAM WORK BY THE SCHOOL, CHURCH AND HOME

(The betterment of country life is so great a problem that all the agencies at work in that direction should be brought together in one great co-operative effort for that purpose. This excellent article by Oakel Fowler Hall, Purdue University, in a recent number of the Purdue Agriculturist furnishes a strong plea for a close co-operation of the School, the Church and the Home.)

Since the appointment by President Roosevelt in August, 1908, of a Commission on Country Life few subjects have received more thoughtful consideration than the Country Life Movement, which, in the words of Dr. L. H. Bailey, chairman of the Roosevelt Commission, "is the working out of the desire to make rural civilization as effective and satisfying as other civilization." Some of the ablest men in our nation have interested themselves in the movement, and enough books, pamphlets, bulletins and magazine articles have been written on the subject to stagger the most studious.

As this literature and the multitudinous programs of conventions, conferences, and institutes relating to the movement will show, there have been thus far three institutions stressed as outstanding remedial agencies. These three institutions are the School, including institutions of higher learning, the Church and the Home, and each has had its turn in the matter of emphasis. There has been more or less overlapping, to be sure, but broadly speaking, these three basic institutions have been emphasized as channels of rural uplift one at a time.

For the first three years of the movement emphasis was placed upon the School. We were led to believe that education was the unfailing solvent of the rural problem. As a result of this emphasis on education, nearly every state in the union took definite steps toward the improvement of its rural schools. In some states campaigns for consolidation, the gathering of three, four or more district schools into one large centralized school, were carried on with varying success; in many the common school curriculum was altered, and such subjects as scientific agriculture, domestic science, and manual training were given prominent places, nearly all the states added extension departments to their agricultural colleges, and we profited in many ways by this timely emphasis on education for rural America. But this did not solve the "rural problem."

The next institution to be stressed was the Church. Any one year since 1911 has witnessed more agitation and statesman-like activity in behalf of the rural church than any five years previously. No book or magazine article bearing upon rural improvement has been without a chapter on the Church, and some of our most competent authorities have said the Church must play the leading role in the Country Life Movement. Dr. Thomas N. Carver, formerly of Harvard Universtiy, later Director of the Rural Organization Service in the Department of Agriculture at Washington said a couple of years ago: "The solution of the rural problem lies largely with the rural ministers who are helping rural people to form their likes and their dislikes." About the same time a leading agricultural editor wrote: To the Church we must look for leadership in this matter of higher and better living in the country." But we did not hear anything like this during the first year or two of the Country Life Movement. In his excellent book, "The Country Life Movement," Dr. Bailey does not give a single page to the Church. The same is true of other first class books on the subject. President K. L. Butterfield of the Massachusetts Agricultural College, in his widely read book, "The Country Church and the Rural Problem," was the first to stress the Church as a significant factor in the solution of the rural problem. This book was published in 1911.

The third and latest institution to receive marked emphasis by those trying "to make rural civilization as effective and satisfying as other civilization," is the Home. It is more difficult to fix the time when the accent mark was shifted to this all-important institution, since it was not without occasional stress during the ascendency of the School and the Church. If I were asked to say what, in my opinion, did most to cause emphasis to be placed upon the Home by rural welfare workers, I should say the publication by the Department of Agriculture of those four bulletins which are based upon the answers received by Secretary Houston to his 55,000 letters of inquiry to farm women. These bulletins show the social, the domestic, the educational and the economic needs of farm women to be all but overwhelming, and no one can read a single one of them without seeing that until we effect material changes in home conditions on the farm we need not expect to hold the young people or keep well and happy the old. The cry just now is for instruction in home economics and assistance in making the home more attractive, sanitary, and restful, and it is a timely cry. For an ambitious young person from an average farm home to make one visit to the home of a city cousin and note the superior improvements and advantages is enough to prejudice him or her against life in the country. We have been too prone to compare our best rural homes with our cities' worst. The country no less than the city has its slums, and the average country

home has fewer advantages than the average city home.

But it is not the purpose of this paper to say that all efforts should now be directed toward securing the needful physical improvement in the average rural home, great as this need is. Running water in the kitchen and bath room, a furnace in the basement, and electric lights within and without will not solve "the rural problem." These things will contribute toward the solution of the problem in much the same way that a modern school and an efficient church contribute toward making any rural community more "effective and satisfying." And I would not have one individual cease laying stress on the Home as an all-important agency or medium in rural betterment. I wish I might say or do something to add the the present emphasis on the home as regards any social service program. I rejoice also that so much attention has been given the School and the Church in connection with rural welfare work. All that has been done can be utilized most advantageously. It is as though six or seven years had been spent in developing athletes and preparing them for important games. Individual muscle and efficiency are not only necessary, but indispensable. But these alone will not win the game. Team work is more important than individual strength and efficiency, notwithstanding the indispensability of the latter.

The next step in the Country Life Movement is the securing of team work by the School, the Church and the Home. Each has been working independently long enough. There can be no decisive victory without team play. It would be no less preposterous for a football coach to go on and on with his training and conditioning of individuals without ever assembling them for action as a team than for rural life coaches to go on and on first developing strong schools, then building up strong and efficient churches, and lastly effecting needful improvements in the homes in their communities, and making each of these steps ends and not means. There would be better schools, better churches, and better homes, to be sure. Likewise would the football coach develop better individual men. But what about the game? It would be lost; and who wants to be on a team that never plays a real game?

Just as no squad of men can win a game working independently one of another, neither can any number of institutions or agencies solve our social and industrial problems working independently one of another. There is hardly a township in Indiana where there is not a woeful lack of team work on the part of these three most indispensable institutions. The School teaches sanitation, but the Home calls it "theory," and backs the statement up by recounting the many good and apparently efficient persons who lived happily in ignorance of such instruction. The School encourages athletics, but the Church too often acquiesces in the saying that "all such things belong to the Devil." In a certain school, with a building having an excellent gymnasium and facilities for recreation, the children from several homes were forbidden by their parents to make use of the gymnasium because their pastor had given it as his opinion that basket ball and the like were "the inventions of the Devil." And this building is not thirty miles from Purdue University, and was not erected until the year 1913 A. D. The Church teaches godliness, and the School and the Home not infrequently exult in godliness. The Home teaches progress, and more frequently than not the School and the Church stand as conspicuous monuments of ultra conservatism and the utter absence of progress. The Home tries to hold the boys and the girls on the farm, the School in its arithmetic, geography and grammar lessons entices them to the city. The Church emphasizes other-worldliness while the School and the Home emphasize happiness and efficiency here and now. There is not only the absence of team work, but there is open disagreement and willful contradiction among these three institutions which ought to be "purveyors of a common good."

The old saying "United we stand; divided we fall" finds indubitable application at this point in the development of rural America. Not only Indiana, but every state in the union is in need just now of an Arnold Winkelried who will go up and down its highways crying "make way for cooperation, or die," not as a threat, but as prophecy. For nothing can be more manifest to those who are familiar with present conditions and present needs than that the very preservation of our highest rural ideals are in no small measure dependent upon team work, by School, Church and Home. And he who leads in this next great step in the Country Life Movement will render conspicuous service to the world as a whole.

WHAT FERTILIZER SHALL I USE

Because of the European War prices of some fertilizers have become almost prohibitive and it is necessary for farmers to study very carefully what fertilizers to use in order to get the most value for their money. An excellent article appears in Bulletin 139 of the Missouri Experiment Station by Professor P. F. Trowbridge which we reproduce here for the excellent advice it gives on this subject.

Potash and sulphuric acid are in such great demand in the manufacture of explosives at this time that their use in fertilizers must be limited or the cost to the consumer very materially increased.

Small amounts of potash are present in tankage and in manures. When wood ashes are available, from three to seven per cent potash may be obtained. The usual supply of potash salts from Germany is now entirely cut off. Some potash is now obtained from kelp on the Pacific coast but it is all used west of the Rocky Mountains. In Missouri, we must temporarily get along without that fertilizer ingredient and naturally wish to consider whether we have a substitute, or how we can best meet the emergency.

There is no substitute for potash. All plants must have this element but some need it much more than others. Fortunately, most Missouri soils are supplied with a great abundance of potash but it is in the form of insoluble silicates. Experience has demonstrated that soils abundantly supplied with organic matter and lime will produce abundant yields without the addition of the soluble potash. Pulverized limestone can be added at once, two or three tons to the acre. Utilize all the old straw stacks and work them down to make all the manure possible. Do not burn corn stalks, disk them thoroughly and plow them under. Grow clover, cowpeas, rye, or even oats to plow under to furnish the organic matter. It is generally advisable to plow under the weeds rather than to burn them.

The phosphoric acid question is more serious. Missouri soils are deficient in that element. We cannot grow it on the farm as we grow the nitrogen. Every bushel of grain, every steer, or other animal sold from the farm removes a certain amount of phosphoric acid. This must be returned in the form of fertilizers or we are depleting the land.

The supply of bone meal is limited Use all you can get. Rock phosphate is abundant and the war should not affect the price. The past results hardly warrant us to recommend its general use in Missouri where immediate returns are desired, owing to its being so insoluble and therefore so slowly available. However, the same conditions which favor the availability of the insoluble potash solicates will favor the availability of the phosphorus from the pulverized rock phosphate. We can, therefore, say to the land owner who is planning for the future as well as for the present, apply some of the phosphorus as the pulverized rock phosphate where you have an abundance of lime and organic matter. Use also some bone or acid phosphate for present needs. Generally speaking we may consider the phosphoric acid of acid phosphate as being chiefly available the first year When added in bone, its effect extends over four or five years and when added as rock phosphate the effect will extend over 10 or 12 years.

The only limitation of the supply of acid phosphate will be the cost of the sulphuric acid used to make it. We are making more sulphuric acid now in the United States than ever before, but the demand has made an enormous increase in the price. This condition will result in an increase in the price of acid phosphate. Farmers are not advised to reduce the amount of phosphoric acid used, especially in the production of grain crops. It is generally estimated that one pound of the available phosphoric acid is worth fully three pounds of the insoluble phosphoric acid of the mixed fertilizers. High-grade fertilizers are cheaper per pound of plant food than the low-grade ones.

The nitrogen in fertilizers should not cost any more than formerly and it should be used liberally wherever there is insufficient plant growth. It is always to be emphasized that the farmer can produce the nitrogen on the farm cheaper than he can buy it in the commercial fertilizer. This takes a season, however, and must be planned for in advance. For the particular crop and field in question, buy the nitrogen in the fertilizer if you do not already have it in the soil.

For permanent soil improvement, get plenty of limestone and organic matter in the soil. Buy phospheric acid; the soluble forms for immediate needs and the insoluble forms as the deposit in the bank for future needs. Buy (with your neighbors) a car load of rock phosphate. Use it on the manure spreader at the rate of from five hundred to a thousand pounds an acre. Then, when planting the crop (wheat, corn, or oats), use from one to two hundred pounds of 16 per cent acid phosphate, with nitrogen if needed.—P. F. Trowbridge.

Three Hundred Million Bushel Crop in 1915

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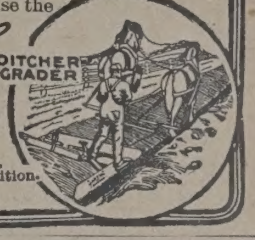

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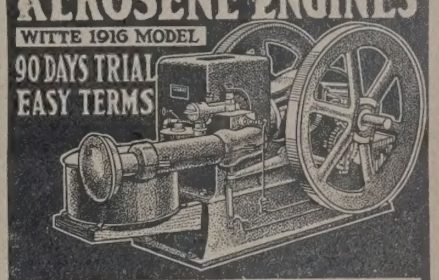

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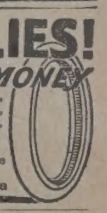

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AN AMERICAN CHAMBER OF AGRICULTURE

By HON. DAVID LUBIN, American Delegate to the International Institute of Agriculture, at Rome.

Before the Hearing at a joint session of the Senate and the House Committee on Agriculture.

In the political and economic life of the nation, as is well known, there are two forces. One, the progressive and radical force of the cities, the financial, commercial and industrial force. The other, is the conservative force of the country, the force of the agricultural industry. These two forces act and react upon each other.

The force of the cities is dynamic, progressive and radical. The force of the country, the farmer, is static and conservative. The first of these forces is aggressive, militant. The second is static, defensive.

There has always been, there is, there will be an interminable struggle between these two forces. And what of the battle? It is always a combat of financial experts and master merchants on the one hand, and "Rubes", clod-hopping farmers on the other.

In this combat, like those in the arena of ancient Rome, the first of these combatants, is as it were, armed with the double edged sword of financial and commercial masterships, whereas, the second is compelled to fight armed with a reed, the reed of financial incompetency, of commercial impotency.

Tenant Replaces Land Owner

No wonder then, that as the combat proceeds the land-owning farmer is gradually eliminated, is replaced by the renter, ending in the consequent decay and ultimate death of the nation.

How does the matter stand here, what is the state of the fight in these, the United States?

As is well known, in the beginning of our national life the nation consisted almost entirely of country, of farmers. Of the cities there were but very few and these inconspicuous. Such a nation was not to the likeing of that illustrious statesman, Alexander Hamilton. He saw clearly that the overwhelming preponderance of the static, conservative force swaying the destinies of the nation would soon freeze to death the liberal progressive tendencies of the cities, and thus undermine and destroy the Republic. Hamilton clearly perceived that if the course of the nation was to be upward and onward that there would have to be an equitable balance between the force of the cities, the progressives, and the force of the country, the conservatives. Hamilton clearly perceived that the equilibrium between the progressive and the conservative forces was esssential in order to permit the evolution toward that stable political and economic condition so essential to national strength and to national life.

The City's Grip on Country

But how was that to be achieved? It was to be done by building up the cities; by a high protective tariff. Hamilton thus became the father of the protective system. With the tariff came the many cities, both great and small, and in time there came, as Hamilton foresaw, the balance of power between the conservative force of the country and the progressive force of the cities. And when that was brought about the nation was strong. The ' 'Golden-mean", as Confucius would have it, had been reached.

But unfortunately, there was nothing provided to have the equilibrium between these two forces persist, and thus maintain that golden mean. The time soon came when the skillful financier, the master merchant, the force of the cities, as is its habit everywhere and at all times, gripped the force of the country in deadly embrace, in mortal combat. The combat is still going on, with the force of the cities irresistably in the lead, and unless the grip of the city force is loosened from the throat of the country force the inevitable ultimate must be national decay and national death.

In what then does the "death grip" of the city force consist? In this: the city man is a financier and a merchant, the countryman is not. The city man knows how to buy but the countryman does not know how to sell. As a result the city man manages to buy the country man's product and pay him a price for it denominated by himself, regardless of the equities in the case.

A continuation of such a system must, of course, tend to drive the land-owning farmers off their lands, when they are replaced by renters.

But where is the harm in this? Was it not previously asserted that the farmers are conservatives; that the equilibrium between the conservatives of the country and the progressives of the cities tend toward the "Golden-mean"? How then can there be a disturbance of the equilibrium so long as there is a replacement of the land-owning farmer by the renter? Is not the renter also a farmer?

Renters Are Radicals

He may do farming, but he is not a conservative. Renters the world over are, as a rule, radicals. Thus it follows that whenever the land owning farmer has been replaced by the renters there has been a change from the conservative to the radical. Continue such changes and in time we will have changed the social, economic and political system. We will then have had a quiet dry-rot sort of a revloution, or as is the case sometimes, a loud, boisterous one. But be it quiet or be it boisterous it has been a revolution, and of a deteriorating character.

Let but that condition persist and in time it will corrode and consume the entire body-politic. It was such a condition that consumed Rome; that persists in maintaining a rude mode of government in Russia; that, in the face of her 89% farm renters, denies to England the privilege of exerting the mighty power she might otherwise exert.

The Lesson of Russia

There was a momentary time when the otherwise murkey public policy of Russia was replaced by some rays of political sunshine, when at the command of one of her Czars the serfs were rendered freemen. But more than this; the former serfs were to be converted into land-owning farmers.

What was the result? Very shortly thereafter the city financiers and the city merchants owned the farms of the freed serfs and substantially owned the ex-serf too. Why? Because the ex-serf was no financier, no merchant, but the city-man was, so the financiers and the merchants came to their own. As a result, the serf that formerly belonged to the lord now belongs to the merchant, or to anyone that may want him.

As it is in Russia so has it been all over the world, and no wonder, for the financier and the merchant everywhere, in his combat with the farmer, is armed by a keen double-edged sword, while the farmer is armed with a reed.

What is the state of the fight in the United States? Let us enter this assembly room, for there is a meeting of the Grange going on, when we may hear something of which we wish to know. There are say fifty people present, and the Master of the Grange has asked one of the members to speak on the economic situation of the farmers.

You will soon be informed that the conditions are grossly inequitable; that the American Farmer is being eaten up by "Wall Street"; is being consumed by the trusts. What is the remedy? They do not know, but have some vague hope that some day they will get even, somehow.

Where Agriculture Has Its Own

And now let us enter an assembly room in Germany, at a meeting of German financiers and merchants, and we will be likely to hear the complaint that they are being eaten up by the aggrarian interests; that the farmers are gaining ground, and that they win easily in the economic combat. Strange cry, that, and significant.

It is probably the first time in the political and economic history that there was justification for such a cry. Truly, in Germany, "the shoe is on the other foot". Agriculture there has its own. It is to all intents and purposes permanently intrenched in its stronghold of the offensive and the defensive in the economic combat. As a result the industry of agriculture in Germany is not merely an entity, it is a Giant among giants. It is the equal as a combatant of the financial and the commercial forces.

It is not far from the mark to say that it is this economic status which has rendered Germany one of the most powerful nations of the world. And the cause of all this is not far to seek; it is the strength which has evolved through her great agricultural organizations, the Landwirtschaftsrat, which has made Germany so strong.

Beginning with the local units throughout the empire, with its organizations of land-owning farmers; each with its bureau of secretaries and workers, thence upward to each county, thence upward to each of its state organizations, all affiliated and federated into its national organization, substantially renders the German farmer invincible and invulnerable in his economic combat with the financier and the merchant.

The bill before Congress (S. 5687, H. .R 14903) is an adaptation of this German system, and follows it quite closely. Intelligent consideration will clearly show that its adoption in the United States will not alone be conducive to the economic welfare of the American farmer but that it will be of great political benefit to this nation.

It can readily be seen that its adoption will change the status of the American farmer. Instead of the nonentity that he is now he will become, through this organization, the peer of the financier and the merchant in his knowledge of finance and commerce.

But, say some, why shall we adopt a plan from an autocratic government? Why not devise a plan of our own? Let such an objector go over the bill intelligently and carefully and he will fail to find a trace of an objection on the score of autocracy in it. No more so than he would find in the organization of the Grange or of the Farmer's Union.

Farmers Must Do It

But can not all this be done by the government, by the Bureau of Markets of the Department of Agriculture? No, it can not be done by that Bureau. In the first place, government employees are under orders of government officials, and no sensible person would expect that prompt action from government bureaus that is required in the course of current business. Let us remember that an error in change at a store may be rectified in an hour, whereas an error in a money-order may take several months to correct. But the chief objection is this, that a government would have no more right to tell a farmer to whom to sell a lot of potatoes or apples or to whom not to sell them than it would to tell the shirt maker or the shoe maker to whom to sell shirts or shoes or to whom not to sell them. A government that would attempt such mode of procedure would be classed as childish.

It would be such a downright paternal function that it would not even be tolerated in such paternal governments as Siam, Burmah, or Afghanistan. Such paternalism was only attempted once in the history of the world, and that was by a Pharoh, in the seven year of famine in Egypt.

There is no objection to having the Bureau of Markets perform the functions mapped out for it, when the proposed organization can make use of its labors in the course of its routine. The Bureau of Markets will then be a valuable aid to the American farmers.

Benefits Producer and Consumer

In conclusion let me say that the American Chamber of Agriculture will be of great benefit to the American farmer by enabling him to market his products intelligently and at equitable price, both in the nearby and in the remote markets.

It will be of great benefit to the consumers, because intelligent and equitable distribution will do away with the high cost of living.

Finally, the adoption of the proposal before us will be of great benefit to the American people by restoring and by maintaining that equilibrium of economic and political power between the forces of the cities on the one hand, and the forces of the country on the other and thus best serve the political interests of this nation.

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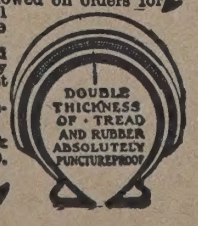


STATE FAIR JUDGES

The members of at least two important breeds of swine have, we understand, been notified by the management of the Missouri State Fair, that the board refused to act upon the recommendations submitted by the State associations of the two breeds in the matter of selecting the judges for the 1916 show.

Just why the board should take this stand is difficult indeed to understand, especially so, when the majority of the exhibitors are members of the associations making the recommendations.

A state fair should concern itself first with the public and then with the exhibitors, but should not loose sight of the fact that without the good will of the exhibitor they could offer very little to the public. Perhaps the question of judges causes the various fair managers more trouble than any other problem and it would seem that they would welcome an easy solution of such a vexing question by appointing men who are known to be acceptable to the majority of the breeders who contemplate showing, certainly, would this seem logical when the men are known to be capable and honest judges.

No one was trying to "put anything over" on the management, the men suggested were prominent breeders and judges of recognized ability, the associations making the request are recognized as standing for the best interests of the breed, then why should the state fair board refuse to take counsel with them?

The Missouri State Fair has yet a long way to go before it becomes one of the big fairs of the country, and if it ever does reach the front rank it will require a bit more constructive work than has recently been shown.

For the past two years the swine show has made great strides and the increased interest among the breeders was due almost entirely to the work of these State Associations.

The swine exhibitors at Sedalia have been putting up with great inconveniences for years and it would seem that the least the board could do would be to grant them their request in the matter of judges. There has been some talk among the exhibitors that they would pass up Sedalia this year and if the majority do, the public can only blame the management for adopting such country fair tactics.

It takes team work to build up any enterprise and it will take team work between the State Fair Board and the exhibitors to put on a great show at Sedalia. The public will suffer most and the public has a right to expect that the state board will make every effort to satisfy the exhibitors.

R. P. Royce.

A WORKING FARM CLUB

To The Missouri Farmer:

Answering your request for information about farm clubs will say that I am serving as secretary of our local bureau and if you have anything of interest for us it will be thankfully received.

The Pee Dee Farm Bureau is situated in the western part of Marion County and is a branch of the County Bureau. It was organized in April, 1915, by the Marion County Farm Agent.

Our membership is short in numbers but long on enthusiasm. Meetings are held each month, which are both educational and profitable, and at these meetings various farm subjects are discussed in a way that brings out many ideas that broaden our views and give us a better understanding of things. The County Agent was with us quite often until he resigned his work here, always giving us good practical talks and sound advice. So far we have been unable to get a man from the State Board of Agriculture to talk to us. Miss Root was here in August and conducted a canning demonstration for the ladies.

We held a farmers picnic the 26th of August and it was a success. Every body had a good time and enjoyed the day. A basket dinner was served by the ladies at the noon hour which was "well received." Some exhibits of farm products were shown, premiums were given on the best colts of different classes and a colt judging demonstration was conducted by the County Agent.

We bought our binder twine together last year and made a good saving. This year we hope to ship our hogs together and save the local shippers' profit.

Realizing that the mud hole is a great chasm between farm and market, road work was taken up last year and a nice donation of money and labor was soon raised among the members. A committee was appointed to interview the County Court and that body gave us aid and some substantial improvements were made.

A sale list is a late feature with us. Each member lists his "wants" and "for sales" with the secretary who reads the list. The first represented more than $1,500.00 worth of live stock, feed, seed, farm machinery, etc., and a number of sales were made.

We are striving for greater things for the future and believe that a better condition of things can be brought about. But to do this it is important that each member realize the fact that he is a part of the organization and do his part to help bring about the things hoped for. We helped to put The Missouri Farmer in several homes here and would like to see it go into many more. A. P. Calvert,

MANURE AND CROP ROTATION

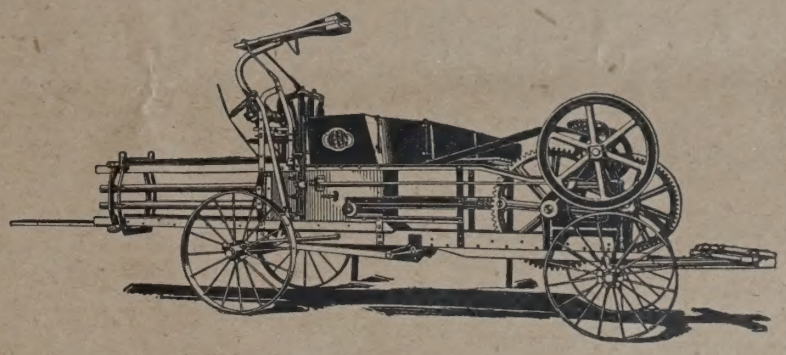
At the Experiment Station at Columbia a plot of land which had been planted to corn for twenty-five years has had the supply of organic matter so reduced that the soil has assumed the light-colored, exhausted appearance of worn-out land. Incidentally, the yield has decreased until during the last five years it has averaged but ten bushels per acre. Of course, considerable quantities of plant food have been removed during this time and more or less insect injury has developed, but the most important difference between this plot and a rotated plot near it on which the corn yield has been maintained at around fifty bushels per acre has been the difference in the supply of organic matter.

Since the loss of organic matter is greater on corn than on any other crop commonly grown in Missouri, it becomes evident that if the fertility of the soils is to be maintained a crop rotation must be adopted. It is only on overflow lands that we can expect to maintain the productiveness of corn lands without rotation, and even there insect enemies soon develop, which make it desirable to change the crop occasionally. Missouri corn growers have heard rotation of crops urged at every meeting since the association was organized, and there is little doubt but it will be urged at every meeting for years to come. The term "crop rotation" has become so common that I often wonder if it makes the least impression on the men who are not following a crop rotation. I wonder, too, if most farmers who have been practicing a more or less systematic crop rotation are not discouraged as a result of the recent dry years in which clover has failed almost regularly. It certainly has been discouraging. Nevertheless, the time is upon us when a systematic crop rotation must be followed if fertility is to be maintained on the well-handled farm, and the chances are that we are near the end of these poor clover years. Rotation with clover, soy beans or cowpeas and grass is the only method of handling lands to keep them in condition for growing satisfactory corn crops, and the sooner we learn to handle a systematic crop rotation the better it will be for the land and the better for us. Rotation alone, however, is only the first essential. In the rotation experiments at Columbia, where was grown for seventeen years without change, the yield was reduced to 11.8 bushels per acre, while a rotation of corn, wheat and clover gave a corn yield the same year of 50.7 bushels per acre. In the same season land which had been rotated in corn, wheat and clover and manured heavily yielded 77.6 bushels per acre. Thus it will be seen that rotation alone helps much, but manuring must accompany it if the highest yields are to be secured.

The station has been experimenting for a good many years on the use of manure and fertilizers for corn. Of course, barnyard manure, where it can be secured, is the very best fertilizer for any cornfield, but on the average Missouri farm this material is always more or less limited in quantity. Unfortunately, one of the reasons for this limited amount of manure is due to carelessness in handling. The average of all the results secured in the outlying fields of the experiment station throughout the state have shown that a ton of manure is worth on corn $2.29. This emphasizes as much as anything could the value of manure on corn land from the standpoint of money returns. The man who is handling a four-year rotation under a system of live-stock farming should be able to return to the land between six and eight tons of barnyard manure to each acre during the round of the rotation. Of course, this may not all be handled from the stable as much manure goes back when pasturing down the crops, but if all crops are stable-fed and the bedding properly used, a man should be able to manure his corn in a four-year rotation at the rate of six or eight tons per acre. Experience has shown this to be possible, and as farming becomes more intensive this much barnyard manure, or its equivalent from crops pastured, should go back to each acre of corn land during a four-year rotation where live stock is all that is sold from the land.

It is perfectly possible to maintain the supply of organic matter in the and through the use of green manure crops. This is done in European countries to a large extent. It is done to a certain extent in the United States, but the average corn-belt farmer, who handles more or less stock, will use green manures to only a slight extent in most cases. Where clover is practically a sure crop, however, and where the land is productive, it is perfectly possible in Missouri to practice a system of grain farming and maintain the supply of organic matter by using clover, rye and cowpeas as green manures. Green manuring is to have a much more important place in our systems of farming from now on, and the careful farmer will begin to familiarize himself with the methods of handling green manure crops.—M. F. Miller, College of Agriculture.

Baled Hay at Lowest Cost



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TOWN AND COUNTRY

There are a great many schemes offered for the organization of farmers just now and there is at least one plan that we can not subscribe to and that is for the bringing all classes of town people and country people into the same organization. In the early organization of the Grange this plan of permitting so many whose primary interest was not agriculture to get into the order was the cause of the failure of hundreds of local granges. The Farmers and Laborers Union which flourished for a while was broken up largely because men whose interest was not in farming were permitted to enter the Union.

It is argued that the town is interested in the country and the country in the town and therefore both should work together for the good of all. This argument if sound would demand that we have but one organization in the whole country a thing too absurd on its face to need argument. Will any one deny that organization has been a very great benefit to all classes of labor that have been successful in forming unions? But has not both history and common sense proved that it is necessary to form separate unions for the different classes of laborers. Why not say that it would be better to have both employer and employee in one organization? What would you think of an organization with the railroad bondholders, the stock holders, the car builders, the steel mills, the tie makers, the train men, the station agents, the track men and many others all in one great railroad union? But why not go further and say that everybody who is interested in the success of our reailroads should be eligible. Everybody is interested in the success of the railroads but not exactly in the same way, yet no one who has the welfare of one of the above separate classes at heart would think of suggesting that they all get together in one union. There are some things for which these people can all stand together but there are others where they clash and, therefore the necessity for a narrower and closer organization.

Those who suggest that the townsman and the farmer get together in one great body forget that they are asking farmers to unite not only with merchants and professional men but with the railroad employee, the miner, the promoter and everybody else because all who do not live on the farms are living in the towns.

When legislation is pending affecting the railroads' interest you will find all classes of railroad men standing arm to arm for the railroad but when that mutual interest clashes with the rights of some class it is easy to see the need of separate organization.

There are many things of mutual interest to both countryman and townsman but there are others where these interests cross and we think any farmers' organization which takes in others than farmers will fail to accomplish much good for the real betterment of the business of farming. Let the farmers organize solely in their own interest and let the business men, the laboring men and others do likewise then when great social, moral or economic questions come up that affect all alike it will be easy to bring about a unity of action of business men, farmer and laboring men, federated in the movement where all can unite.

We do not find this suggestion for the farmers and townsmen to get together in one organization to come from farmers but it comes from well meaning (sometimes but often designing men who hope to postpone the day of real farm organization as long as possible) but impractical men who do not know many of the real problems farmers have to meet.

We do not want to be understood as opposing county wide, or state wide community clubs but we do oppose the idea that a club of this kind can take the place of a farmers' organization. Our belief is that farmers should organize among and for themselves then federate and coperate with all others for the community welfare.

THE IDLE ACRE

Investigations made by the United States Department of Agriculture of a large number of farms have shown that if the farmer is allowed a fair rate of interest on his investment that about one-third of them had nothing left to pay for their labor except that part of the living furnished by the farm. There are a number of things which must be remedied before a great many farms will pay a reasonable profit and furnish the operator or owner a surplus which he may use to educate his children or keep for support in old age, but the one we want to call attention to here is the idle acre.

On most hill-farms small areas of seepy, wet land of a few acres are found which produce very little, although these acres must be plowed and cultivated at as much expense of labor and wear of machinery as the most fertile acre on the farm. If the farm is worth $75 an acre altogether it is because a part of it is fertile enough to make up for the loss of the undrained land. Possibly by spending $25 an acre on these wet places they can be made to produce as much as any on the farm and the increased product will be almost clear gain for the cost of cultivation will not be increased.

On other farms there are the "worn out" patches that not only produce nothing but are a constant unsightly reminder of the poverty of the farm. About the best plan for the recovery of these worn out acres is to start them up with a few loads of manure and then by growing some crop like sweet clover or other rank growing plant and turning down one or two crops these idle acres may be made to produce an income.

Unfortunately the farmer can not weed out his idle acres as the dairyman does his lazy cows and he must therefore, build them up to get them into the profitable class. We have now reached the place in American agriculture where we must look at farming as a business and when we find something that does not pay its way, we must get rid of it, whether it is the scrub cow, scrub variety of grain, out of date and worn out machinery, or the unproductive, idle acre of land.

WHY NOT SOME ALFALFA?

We have talked a lot about how to make the farm pay better and we know of no one thing that offers a bigger chance to increase the fertility of the land and to swell the bank account than to add alfalfa to the crops usually grown.

Last year we reported a crop of alfalfa on a piece of average Boone County upland soil that produced a crop ready for cutting May 10 and which averaged 26 inches high and was estimated to produce one ton an acre from the first cutting. With the favorable season last year the land produced four cuttings and approximately four tons of cured hay per acre. This year the season being a little later we found the alfalfa with about the same growth on May 15. Allowing for bad seasons this field should produce at least three and a half tons of hay every season for four to six years and longer if manured and limed.

We would like for our readers to make an estimate of their best paying crops on upland soil and compare them with the value of three and a half tons of good alfalfa hay and see if there is not good reason for us urging our farmer friends to try alfalfa. In making this comparison you consider that the ground is plowed but once and seeded but once for the five or six years that the alfalfa will stand before it is plowed under. If it is allowed to stand but three years, a rather short time for this crop, there will be quite a saving per acre when compared with the annual cost of plowing and preparing the ground and for seed with any of the annual crops now produced.

Another credit given to alfalfa is the good work done by the deep growing roots which aerates the soil to a greater depth than most other crops and leaves the decayed roots there to loosen up the soil and increase its water holding capacity. Then this wonderful plant draws a part of its living from the air above where there is an inexhaustible supply of nitrogen and much of this expensive fertilizer is left in the soil to feed other crops.

Yet another virtue accredited to alfalfa is its power to hold the soil from washing away to the Gulf of Mexico. We have often called attention to the enormous loss of fertility from our hill-side farms which are cultivated in wet seasons. There is no way to escape this loss entirely but with alfalfa growing on the land for six years in ten the loss will be reduced more than one-half.

It is now timely to plan for sowing alfalfa for this year. A piece of land already in good state of fertility may be plowed immediately after the wheat, oats or cowpeas are taken off and worked into a good seed bed and sown in August.

MORE MONEY REQUIRED

Will those fellows who are opposed to the Missouri Land Bank or in fact opposed to cheaper and easier money for needy farmers, tell us how we are to provide for the greater amount of money required now to own and operate a farm than what was required ten years ago? The scarcity of labor on the farm means a greater use of machinery and machinery costs money. The man who would stock up with pure bred live stock finds that it takes a great deal more money to handle them than it does to keep scrub stock, although the time has come when scrub stock does not pay a profit on high priced land and fed on high priced corn and hay. A few years ago pasturage could be had for cattle at from fifty to sixty cents a month per head but today the same kind of pasturage will cost three times that amount.

Some are opposing the Land Bank because they say cheaper money will mean higher priced land. If cheaper money under the restrictions of the Missouri Land Bank will make land higher in price as these fellows say it will then why are they not working for a law that will increase the rates of interest so that the price of land will come down? The truth is, and these people offering this objection know it, that money can not be obtained for speculative purposes under the provisions of the proposed Missouri law. In the first place no one can borrow more than $10,000 under this law and preference will be given to those wanting to borrow not over $5,000. Then the borrower must satisfy the governing board that the money is to be used only for the following purposes: 1. To increase the production of the land. Many farms in Missouri need drainage but it costs sometimes as much as the land is now worth to put in an adequate system of drainage and it will be a good thing for the state as well as for the land owner to have this land producing better. 2. The money can be used for making useful improvements on the land to be mortgaged. On many farms in Missouri it would pay to build silos, hay sheds, better barns, etc., but without the owner can negotiate the loan at a reasonable rate and for long time he will not take chances on making these improvements and he does not make them. The building of a good barn or silo on every farm that needs one would call for a lot of labor and this for the time being would be a good thing for the state as well as the continued profits on the better improved farms. 3. The money borrowed may be used for paying off existing indebtedness on the land or for making part payment of purchase price where the borrower has a part of the purchase money. 4. The borrowers may use one-fourth of the money borrowed for the purchase of live stock and machinery. We all know that live stock farming is about the only system adapted to about ninety per cent of the farms in this state but we find a great many farmers raising and selling grain, depleting the fertility of their land just because they have no money to buy live stock. Grain selling off the farms of Missouri has already so depleted thousands of acres of our farming lands that will take years to build up the land in fertility to the point of profitable cultivation.

Let those who are opposed to a remedy for the above needs among Missouri farmers tell us what they have to offer that is better than the Missouri Land Bank.

BARNYARD GOSSIP

Sometimes I think the poor man is largely responsible for his own condition. You have no doubt seen a lot of the same kind of people I have seen —people who blame Providence with all their "bad luck," sickness, high taxes and all the other evils man is heir to but I think like the old philosophy that we are largely the "architects of our own fortunes." I know there are unforeseen and unpreventable things happening to some one or other every day in the year but I think it is safe to say that ninety per cent of our bad luck is only poor management and if we would only exercise our good sense a little harder, get rid of our prejudices against man and measures, use all the means we can get hold of to inform ourselves before we become "sot in our way" about anything, that we would find this a pretty well balanced world after all.

We all belong to one or the other of two classes of people—we are either optimists or pessimists. We either magnify the good in the world or brood over the evil. The optimist is a progressive. He sees more good than bad in the world and he strives to make things better. He will even take a chance on making a mistake rather than do nothing. He knows that good deeds are like good seeds that when planted they will grow and produce after their own kind. And so the optimist puts his shoulder to the wheel and pushes or if working in the lead he goes up against the collar and pulls. It is always forward with him, never backward. If there is a bad place in the road he says let's fix it and he is ready with work or money to do it. He would rather vote for a 100-cent tax and have a good school than to vote for a 50-cent tax and have a poor school because he knows the poor school is like the losing horse in a race—whatever amount you have "up" on it you lose.

The pessimist is a "stayer," I will not say "stand pat" because you might associate the name with politics and you know I never talk partisan politics in these columns. The pessimist says, if the road is bad, "well, the road is no worse than it has always been and I guess we can travel it somehow. There's no money made in traveling roads any way. If the roads were good all the time people would go to town too often and they would lose more time and spend more money," just as if we did not try to make money for the things we can buy with it. The pessimist is opposed to having a high-grade teacher because he fears it will increase his taxes a few cents. You know I doubt if the pessimist ever looks at his tax receipts to find out how little he does really pay for his school. He contents himself with thinking about how poor the schools were when he went to school and that what was good enough for dad is good enough for son. Miserable man!—the Devil ought to get you. Why, do you not enjoy a thousand things your grandsire never dreamed about. If the fathers and grandfathers of this good old world in all its periods of development had stood on the platform of the pessimist—what was good enough for dad is good enough for son—what would we have today? We would be cutting our wheat with the reap hook or the cradle and planting our corn with a crooked stick. Our products would have to find their way to market on a pack-horse or the ox-cart but more likely decay for want of a market. The railroad, the steamship, the air ship, the telephone, the telegraph, the reaping machine, the thrashing machine, the sewing machine, the cooking stove, the spring bed, the carriage, the automobile, the cultivated fruits and vegetables we eat and a thousand other things we enjoy would never have been heard of. Get away with such ideas, get away with pessimism, kill off the drones, figuratively speaking, and let us have no one in the community who is not trying to do his part towards making the world a better place for our happiness.

I like the man who says I'll try, I can, and I will do all in my power to make the world better and happier.

JORDAN'S SENSE AND NONSENSE

Life is worth while since skirts still g t shorter and the scenery continues to get better.

* * *

If those unkissed students really desire to be kissed but do not know how to go at it to get one, it might be suggested that they go to the movie and take a lesson, then try it. I have noticed that when a fellow proposes to a girl at the movie, that the girl melts every time, and the old boy lands on her busser. If I were not so old I might try it once myself, but I will have to admit that I've been kissed, sad as it may seem.

* * *

Don't it beat the dickens what the packers have done to us?

* * *

The paper says that Hetty Green chews an onion all day, to keep germs away. Who can blame the poor little germs? Cheaper, too, than germs.

* * *

The world will make good headway in proportion as each man gets it into his bean that "the other fellow may be right after all and has most as much sense as he has himself."

* * *

Did you ever notice that we think a fellow smart when his ideas coincide with our own? Why not try to get over it?

* * *

If more of us could really see ourselves as others see us, don't you think a lot more of us would take poison? Burns was wrong on that proposition, too many killing themselves already.

* * *

I went to a ball game a few days ago but it was a punk affair. The score was 5 to 4 against the home team, which was very good, but they had only one fight.

* * *

I see a good many signs out saying "Men Wanted for the Army," but the boys don't seem to "come across" very fast. I guess the reason is that they think there is likely to be a fight.

* * *

Don't you really think that a "mutt" who will embark on a belligerant ship, taking chances of getting "busted" by the Germans or somebody, is a traitor to his country? He should know that his foolhardiness is likely to involve his country in war, and such should be looked upon as high terason.

* * *

If a person going into the "War Zone" with full knowledge of what is likely to happen to his hide, and he does get it shot full of holes, so far as I can see, he alone should be responsible for the results.

* * *

The boys are ready to shoulder a gun for real and just causes, but in some cases that have happened, I cannot see that they are to be blamed for being cold to the proposition.

* * *

This country sold bullets to kill men, yet when one happens to be turned on us we raise a row about it.

* * *

When nations get to where they have as much sense as individuals, war will cease.

* * *

Men in this country and in every other civilized country must abide by the decision of the courts of justice, because each court is backed with means to enforce its mandates, and some day there will be an international court of justice, backed by an international army that will enforce its mandates. Then war will cease.

* * *

If we had no war scares our gun makers, and bullet and powder makers, and battle ship builders would be out of a job. Of course, we should give them a job, even at the cost of war. Such as the Dupont's and the Krupp's, and the Maxims, need the money, you know.

* * *

Don't you think the new style coats for men are dandies, with "tucks" and a "belly band" on the back?

* * *

Now just as a little bit of sense and sentiment added to the nonsense I want to add the following letter I recently wrote as a tribute to the splendid work of a splendid Missouri teacher, Professor W. H. Lynch of the state normal school at Springfield. Professor Lynch has already reached a ripe old age but is carrying sunshine and hope to the schools and the people of southern Missouri just like he has been doing for many years. But here is the letter:

"I want to assure you that I am always glad to hear from you, as every word that ever came to me about you was a kindly word. What greater thing could one ask? If one has been busy during a long life time, spreading only sunshine in the lives of others, what happier thing can anyone do?

"The finest thing I know, or any man can know, was something about the life and death of Henry Wallace, of Wallaces' Farmer. The common good of the human race was always uppermost in his thought and action. He worked every day and when eighty useful years had passed he 'died in harness'. He did not want to outlive his usefulness for a single day. His life and death were both among the grandest I have ever known.

"It seems, from what I have seen and known of your life, no less can be said. The sunshine you have scattered, the lives you have helped, and the warm grip of the hand, with a soul too full for language, it seems to me, is all one could wish for in himself or a friend.

"If the death sentence comes to you first, I fully expect to hear that you, too, died in harness! But eighty years are all too short for a life like yours, for you do us all good. You have always handed us a good word when a good word was due. In other words, 'do it now' has been a rule of action with you, and we cannot forget,

"If with pleasure you are viewing,
Any work a man is doing,
If you like him, or you love him, tell
him now;
Don't withhold your approbation
Till the parson makes oration,
And he lies with snowy lilies o'er
his brow.

For no matter how you shout it,
He'll not really care about it.
He'll never know how many teardrops
you've shed
If you think some credit due him,
Now's the time to slip it to him,
For he cannot read his tomb stone
when he's dead.

More than fame and more than money
Is the comment kind and sunny,
The hearty, warm approval of a friend,
For it gives to life a savor,
Makes you stronger, braver,
Gives you heart and spirit to the end

If he's earned your praise bestow it,
If you like him, let him know it.
Let the words of true encouragement
be said.
Do not wait till life is over,
And he's underneath the clover,
For he cannot read his tombstone
when he's dead."

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David Dunne

A Romance of the Middle West

By BELLE KANARIS MANIATES

CHAPTER X

When the hot, close-cropped fields took on their first suggestion of autumn and a fuller note was heard in the requiem of the songbirds, when the twilights were of purple and the morning skies delicately mackereled in gray, David entered the little, red, country schoolhouse. M'ri's tutelage and his sedulous application to Jud's schoolbooks saved him from the ignominy of being classified with the younger children.

When he sat down to the ink-stained, pen-scratched desk that was to be his own, when he made compact piles of his new books and placed in the little groove in front of the inkwell his pen, pencils, and ruler, he turned to Little Teacher such a glowing face of ecstasy that she was quite inspired, and her sympathies and energies were at once enlisted in the cause of David's education.

It was the beginning of a new world for him. He studied with a concentration that made him oblivious to all that occurred about him, and he had to be reminded of calls to recitations by an individual summons. He fairly overwhelmed Little Teacher by his voracity for learning and a perserverance that vanquished all obstacles. He soon outstripped his class, and finally his young instructress was forced to bring forth her own textbooks to satisfy his avidity. He devoured them all speedily, and she then applied to the Judge for fuel from his library to feed her young furnace.

"He takes to learning as naturally as bees to blossoms," she reported.

"He must ease off," warned Barnabas. "Young hickory needs plenty of room for full growth."

"No," disagreed the Judge, "young hickory is as strong as wrought iron. He's going to have a clear, keen mind to argue law cases."

"I think not," said M'ri. "You forget another quality of young hickory. No other wood burns with such brilliancy. David is going to be an author."

"I am afraid," wrote Joe, "that Dave won't be a first-class ranchman. He must be plum locoed with dreams."

This prognostication reached David's ears.

"Without dreams," he argued to Barnabas, "one would be like the pigs."

"Wal, now, Dave, mebby pigs dream They sartain sleep a hull lot."

David laughed appreciatively.

"Dave," pursued Barnabas, "they're all figgerin' on your futur, and they are a-figgerin' wrong. Joe thinks you'll take to ranchin'. You may—fer a spell. M'ri thinks you may write books. You may do even that—fer a spell. The Jedge counts on yer takin' to the law like a duck does to water. You may, but law larnin', cow punchin', and story writin' 'll jest be steppin' stuns to what I know you air goin' ter be, and what I know is in you ter be."

"What in the world is that, Uncle Barnabas?" asked David in surprise. "A farmer?"

"Farmer, nuthin'!" scoffed Barnabas. "Yer hain't much on farmin', Dave, though I will say yer furrers is allers straight, like everythin' else you do. Yer straight yerself. No! young hickory can bend without breakin', and thar's jest one thing I want fer you to be."

"What?" persisted the boy.

Barnabas whispered something.

The blood of the young country boy went like wine through his veins; his heart leaped with a big and mighty purpose.

"Now, remember, Dave," cautioned Barnabas, "what all work and no play done to Jack. You git yer lessons perfect, and recite them, and read a leetle of an evenin'; the rest of the time I want yer to get out and cerkilate."

November with its call to quiet woods came on, and David was eager to "cerkilate." He became animated with the spirit of sport. Red-letter Saturdays were spent with Uncle Larimy, and the far-away echo of the hunter's bullet and the scudding through the woods of startled game became new, sweet music to his ears. Rifle in hand, with dog shuffling at his heels or plunging ahead in search of game, the world was his. Life was very full and happy, save for the one inevitable sprig of bitter—Jud! The big bully of a boy had learned that David was his equal physically and his superior mentally, but the fear of David and of David's good standing kept him from venturing out in the open; so from cover he sought by all the arts known to craftiness to harass the younger boy, whose patience this test tried most sorely.

One day when Little Teacher had given him a verbose definition of the word "pestiferous," David looked at her comprehendingly. "Like Jud," he murmured.

Many a time his young arms ached to give Jud another thrashing, but his mother's parting injunction restrained him.

"If only," he sighed, "Jud belonged to some one else!"

He vainly sought to find the hair line that divided his sense of gratitude and his protection of self-respect.

Winter followed, and the farm work droned. It was a comfortable, cozy time, with breakfast served in the kitchen on a table spread with a gay, red cloth. Pennyroyal baked griddle-sized cakes, delivering them one at a time direct from the stove to the consumer. The early hour of lamplight made long evenings, which were beguiled by lesson books and storybooks, by an occasional skating carnival on the river, a coasting party at Long Hill, or a "surprise" on some hospitable neighbor.

One morning he came into school with face and eyes aglow with something more than the mere delight of living. It meant mischief, pure and simple, but Little Teacher was not always discerning. She gave him a welcoming smile of sheer sympathy with his mood. She didn't smile, later, when the schoolroom was distracted by the sound of raucous laughter, feminine screams, and a fluttering of skirts as the girls scrambled to standing posture in their chairs. Astonished, she looked for the cause. The cause came her way, and the pupils had a fresh example of the miracles wrought by a mouse, for Little Teacher, usually the personification of dignity and repose, screamed lustily and scudded chairward with as much rapidity as that displayed by the scurrying mouse as it chased for the corner and disappeared through a knothole.

As soon as the noiseful glee had subsided, Little Teacher sought to recover her prided self-possession. In a voice resonant with sternness, she commanded silence, gazing wrathfully by chance at little Tim Wiggins.

"'T was David done it," he said in deprecating self-defense, imagining himself accused.

"David Dunne," demanded Little Teacher, "did you bring that mouse to school?"

"He brung it and let it out on purpose," informed Tim eagerly.

Little Teacher never encouraged talebearing, but she was so discomfited by the exposure of the ruling weakness peculiar to her sex that she decided to discipline her favorite pupil upon his acknowledgment of guilt.

"You may bring your books and sit on the platform," she ordered indignantly.

David did not in the least mind his assignment to so prominent a position, but he did mind Little Teacher's attitude toward him throughout the day. He sought to propitiate her by coming to her assistance in many little tasks, but she persistently ignored his overtures. He then ventured to seek enlightenment regarding his studies, but she coldly informed him he could remain after school to ask his questions.

David began to feel troubled, and looked out of the window for an inspiration. He found one in the form of big, brawny, Jim Block—"Teacher's Jim," as the school children all called him.

"There goes Teacher's Jim," sang David, soto voice.

The shot told. For the second time that day Little Teacher showed outward and visible signs of an inward disturbance. With a blush she turned quickly to the window and watched with expressive eyes the stalwart figure striding over the rough-frozen road.

In an instant, however, she had recalled herself to earth, and David's dancing eyes renewed her hostility toward him. Toward the end of the day she began to feel somewhat appeased by his docility and evident repentance. Her manner had perceptibly changed by the time the closing exercise began. This was the writing of words on the blackboard for the pupils to use in sentences. She pointed to the first word, "income."

"Who can make a sentence and use that word correctly?" she asked.

"Do call on Tim," whispered David. "He so loves to be the first to tell anything."

She smiled her appreciation of Tim's prominent characteristic, and looked at the youngster, who was wringing his hand in an agony of eagerness. She gave him the floor, and he jumped to his feet in triumph, yelling:

"In come a mouse!"

This was too much for David's composure, and he gave way to an infectious fit of laughter, in which the pupils joined.

Little Teacher found the allusion personal and uncomfortable. She at once assumed her former distant mien, demanding David's presence after school closed.

"You have no gratitude, David," she stated emphatically.

The boy winced, and his eyes darkened with concern, as he remembered his mother's parting injunction.

Little Teacher softened slightily.

"You are sorry, aren't you, David?" she asked gently.

He looked at her meditatively.

"No, Teacher," he aswered quietly.

She flushed angrily.

"David Dunne, you may go home and you need n't come back to school again until you tell me you are sorry."

David took his books and walked serenely from the room. He went home by the way of Jim Block's farm. "Hullo, Dave!" called Big Jim, who was in the barnyard.

"Hello, Jim! I came to tell you some good news. You said if you were only sure there was something Teacher was afraid of, you wouldn't feel so scared of her."

"Well," prompted Jim eagerly.

"I thought I'd find out for you, so I took a mouse to school and let it loose."

"Gee!"

David then related the occurrences of the morning, not omitting the look in Little Teacher's eyes when she beheld Jim from the window.

"I'll hook up this very night and go to see her," confiided Jim.

"Be sure you do, Jim. If you find your courage slipping, just remember that you owe it to me, because she won't let me come back to school unless she knows why I wasn't sorry."

"I give you my word, Dave," said Jim earnestly.

The next morning Little Teacher stopped at the Brumble farm.

"I came this way to walk to school with you and Janey," she said sweetly and significantly to David.

When they reached the road, and Janey had gone back to get her sled, Little Teacher looked up and caught the amused twinkle in David's eye. A wave of conscious red overspread her cheeks.

"Must I say I am sorry now?" he asked.

"David Dunne, there are things you understand which you never learned from books."

CHAPTER XI

Late spring brought preparations for M'ri's wedding. Rhody Crabbe's needle and fingers flew in rapturous speed, and there was likewise engaged a seamstress from Lafferton. Rhody had begged for the making of the wedding gown, and when it was finished David went to fetch it home.

"It's almost done, David, and you tell M'ri the last stitch was a loveknot. It's most a year sence you wuz here afore, a-waitin' fer her blue waist tew be finished. Remember, don't you, David?"

He remembered, and as she stitched he sat silently reviewing that year, the comforts received, the pleasures pursued, and, best of all, the many things he had learned, but the recollection that a year ago his mother had been living brought a rush of sad memories and blotted out happier thoughts.

"I wish yer ma could hev seen Mart and M'ri merried. She was orful disapp'inted when they broke off."

There was no reply. Rhody's sharp little eyes, in upward glance, spied the trickling tear; she looked quietly awyy and stitched in furious haste.

"But, my!" she continued, as if there had been no pause, "how glad she would be to know it was you as fetched it around."

David looked up, diverted and inquiring.

"Yes; I learnt it from M'ri. She told me about the flowers you give him. I thought it was jest sweet in you, David. You done good work thar."

"Miss Rhody," said David earnestly, "maybe some day I can get you a sweetheart."

"'T ain't no use, David," she sighed. "No one wants a plain critter like me."

"Lots of them don't marry for looks," argued David safely. "Besides, you look fine in your black silk, and your hair crimped. Joe thinks your picture is great. He's got it on a shelf over his fireplace at the ranch."

"Most likely some cowboy 'll see it and lose his heart," laughed Miss Rhody, "but thar, the weddin' dress is all done. You go home and quit thinkin' about gettin' me a man. I ain't ha'nted by the thought of endin' single.

Great preparations for the wedding progressed at the Brumble farm. For a week Pennyroyal whipped up eggs and sugar, and David ransacked the woods for evergreens and berries with which to decorate the big barn, where the dance after the wedding was to take place.

The old farmhouse was filled to overflowing on the night of the wedding. After the ceremony, Miss Rhody, resplendent in the black silk and waving hair loosed from the crimping pins that had confined it for two days and nights, came up to David.

"My, David, I've got the funniest all over feelin' from seein' Mart and M'ri merried! I was orful afeerd I'd cry."

"Sit down, Miss Rhody," said David, gallantly bringing her a chair.

"Didn't M'ri look perfeckly beyewtiful?" she continued, after accomplishing the pironette that prevented creases. "And Mart, he looked that proud, and solemn too. It made me think of that gal when she spoke 'Curfew shall not ring tewnight' at the schoolhouse. Every one looks fine. I hain't seen Barnabas so fussed up sence Libby Sukes' funyral. It makes him look real spry. And whoever got Larimer Sasser to perk up and put on a starched shirt!"

"I think," confided David, "that Penny got after him. She had him in a corner when he came, and she tied his necktie so tight I was afraid she would choke him."

"Look at old Miss Pankey, David. She, as rich as they make 'em, and a-wearin' that old silk! It looks as ef it hed bin hung up fer you and Jud to shoot at. Ain't she a-glarin' and a-sniffin' at me, though? Say, David, you write Joe that if M'ri did look the purtiest of any one that my dress cost more'n any one's here, and showed it, too. I hope thar'll be a lot of occasions to wear it to this summer. M'ri is a-goin' to give a reception when she gits back from her tower, and that'll be one thing to wear it at. Ain't Jud got a mean look? He's as crooked as a dog's hind leg. But, say, David, that's a fine suit you're a-wearin'. You look handsome. Thar ain't a stingy hair on Barnabas' head. He's doin' jest as good by you as he is by Jud. Don't little Janey look like an angel in white, and them lovely beads Joe

ive her? I can't think of nothin' else ut that little Eva you read me about. shouldn't wonder a bit, David, if I ome to yer and Janey's weddin' yet!" he said, as Janey came dancing up o them.

A slow flush mounted to his forehead, but Janey laughed merrily.

"I've promised Joe I'd wait for him," he said roguishly.

"She's only foolin' and so wuz he," uickly spoke Miss Rhody, seeing the urt look in David's eyes. "Barnaas," she asked, stopping him as he assed, "you air a-goin' to miss M'ri urrible. You could never manige if t wa'n't fer Penny. Won't she hev he time of her life cleanin' up after his weddin'? She'll enjoy it more'n he did gettin' ready fer it."

"I hope Penny won't go to gittin' nerried—not till Janey's growed up."

"David's a great help to you, too, Barnabas."

"Dave! I don't know how I ever ot along afore he came. He's so villin' and so honest. He's as good as old. Only fault he's got is a quick emper. He's doin' purty fair with it, hough. If only Jud—"

He stopped, with a sigh, and Rhody astened to change the subject.

"You're a-lookin' spry to-night, Barabas. I hain't seen you look so pruce in a long time."

"You look mighty tasty yerself, Rhody."

This interchange of compliments vas interrupted by the announcement f supper.

"I never set down to sech a repast," hought Miss Rhody. "I'm glad I didn't eed much today. I don't know wheth-r to take chickin' twice, or to try all hem meltin', flaky lookin' pies. And est see them layer cakes!"

After supper adjournment was made o the barn, where the fiddles were lready swinging madly. Every one aught the spirit, and even Miss Rhody inally succumbed to Barnabas' insistnce. Pennyroyal captured Uncle Larimy, and when Janey whirled away n the arms of a schoolmate, David, vho had never learned to dance stood solated. He felt lonely and depressed, nd recalled the expression in which Joe Forbes had explained life after e had acquired a stepmother. "I was lways on the edge of the fireside," e had said.

"Dave," expostulated Uncle Barnaas, as soon as he could get his breath fter the last dance, "you'd better edlicate yer heels as well as your head. t's unnateral fer a colt and a boy not o kick up their heels. You don't never want to be a looker-on at nuthn' except' from ch'ice. You'd orter e a stand-in on everything that's agoin' instead of a stand-by. The standys never git nowhar."

PART TWO

CHAPTER I

David Dunne at eighteen was graduated from the high school in Lafferon after five colorless years in which study and farm work alternated. Throughout this period he had continued to incur the rancor of Jud, whose youthful scrapes had gradually developed into brawls and carousals. The Judge periodically extricated him from serious entanglements, and Barnabas continued optimistic in his expectations of a time when Jud should "settle." On one occasion Jud sneeringly accused David of "working the old man for a share in the farm," and taunted him with the fact that he was big enough and strong enough to hustle for himself without living on charity. David started on a tramp through the woods to face the old issue and decide his fate. He had then one more year before he could finish school and carry out a long-cherished dream of college.

He was at a loss to know just where to turn at the present time for a home where he could work for his board and attend school. The Judge and M'ri had gone abroad; Joe was on his ranch; the farmers needed no additional help.

He had been walking swiftly in unison with his thoughts, and when he came out of the woods into the open he was only a mile downstream from town. Upon the river bank stood Uncle Larimy, skillfully swirling his line.

"Wanter try yer luck, Dave?"

"I have no luck just now, Uncle Larimy," replied the boy sadly.

Uncle Larimy shot him a quick, sidelong glance.

"Then move on, Dave, and chase arter it. Thar's allers luck somewhar. Jest like fishin'. You can't set in one spot and wait for luck tew come to you like old Zeke Foss does. You must keep a-castin'."

"I don't know where to cast, Uncle Larimy."

Uncle Larimy pondered. He knew that Jud was home, and he divined David's trend of thought.

"You can't stick to a plank allers, Dave, ef you wanter amount tew anything. Strike out bold, and swim without any life preservers. You might jest as well be a sleepy old cat in a corner as to go smoothsailin' through life."

"I feel that I have got to strike out and at once, Uncle Larimy, but I don't just know where to strike."

"Wal, Dave, it's what we've all got to find out fer ourselves. It's a leap in the dark like, and ef you don't land nowhere, take another leap, and keep a-goin' somewhar."

David wended his way homeward, pondering over Uncle Larimy's philosophy. When he went with Barnabas to do the milking that night he broached the subject of leaving the farm.

"I know how Jud feels about my being here, Uncle Barnabas."

"What did he say to you?" asked the old man anxiously.

"Nothing. I overheard a part of your conversation. He is right. And if I stay here, he will run away to sea. He told the fellows in Lafferton he would."

"You are going to stay, Dave."

"You won't like to think you drove your son away. If he gets into trouble, both you and I will feel we are to blame."

"Dave, I see why the Jedge hez got it all cut out fer you to be a lawyer. You've got the argyin' habit strong. But you can't argue me into what I see is wrong. This is the place fer you to be, and Jud 'll have to come outen his spell."

"Then let me go away until he does. You must give him every chance."

"Where'll you go?" asked Barnabas curiously.

"I don't know, yet," said the boy, "but I'll think out a plan to-night."

It was Jud, after all, who cut the Gordian knot, and made one of his welcome disappearances, which lasted until David was ready to start in college. His savings, that he had accumulated by field work in the summers and a very successful poultry business for six years, netted him four hundred dollars.

"One hundred dollars for each year," he thought exultantly. "That will be ample with the work I shall find to do."

Then he made known to his friends his long cherished scheme of working his way through college. The Judge laughed.

"Your four hundred dollars, David, will barely get you through the first. After that, I shall gladly pay your expenses, for as soon as you are admitted to the bar you are to come into my office, of course."

David demurred.

"I shall work my way through college," he said firmly.

He next told Barnabas of his intention and the Judge's offer which he had declined.

"I'm glad you refused, Dave. You'll only be in his office till you're ripe fer what I kin make you. I've larnt that the law is a good foundation as a sure steppin' stone tew it, so you kin hev a taste of it. But the Jedge ain't a-goin' to pay yer expenses."

"I don't mean that he shall," replied David. "I want to pay my own way."

"I'm a-goin' to send you tew college and send you right. No starvin' and garret plan fer you. I've let Joe and the Jedge do fer you as much as they are a-goin' to, but you're mine from now on. It's what I'd do fer my own son if he cared fer books, and you're as near to me ez ef you were my son."

"It's too much, Uncle Barnabas."

"And, David," he continued, unheeding the interruption, "I hope you'll really be my son some day."

A look of such exquisite happiness came into the young eyes that Barnabas put out his hand silently. In the firm hand-clasp they both understood.

"I am not going to let you help me through college, though, Uncle Barnabas. It has always been my dream to earn my own education. When you pay for anything yourself, it seems so much more your own than when it's a gift."

"Let him, Barnabas," again counseled Uncle Larimy. "Folks must feed diff'rent. Thar's the sweet-fed which must allers hev sugar, but salt 's the savor for Dave. He's the kind that flourishes best in the shade."

Janey wrote to Joe of David's plan, and there promptly came a check for one thousand dollars, which David as promptly returned.

(To be continued.)

LETTERS FROM THE BOYS AND GIRLS

Here are two more nice letters from our boy and girl friends who find interest in reading "David Dunne." This shows that they are carefully reading and studying the characters of the story which is the right thing to do. There is little benefit from reading any thing unless we do some real thinking as we read.

We hope to get other letters from our young friends who are reading the story and would also appreciate letters telling us what you are interested in most and some of the things you are trying to do on the farm. Let us have a nice lot of these letters and we may be able to soon start a "Boys' and Girls' Page in The Missouri Farmer.—The Editor.

Thelma Lives on a Big Farm

Nettleton, Mo.

To the Editor:—

I am a girl fourteen years old and I live on a four-hundred-acre farm south-east of Nettleton. I like your paper very much and I am very much interested in the story, "David Dunne." The character which interests me most is David, although I like all the other characters except Jud. I will be glad when the next paper comes.

Thelma S.

(A nicely written letter Thelma and not a correetion has been made in it. This surely speaks well for the school you attend. Not many letters are received by the editor which do not require some "fixing up" before they are printed.—Editor.)

Walter Likes the Story

Platte City, Mo.

The Missouri Farmer:

I think your story of David Dunne is the best I ever read and I think David is the best character in the story.

I do not take the paper but our landlord does and gives it to me ever once in a while. How much does it cost to take for a year?

Walter McDaniel.

(You mlst have a real good landlord Walter and maybe he thinks your father will be a better farmer if he reads The Missouri Farmer. You can get the paper, one year for fifty cents or three years for one dollar, and that is not much when you think of how much good reading you can get for so long a time. Will appreciate your name on our list.—Editor.)

CHICK CHATTER

Well fed is half raised.

Poor feeding kills many chicks.

Give no feed for two days after hatching.

Leg weakness results from lack of bone-making feed.

The first chick feed should be a dry mixture of cracked grains. Cracked corn, wheat, kafir, and pin-head oats are all good.

Feed sour milk or beef scrap to help build muscle, feathers, and bone. One per cent of bone meal should also be included in the ration.

Feed three times a day and no more. but add rolled oats to the chick feed twice a day and stale bread crumbs or corn bread will do if there are no rolled oats on hand.

Feed finely cut lettuce, onion tops, or other green stuff if the chicks cannot be allowed to run on grass, for they must have something of this kind to keep the bowels working properly

Poor growth and lack of thrift usually indicate something wrong with the feeding. A few grains of sand during the first few days after hatching help to prepare the stomach for food later, though the chick is still living on the yolk drawn into its body just before hatching.

Commercial ground feed may be fed or a coffee grinder may be used in cracking the grains. Never feed wet mixtures until the chicks are at least five weeks old. Use corn meal that has not heated in sack or bin and place a wire screen over it, in the trough to prevent it from being scratched out and wasted.—H. L. Kempster, Missouri College of Agriculture.

Blue Ointment for Lice

Blue ointment, a preparation which may be procured at any drug store, is suggested by the College of Agriculture as a very effective agent in completely ridding chickens of lice. To cheapen the preparation, as good results may be had by adding one-half part of vaseline. Apply a small amount, such as a thimbleful, of the grease just below the vent of each bird. Do not attempt to grease sitting hens with this preparation. The blue ointment contains mercury and suet. The lice eat the suet and are poisoned with the mercury. This method of treatment is more effective than dusting, inasmuch as it remains intact longer and not only kills the lice that are alive, but also catches those that hatch out later.

The agricultural department of the state university is doing a good work for boys and girls of the state in the organization of pig clubs among the boys and tomato clubs among the girls. The boy who learns how to handle one pig successfully has won the first step towards making a successful swine raiser, and the girl who wins a prize in a tomato club has learned a valuable lesson in household economy.

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RAISING SKIMMED MILK CALVES

It is a well established fact that a calf raised on skim milk is equally as good as one nursed by its mother. In localities familiar with dairying this is well understood, but in other places it is virtually unknown, and a strong prejudice exists against feeding skim milk on account of the unhealthy and undersized calves that have been raised in this way. Such calves are the victims of ignorance or carelessness. The skimmed milk calf raised properly differs little, if any, in size, quality, thrift and value from the same animal when raised by the cow. The poor results which have so often followed the feeding of skim milk have been due to faulty methods of feeding, and not because the cream which has been taken out is of so much importance to the calf.

Skim milk does not differ from whole milk except in butter fat content. The following figures give the average composition of each in parts of 100:

	Whole Milk	Skim Milk.
Water	87.1	90.5
Fat	3.9	0.1
Protein, casein, albumen	3.4	3.57
Sugar	4.75	4.95
Ash	0.75	0.78

The skim milk differs from the unskimmed milk only in the amount of fat it contains. The fat is not the most important part of the milk for the calf. The protein builds up the muscles, nerves, hair, hoofs and horns, while the ash is used for building the bones. Protein is the curd of the milk which is seen when milk sours. The fat in the milk does not go to form growth in the animal, but furnishes heat and fat on the body. A substitute for the fat can be supplied much cheaper with grains such as corn. The calf fed on skim milk is not generally quite so fat during the first six months of its life as the one nursed by the cow, but often has a better developement of bone and muscle.

The first milk of the cow after calving is called colostrum. It is important to feed this milk for a few days at first, since the calf seems to need the colostrum milk to start the organs of digestion properly. After a few days mixed milk may be given.

In the case the milk is very rich in fat it will be best, even with the young calf, to dilute it with skim milk, as rich milk is liable to cause indigestion.

There is some difference in practice regarding the time to begin handfeeding. Some do not allow the calf to nurse at all. Others prefer to let it nurse once, and some allow it to remain with the cow three or four days, or until the fever is out of the udder. When it is impossible to feed the calf often, it is best to let it remain about two days, as at first it will take food often and in small amounts. The earlier the calf is taken away from the cow the easier it will be taught t odrink milk from a bucket. If the cow's udder is in good condition it is more satisfactory to take the calf away early, but when the udder is caked it is best to leave the calf with the mother for a few days.

Don't Feed Too Much

Under natural conditions the calf takes its milk frequently and in small quantities. The calf's stomach at this time is small and an excessive amount always results in indigestion and scours. For the first two weeks five or six quarts, or about ten or twelve pounds per day, is all the largest calf should be allowed to take. A small calf, as a Jersey, does not need over eight or ten pounds per day on the start. This may be fed in two feeds per day, or better, in three, for two or three weeks. As the calf grows older somewhat more milk may be used, but at no time does it need over sixteen or eighteen pounds, or eight or nine quarts per day, but it is safe and economical to feed as high as twenty pounds to a large calf if skim milk is plentiful.

At the end of two weeks the strong and vigorous calf can be changed to skim milk. This is done gradually and not by abrupt change. About a week should be taken to make the complete change, replacing a pound or two of whole milk with an equal quantity of skim milk each day until the change is complete. The milk may then be increased to fourteen to fifteen pounds per day.

Another very important precaution that must be taken is to have the milk warm and sweet when fed. Nature furnishes the milk to the calf in this condition, and we must carefully imitate her. Nothing will more quickly upset the digestion of the calf than feeding warm milk at one feed and cold at another. For the first few weeks the calf is especially sensitive to the temperature of its feed. After the calf is three or four months old it may take cooler milk, but in this case the milk should be cool all th time. The best results are obtained with warm milk, however, at all ages. The temperature of the milk when it comes from the cow is about 100 degrees F. If separated immediately it can be fed without warming and will be above ninety degrees. However, in the cooler season, say from October to April, it is necessary to warm it artificially.

Keep the Pails Clean

Old or stale milk often causes indigestion or scours. A calf is better off to miss a feed than to have a feed of sour milk. Pails and utensils must be kept clean. A good rule is to keep the calf pails as clean as the milk pails. The hand separator on the farm makes it possible to get the milk to the calf fresh, warm and sweet. Calves can be raised on skim milk where cream is raised by gravity, but more difficulties are experienced.

The calf which is to be raised on skim milk should be taught to eat grain early. When they have access to it, many of them will begin eating at two weeks of age or three at the latest. The grain should be placed in a box where they can easily get to it, and they can be encouraged at first by placing a little in their mouths after they have consumed their milk. Grain can best be fed dry after the milk is fed. In no case should it be fed in the milk, as in that case it will be gulped down without chewing, which is bad for the digestion.

After a calf begins to eat considerable, grain should not be kept before it. No more should be given than will be eaten up twice each day, which will not be over one-half pound daily for the first two months.

After this they may have more, but it will not be necessary to feed more than one pound per day up to six months unless it is desired to push them rapidly. If grain is allowed to remain in the trough, it often becomes damp and decayed and may cause sickness, just as a dirty pail will do.

Calves will begin to nibble hay almost as soon as they will eat grain. For young calves, timothy-mixed hay is well adapted, as clovers and alfalfa are laxative and so palatable the animal often overeats, and this helps produce scours.

It is a mistake to believe that a calf does not require water while still receiving milk. An abundance of clean water should be given and salt after the animal is old enough to eat grain and hay.

When the milk is sold for market milk or to cheese factory, or a milk condensery, the problem is how to raise calves without the feed costing more than the value of the animal raised. At the same time it is a most serious mistake under these circumstances to depend upon buying co rather than raising calves. The only practical way to improve the production of the herd is by raising heifer calves from the best cows.

C. H. Eckles.

SWEET CREAM FOR BUTTER-MAKING

In general, the souring of cream is an indication of its age and condition under which it has been kept. Very sour cream then naturally indicates that the cream is very old, or has been kept at too high a temperature. In the creamery it makes little difference whether the cream is very sour from old age or has been kept at too high a temperature, for in neither case can the cream be made into first class butter. Therefore, the market value of cream does not depend on the per cent of fat alone, but on the sourness or perecentage of acid, as well.

Sour cream generally results from the lack of immediate or thorough cooling after separation. Investigation shows that sweet cream of a good quality can be produced on the average farm with but little extra labor and expense. In fact, many dairymen are selling only sweet cream and are not delivering oftener than two or three times a week during the summer months. These farmers are not delivering sweet cream simply to comply with the wishes of the creameryman; they find it more profitable and rather a simple matter to keep it sweet. In some parts of the state, farmers are advantageously making use of natural ice stored during the winter months for cooling the cream, while others are resorting to the use of running water, a tank, a cool spring or well, or a cool, well ventilated cellar which greatly assist in maintaining a fairly low temperature. Special cabinets for cooling the cream with ice or running water can be constructed at little cost. Such a cabinet will aid in cooling the cream more rapidly as well as in saving ice. If a limited amount of ice or water under pressure is available the corrugated surface coolers can be advantageously used. One-half ton of ice per cow is probably sufficient for cooling the cream during the summer.

The farmers should bear in mind that the man who controls the quality and price of creamery butter is the one who produces the cream. The producer is responsible to a large degree for the low prices paid for cream and received for butter manufactured therefrom. Wholesale butter merchants are continually looking for high-grade butter and are willing to pay a special premium for it, but the poorer grades of butter roughly estimated at about 80 per cent, soon glut and dull the market because of the limited demand. In order to force this kind of butter on the market the price is dropped far below that of the higher grades of butter, and it is this price that regulates the price paid for the cream from which that butter wa made.

Sweet cream is worth from two to four cents more than sour cream to the creamery purchasing it for butter making, and the dairymen should urge rather than discourage the grading of cream and the paying for same according to quality. The cream grading system of paying according to quality must eventually be adopted by all creameries as it is generally admitted to be the only method whereby the quality of cream and butter ca be improved.

O. W. Holmes,
Dairy Department, Idaho.

SOME PHASES IN MANAGEMENT IN BREEDING PURE BRED SHEEP

The breeding flock may be compared with a modern manufacturing plant. The efficiency of the plant depends largely upon its machinery, its material and its organization. So with the pure bred flock, its efficiency depends upon the breeding animals, the machinery, the available feeds and pasture, the materials, and the shepherd, the directing force of the manufacturing plant, the flock.

It has been assumed that a breed has been selected which is adapted to general farm conditions. Also, that fifty pure bred ewes of this breed, possessing health, strength, scale and uniformity of breed type, are headed by a masculine, robust, thickly fleshed, densely covered, blocky, and low set, ram. Further, feeds, pasture and equipment are available.

The breeder must have a definite plan of management. Beginning with the breeding flock the first days of August, an attempt is here made to touch briefly, the main phases of management in breeding a pure bred flock of sheep.

The breeding ewes have just been separated from their lambs. The shepherd takes care that when the lambs are weaned from the ewes no caked udders result, either by millking the ewes by hand or allowing the lambs to suckle them at one or two day intervals until thoroughly "dried up." It is best not to feed the breeding ewes grain or any feed that would stimulate milk flow for a week following lambing. At this time the skilled and experienced shepherd exercises his judgment and foresight. He proceeds to "cull" his breeding flock, ewes that have raised inferior lambs those infected with parasites, others that are poor milkers or bad dispositioned or are for some reason undesirable for breeding purposes, are eliminated from the flock. Remember, he does not always "cull out" the ewe that is in low condition of flesh, because the good mother, the deep milker or the "twin getter" is invariably in low flesh at this time. Good mothers give a large supply of milk and lose weight and vitality while suckling their lambs. The "culls" are separated and fattened for market.

The ewes are now prepared to be placed in fit condition for breeding purposes. To be fit they must be vigorous, healthy, and carrying a "flushed" condition. By a "flushed" condition is meant a physical condition and thrift, favorable for breeding. This is accomplished by judicious feeding combined with exercise and proper care. The ewes may be placed on a luxuriant pasture, either of permanent grass or a soiling crop. If such pasture is not available a grain mixture fed in amounts of ¼ to ½ pounds per ewe daily, having a nutritive ratio of 1 to 6, produces satisfactory results. Usually it takes 6 to 8 weeks after weaning to get breeding ewes into the best condition for breeding purposes. Ewes that are in favorable physical condition at the breeding season produce a higher percentage of twins than those that are in low thrift. This is explained by the supposed correlation that exists between optimum physical condition and the activity of the ovaries secreting the female germ cells, the ova.

The ram likewise must be in a robust condition of health and vitality, obtained through exercise, proper feeding and care. It is considered safer to practice a system known as "Hand coupling" in mating pure bred sheep when the number of ewes to be bred by one ram exceed twenty-five in number. By this method the energy of the ram is saved in a large degree. That is, allow the ram to be with the breeding flock only in the cool of the morning or evening for a sufficient length of time so that he may serve any ewes that be in heat. Do not allow, however, the ram to serve more than three ewes in one day. Lamp black should be placed on the brisket of the ram so that he marks each ewe that is bred. The shepherd should keep a record of the service for each ewe. The gestation period in sheep varies from 148 to 152 days. Sheep normally breed in the fall of the year when cool nights occur. If ewes are bred during the last two weeks in September and the month of October lambs will be weaned in February and March.

In breeding the ram is allowed to serve the ewe at least once after the first service provided she does not become pregnant. The periods of heat occur at intervals of 16 to 21 days in sheep. Six weeks is therefore considered a desirable length of time for the breeding season.

This method of procedure has been followed by many successful sheep breeders. The exception to this method would be in the case where winter lambs are raised. For this purpose breeds of sheep that mate during late spring and early summer must be used, (they include such breeds as the Dorset, Tunis, and the smooth bodied Merino.) these lambs are weaned from the first of September through to the middle of December.

In conclusion, successful breeding of pure bred sheep depends largely upon the man who mates his breeding animals. The breeding animals under the breeder's direction must be placed in a condition fit for mating.—B. O. Severson, Pennsylvania State College.

Handling Alfalfa for Horses

To make the best horse hay, alfalfa should be allowed to stand until well in bloom, according to the College of Agriculture.

In curing horse hay it is well to keep in mind that the dust which is present in so much alfalfa is largely a result of the presence of foreign moisture such as rain or dew at making time, rather than the presence of a little moisture within the plant.

If alfalfa hay is stored in the barn for horses, it is well, while mowing it away, to sprinkle it generously with a mixture of salt and air-slaked lime, equal parts.

A "RED DANGER SIGNAL"

This danger signal is not a flag but weed—and a bad one! It is easily ecognized at this time, and is com- only best known as "Red Topped orrel", or "Red Sorrel".

It starts in small spots and spreads y seed and root-stalks, and the spot rows rapidly larger year by year un- l it will almost completely destroy eadows and pastures.

The tops or seed and blossom parts ange from pale red to bright red. his makes the pest easily recogniz- ble from May 15 to early June. tems are slender, and from six inch- s to a foot tall commonly, and the aves have a sort of lobe at each de toward the base. The roots are ot large and run out under the sur- ace, and new plants are sent up from e roots at short intervals. It is one f the hardest of all weeds to g d of.

If work is begun, before it spreads o much, it may be smothered out by overing heavily with manure or traw. Heavy oiling or salting will ill it, but after it once spreads over field there is no practical way to et rid of it, that is known at this me.

Since it likes sour soil best, liming nd manuring heavily will help to rowd it out with plants that like lime.

The juice of the plant is sour and s said to be poisonous to some kinds f stock when they may accidentally at it.

BE WISE TO YOUR OWN INTER- ESTS AND STAMP IT OUT, as it has ot yet much of a start in Missouri, ut is certainly coming fast.

The writer has seen, in other states, housands of acres of meadows, hill astures, and other lands, especially here the soil is sandy, overrun with his pest.

The seed is small and shaped like buckwheat grain. They are com- nonly found in a rough hull of a red- lish brown color. Seed are most ommonly found in the seed of alsike lover, and in pasture mixtures. The writer has not examined a "pasture mixture" put out by a seed house, that lid not contain seed of red top sorrel.

A farmer should never buy a "pas- ure mixture" unless he gets a gov- ernment test, which he can get by sending as much as a tablespoonful of seed to the Seed Testing Laboratory, t Columbia, Mo., and at no cost ex- cept the postage for sending it. Ev- ery farmer in Missouri has this pro- ection, and he should most certainly make use of it. If the farmer sows mpure seed he will grow the same s he sows. The dealer cannot always sell better seeds than the farmers pro- duce. Two classes, then, ought to know something about seeds, as an obligation rests on each!

Sam Jordan.

A TWENTY YEAR BREEDING EXPERIMENT

An interesting departure from the usual scope of experiments with live- stock has been made by the Kansas Agricultural Experiment Station at Manhattan in cooperation with the Animal Husbandry Division, Bureau of Animal Industry, Washington, D. C. A breeding experiment has been start- ed with beef breeding cows that is to run for twenty years, the purpose be- ng to ascertain whether or not there s a specific type of cow which can be relied upon to produce beef calves of prize-winning merit.

Twenty Shorthorn cows have been put into this experiment and were selected by Professor W. F. Ward, Senior Animal Husbandman in Beef Cattle Investigations, of the Depart- ment of Agriculture, from the herds of the best Shorthorn breeders in the country. They were not selected up- on the basis of their merit and breed- ng but because each had produced an outstanding calf.

Shorthorns were selected for this experiment as the beef breed most widely distributed throughout the United States and because of the nat- ural tendency of the Shorthorn cow to produce both beef and milk in profit- able quantities.

An inspection of this group of fe- males furnishes the evidence that Pro- fessor Cochel and Ward had a clear and definite conception of the purpose n hand. They adhere to the type generally accepted by experienced breeders as the most reliable produc- ing type. They are of breedy appear- ance, distinctly feminine in character, of smooth conformation, level lines, carrying an even distribution of flesh and also displaying pronounced milk- ing qualities. The shoulders are well laid, hips well covered and there is ample breed type. It is remarkable that this number of females could be obtained from nearly as many herds in various states representing differ- ent strains of breeding so nearly of one type. This demonstrates at the outset that Shorthorn breeders are working definitely toward a standard.

It is the purpose to mate with these females, Scotch bulls bred along show yard lines. The first sire to be used is Matchless Dale, the present stock bull in the College herd, a massive son of the noted sire of show winners, Avondale. Matchless Dale has made a record as a sire of show steers, be- ing accredited with having sired more champion Shorthorn steers than any bull, living or dead.

The experiment is now under way. The first crop of calves will be dropp- ed in September and it is needless to say that more than ordinray interest will center in this first group of youngsters.

The purpose is to follow a process of elimination, discarding those cows that do not measure up to the required standard as producers and substitut- ing others bred within this group. Whether the specific purpose for which this experiment is being con- ducted will be fulfilled or not, there is certain to be a vast amount of light shed upon the problems that confront cattle breeders who will attentiv follow the progress of the undertak- ing. The result should have a far- reaching influence in the important field of cattle improvement.

Frank D. Tomson.

THE HESSIAN FLY IN 1916

"Lock the Stable After the Horse is Stolen". This article is not about horses—it deals with a different "ani- mal", a very serious pest, a pest caus- ing enormous losses, yet one that could be very readily and easily con- trolled if it were better understood. It is the Hessian fly that is now going to be "talked about".

The "Key to combat" any pest or enemy is to know its habits of "thought and action".

Key Number One.—It consumes food in grub or worm stage only.

Key Number Two.—Its food, so f as greatly concerns folks in Missouri, is the juice of the wheat plant.

Key Number Three. — Since when the wheat is ripe the plant has no juice, there is no food for the pest, hence it is in the resting or "dromant" stage, on the stubble where it remains from two to six weeks from the time of harvesting the wheat, depending somewhat on weather conditions.

Since the juice of the wheat plant is the fly's food, the transformation from the resting stage is not likely, naturally, to occur till the volunteer grain or early sown grain has come up. Knowing that all flies are in the resting or dormant stage on the stub- ble from two to six weeks after the wheat is harvested ought to be suffi- cient information for us to come to some conclusion as to a means of combat. Burning stubble will have great effect, depending on how com- pletely this can be done, but on an average many are likely to escape. Perhaps the best way would be to first disk the ground well, then immediate- ly plow deep, turning stubble under completely as possible, then harrow- ing the ground well and rolling it also, unless the seed bed has already been made fine. If this work is well done and in time great destruction may re- sult. It should be noted that all in a community must work together, as only a few following this plan will not amount too much.

Sowing other crops such as timothy and clover in the wehat would have to be omitted until the fight was over.

Farm Clubs should take action, and attempt to get every farmer in the community to take hold and help.

Where wheat seems to be straw-fall- ing or lodging badly it is most com- monly caused by fly. Examine plant by pulling down the outside blades and the little white grubs or brown flax-seed can be found, usually at first or second joint above ground. A field was examined the day this is written, and the writer found a field that at this time it would seem impossible for it to make a crop. Nearly every plant examined had fly, and twenty-four grubs were found on a single plant.

Find out early whether or not your community is infested—and if so, why not get busy. Cooperation is the only way that any means of Hessian fly destruction can be attained. Each wheat grower must do his part. Will you do your share?

Why not make this one of the lead- ing subjects for discussion in farmers' club meetings, from now till harvest time? Write the Missouri State Board of Agriculture at Columbia for free bulletin on "Some Insect Pests and Their Enemies."

Sam Jordan.

HOW MUCH PROFIT

is there in a pig? That depends on the man, on the feed, and on the pig. But how do you know when the combination is right to produce best results? **Keep a Farm Account Book and let it be**

THE PRACTICAL FARM ACCOUNT AND RECORD BOOK

Complete Account of Hogs ..... , 19 14

Date	Person, Firm, or Account	Item, Description, Price	Cash Received	Cash Paid	Labor Hours Man	Labor Hours Horse	Labor Hours Tractor	Amount Charged	Amount Credited
Nov. 1	Corn Account	100 bus. corn @ 60 ¢						60 00	
Dec. 10	"	80 bus. corn @ 64 ¢						51 20	

Charge the pigs with the corn they eat and then—

THE PRACTICAL FARM ACCOUNT AND RECORD BOOK is a splendid 176 page book, well bound and ruled on extra quality ledger paper. It is designed to contain the accounts of the average farm for five years. This is especially desirable for the purpose of comparison. The book also contains forms for crop, stock, employment, and insurance records.

THE PRACTICAL FARM ACCOUNT AND RECORD BOOK

Complete Account of Corn Crop , 19 14

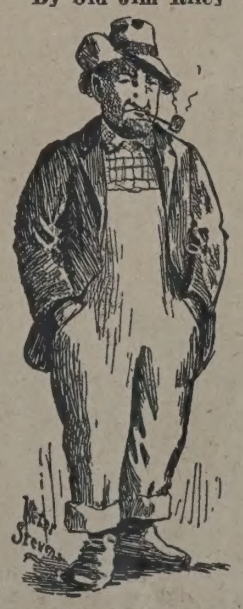
Date	Person, Firm, or Account	Item, Description, Price	Cash Received	Cash Paid	Labor Hours Man	Labor Hours Horse	Labor Hours Tractor	Amount Charged	Amount Credited
Nov. 1	Hog Account	100 bus. corn @ 60¢							60 00
Dec. 10	" "	80 bus. corn @ 64¢							51 20

Give the corn crop credit and that transaction is closed. Remember that in farm bookkeeping perhaps the greatest number of transactions will be between accounts on your farm.

We will give **The Missouri Farmer** for 3 years, either renewal or new subscription and a copy of **The Practical Farm Account and Record Book** for $2.25.

The Missouri Farmer, Columbia, Mo.

By Old Jim Riley



For th' last two or three years we'v bin sellin' th' Mexicans guns and car- tridges by th' car load—and now they'r turnin' around and shootin' us with em. That may be statesmanship but it ain't horse sense. But for that we could lick em with a bunch of rocks. Here's a good recipe for cut worms. Catch th' cut worm, put him on a log —and then when he ain't lookin', bust him over th' head with an axe. This may not be scientific, but its sure.

WORLD'S RECORD "FARMER"

Bob Simpson is only a modest, un- assuming, Missouri farmer boy, but while he was learning something about better farming in the Missouri College of Agriculture he had to have plenty of exercise and fresh air to which he had always been accustomed, so he took it under the direction of Coach H. F. Schulte, and almost before any- one knew what was happening, he was able to run the 120-yard high hurdles faster than anyone else on earth had ever run them before. The best of it is that his honors haven't spoiled him at all, and Coach Schulte says he is just the same modest, sensible boy that he has always been and that his influence among the other students is much greater than if he had become conceited when he made such a good record and found himself asked to pose for the moving pictures that are now showing him all over the country.

But Simpson isn't the only "farm- er", as the College of Agriculture stu- dents call themselves, who has done good work for the University in the track, football, cross country, basket- ball, and baseball teams. The cap- tains of all five of these teams last year were "farmers" and more than two-thirds of the basketball, more than half of the track, more than one-third of the football, and more than a quar- ter of the baseball men were from the College of Agriculture.

Those who reach a certain standard in athletics are given the privilege of wearing sweaters, bearing the "M" of the University, and Coach Schulte says that while it is too early to be sure of all the men who will get "M's" this year in track work, there will probably be twenty of whom eleven are "farmers".

As the College of Agriculture is only one of nine colleges and schools in the University at Columbia, it is easy to see that the "farmers" are doing their share of the work and getting their share of the honors.

We are informed that the State Twine Plant at Jefferson City has left several thousand pounds of binding twine which farmers can buy while the supply lasts for 9 cents a pound in 1000-pound lots or 9½ cents in smaller lots. Don't wait if you will need twine but see your neighbors and send your order right away.

Live Stock Notes

R. P. ROYCE, Fieldman

Unsell's Durocs

Dr. J. B. Unsell the popular Duroc breeder of Louisiana, Mo., was in the office last week and reports his Cloverleaf herd to be in great shape. Some of the boys started to guy the Doctor but when he pulled a lot of pictures on them there eyes began to open. Judging from the pictures Dr. Unsell will have out a remarkable lot of Durocs at the fall shows.

When this herd was established the owner spared no expense to get together as high-class lot of brood sows as possible and many of the most famous show and producing sows are now in his herd. At the head of the herd is the mamoth young boar, World's Fair Col.. It will be recalled that this boar was developed by Harry Browning who placed to show him at San Francisco, and was sold to Dr. Unsell late last fall at a long price. World's Fair Col. has every indication of making one of the very largest boars the herd has produced and the way his pigs are showing up it looks as though he would be a sire of first rank. The young stuff being prepared for sale and show, are remarkable for their extreme size and bone. We will have more to say concerning this herd in subsequent issues.

Moss & Son's Holstein's

D. D. Moss & Son, Columbia, Mo., find it necessary to reduce their herd of Holsteins and are offering eight extra good young cows for sale. The cows are all high grade and were sired by a son of the famous cow Missouri Chief Josephine and sell bred to Campus Josephine Lad, a son of the great producing cow Pontiac Gerben De Kol. This breeding combines the blood of two of the greatest cows ever developed in the herd owned by the College of Agriculture.

The Moss herd is a working herd and a profitable one and the only reason for offering the above stock is to keep the herd within limits. Mr. Moss has sold a great many Holsteins to our readers and we have never heard of a displeased purchaser. Each cow is sold on a guarantee to be free from tuberculosis and contagious abortion. This is a splendid opportunity for our readers to purchase high grade, tested, cows, at very reasonable prices. When writing kindly mention this paper.

Red Polled Bulls and Heifers

M. L. Snyder, Polo, Mo., now offers a number of good useful Red Polled bulls and heifers for sale at very moderate prices. Mr. Snyder has developed his herd along lines that will suit the average farmer. He has tried to bring about a combination of beef and milk and the young things he now offers are bound to develope into useful breeding animals. If interested, write Mr. Snyder for further information.

Brockman's Durocs

A. C. Brockman, Centralia, Mo., the veteran breeder of Durocs, writes that his spring crop of pigs is by for the best he has ever raised. That is saying a whole lot, because Mr. Brockman has a herd that stands right up in the front rank.

For years he has been carefully culling his herd with the sole idea of establishing a herd combining extreme quality and size. Few breeders can show more size and quality and prolificacy than Mr. Brockman, and his friends have openly charged him with being entirely too modest in telling the public about his Durocs. There is something to this charge, for we know breeders who make strong claims, but when it comes down to "brass tacks" can't show the stuff that Mr. Brockman has. It will be well for prospective buyers to keep this herd in mind and investigate it before buying Durocs this fall. You are assured of good quality and fair treatment.

Shorthorn Bull For Sale

W. H. Hamilton, Guthrie, Mo., is offering a good value in the Shorthorn bull he advertises elsewhere in this paper. Mr. Hamilton writes that the bull is a well grown roan, from a splendid family and that he is putting the price down in order to move him as soon as possible. If any of our readers are interested we would suggest that they get into communication with Mr. Hamilton at once.

Frost's O. I. C.'s In Big Demand

S. D. & B. H. Frost write that they are having a heavy inquiry for their spring crop of O. I. C.'s and that everything points to an early closing out of the lot. The Frost herd has been before the public so long and is so well known that each year their old customers and many new ones tax the capacity of the herd.

Messrs. Frost can fit out our readers with single pigs or pairs or more of unrelated stock. It might be well to add that every litter offered is bred deep in the blood of champion sires and dams. The prices are very reasonable and the quality very high. Mention the paper when you write.

$12,000 Worth of Holtsteins Sold

S. W. Cooke & Son, Maysville, Mo., who advertise Holtsteins in this paper write that during the year ending April 30, the total sales from their herd amounted to more than $12,000.00. This is a mighty fine showing from a mighty fine herd,—over $1000 worth of breeding stock sold each month and the herd not impaired in efficiency. There is just as great an opportunity for a lot of other Missouri farmers to do as well—providing they start right. Messrs. Cooke will be glad to advise with prospective purchasers in regard to the stock they now have for sale. Mention this paper when you write.

Holstein Bull Calves

B. C. Hemphill, proprietor of the Roadside Dairy, Dexter, Iowa, is advertising a few choice Holstein bull calves for sale. Our readers who are in the market should lose no time writing Mr. Hemphill. Kindly mention this paper.

Turpin's Angus Offering

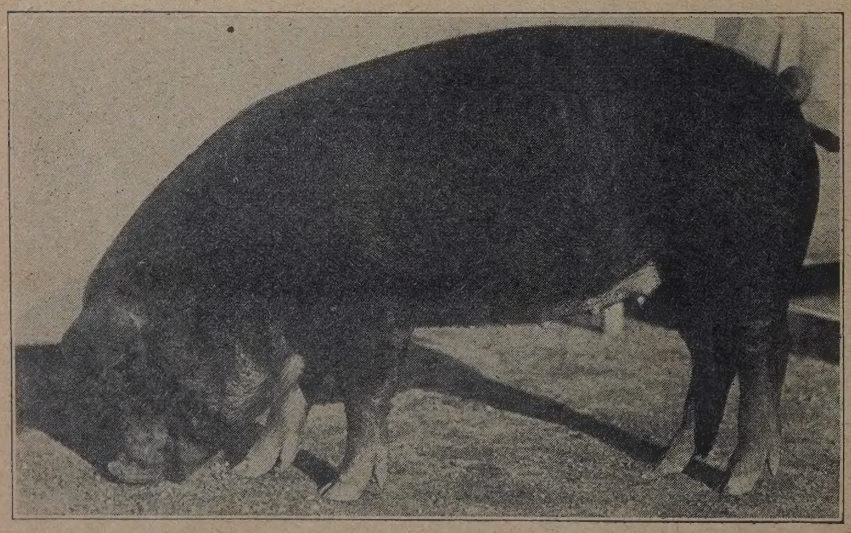
Robt. D. Turpin, Carrollton, Mo., is advertising seven extra good Angus bulls. These youngsters run in age from 12 to 19 months and are well bred. The prices are very reasonable.

Lawrence's Angus

V. E. Lawrence, Salisbury, Mo., is now offering a few good young Angus bulls and heifers for sale at prices that will make money for the purchaser.

Jersey Cattle

Wm. H. Bruns and Sons, Concordia, Mo., are making especially attractive offers on a number of young Jersey bulls old enough for service. The bulls are sired by The Owl's Champion a very highly bred Jersey sire.



A splendid young sow in the Adenhill herd of Durocs, owned by R. L. Hill

Eight Choice High Grade Holstein Cows

To reduce my herd I offer eight high grade, high producing Holstein cows. All are sired by a son of Missouri Chief Josephine and are bred to Campus Josephine Lad, a son of Pontiac Gerben De Kol. Guaranteed free from tuberculosis and contagious abortion. Price reasonable.

D. D. MOSS & SON, - - - COLUMBIA, MO.

POLAND CHINAS

Smooth Columbus
THE BOAR THAT PUT MISSOURI ON THE MAP. HEADS OUR HERD

SMOOTH COLUMBUS BLOOD has held the record in Missouri for two years—it will do it again next year. Fall pigs, either sex, by this great boar, now offered for sale.

BENNETT BROS. R. 5, LEE'S SUMMIT, MO.

Spring Boars by the Grand Champion

A desirable lot of early spring boars by The Giant, acknowledged to be one of the greatest young Poland China boars of the breed. Prices within reach of all.

WILL G. LOCKRIDGE - - - - - - - Fayette, Mo.

Poland Chinas & Shorthorns

Bred sows and gilts. The real big kind with bone and quality. A few serviceable boars. Several extra good young bulls and heifers. Satisfaction guaranteed.

H. S. Williamson, Route 6 Centralia, Mo.

BAKER'S REAL BIG-TYPE POLANDS

We have a number of extra good spring boars sired by Big Look that we are offering worth the money. Need the room and must sell.

W. A. BAKER & SONS, BUTLER, MO.

Linhardt's Polands

I have a choice lot of extra good fall gilts sired by outstanding boars. Customers in 26 states. GIANT MAMMOTH 68375 and CHIEF BIG BONE 75856 in service. Priced for farm trade.

H. O. LINHARDT, LOHMAN, MO.

DOOLEY'S SPOTTED POLANDS

Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pair and trios no relation. Also registry furnished. Send check with first letter.

EDGAR DOOLEY, - Ettervile, Mo.

DUROC JERSEYS

THE BEST DUROC BLOOD--COL. WONDER

At recent Missouri State Fair my herd won 35 ribbons—3 championships, 15 firsts. Col. Wonder sires my champions—he will sire them for you. Choice bred gilts. Nothing but the best sent on mail orders.

CHAS. L. TAYLOR - - - - - - Olean, Mo.

Durocs With Size and Bone

I am offering a choice lot of early spring pigs with unusual size, bone and quality. Bred right and priced right. Visitors welcome.

A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

BIG EARLY DUROC SPRING PIGS

Pigs with size, lots of bone and quality sired by our big prize-winning boars, Col. Wonder II., Merry Chief, and Rexall Col., and out of big prolific sows. None from litters of less than 11. Spring pigs are cheapest to buy, costs practically nothing to ship them, and they can be grown cheaply.

R. L. (BOB) HILL ADENHILL FARM, - - COLUMBIA, MO.

100 EARLY O. I. C. SPRING PIGS

10 GOOD FALL GILTS

Guarantee and pedigree accompanies each sale. This herd has been exhibited at World's Fairs and State Fairs for years, so that most of our pigs have prize winners on both sides of their pedigrees. We can furnish pairs and trios, no kin. We are making bargain prices on early orders. Write us today. Address,

S. D. & B. H. FROST,
Box M. Kingston, Mo.

DUROC HERD BOAR!!

We offer for sale our herd boar sired by Weller's Example and out of a Whiskey & Faith sow. Also a few September boars. Booking orders for spring pigs.

J. C. Garrard & Son, McBaine, Mo.

Hazelwood Durocs

Seventy choice spring boars and gilts sired by HAZELWOOD CHIEF, by CRIMSON COL., and out of OHIO CHIEF bred sows. Get our prices.

E. P. POWELL & SON, Maryville, Mo.

HAMPSHIRES

BROOKVIEW HAMPSHIRES

Herd headed by GEN. TIPTON and SIR BROOKVIEW, both grand champions. Spring boars and gilts of choice breeding and individuality. Prices reasonable.

ISOM J. MARTIN, - Kahoka, Mo.

RED POLLED

RED POLLED CATTLE

Herd established 16 Years
Young stock for sale. Young bulls sired by LOGAN 13500; Calves sired by KNOCKER 28791. Bred for milk and beef. Also offer spotted Poland China hogs and Rieds Yellow Dent seed corn.

M. L. SNYDER. - - POLO, MO.

AUCTIONEERS

P. M. GROSS
Live Stock Auctioneer
"Twelve Years on the Block"
Pure bred Sales a Specialty
Sales Made Anywhere
MACON, - MISSOURI

Classified Advertising

BARRED PLYMOUTH ROCK EGGS—From A. No. 1 stock. The large, deep barred, yellow-legged kind. Price $5.00 per 100. T. J. Dunn, R-2, Moberly, Mo. t.f.

EGGS—White Rocks, $1 per 15; $5 per 100; Pekin duck, $1.50 per 12; $4 per 50; White Holland, or Emden geese, write for prices. Grace Garnett, Marion, Mo.

INDIAN RUNNER DUCKS—White and Fawn Eggs, 15 for $1.00. Ruth Marksbury, Marshall Mo. 3-15-5t

SINGLE COMB WHITE LEGHORNS—Eggs from heavy laying stock, $2.50 per 100. Carefully packed. Minnie Addy, Rt. No. 2., Pattonsburg, Mo.

WANTED QUICK.—Name and address of reliable single man having enough ability to manage large farm or ranch successfully. Rddress A. W. Ward, Box 366, Valley, Nebr.

FOR SALE.—Reg. Jersey bull, old enough for service. Cheap. Geo. Aid, Gallatin, Mo. 6-1-2t

WANTED—To hear from owner of good farm for sale. Send description and cash price. R. G. List, Minneapolis, Minn.

Terre Haute VETERINARY COLLEGE
U.S. ACCREDITED SCHOOL
SEND FOR ILLUSTRATED CATALOG-TERRE HAUTE IND.

JERSEY CATTLE

JERSEY CATTLE

Bulls ready for service. They are sired by the Owl's Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

JERSEY BULL CALVES

I have three extra fine ones for sale. Sired by Stockwells Champion. He has won 29 first and Champion ribbons at the leading State Fairs. Calves are out of very high producing cows. For breeding, etc., writ.

J. B. SMITH Platte City, Mo.

SUNSET CORRECT TYPE JERSEYS

To keep our herd within 100 head we will offer at private sale fifty Jerseys, consisting of cows, bred and open heifers, young bulls, heifer and bull calves. Can fit out small herds for beginners. 125 head to select from. The famous Blue Belle-Golden Rosebays. Send for special circular before buying elsewhere. Bargains. Mention your wants.

THE ENNIS STOCK & DAIRY FARM, Horine, Mo. (Just south of St. Louis.)

HOLSTEIN CATTLE

Dutchland Sir Hengerveld Rag Apple 99771

A few choice bull valves out of heay producing dams sired by the above famous bull for sale.

BLACK AND WHITE FARM
Baden Station, Mo.
Tel. Colfax 1812 R. R. 30

IN MISSOURI

Eight Bulls, 2 to 8 months, $100 to $175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.

S. W. COOKE & SON, MAYSVILLE, MO.

HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndye Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

M. E. MOORE & CO., Cameron, Mo.

Holstein Bull Calves

A few choice Holstein bull calves for sale. Well bred and nicely marked.

ROADSIDE DAIRY,
B. C. Hemphill, Dexter, Iowa

ANGUS CATTLE

Angus Bargains

Registered bulls and heifers. The market topping kind. Leading families represented. Priced worth the money and satisfaction guaranteed.

Also Poland China Hogs.

J. M. JONES, R. F. D. 3, EVERTON, MO.

ANGUS CATTLE

Herd founded 1904

Young stock sired by Dean's Eric 139686. Also offer splendid herd bull for sale. Every one the right kind and priced to sell.

V. E. LAWRENCE, SALISBURY, MO.

Aberdeen-Angus

I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.

J. D. Blackwell - Fayette, Mo.

Aberdeen-Angus Cattle

I am offering 7 well bred bulls from 12 to 19 months old. Good individuals, and priced to sell. Also a few heifers. Get my prices.

ROBT. D. TURPIN, Carrollton, Mo.

Good Roan Shorthorn Bull For Sale

Year old and of good family.

W. H. HAMILTON,
R. F. D. No. 1. GUTHRIE, MO.

MISSOURI NEEDS A STALLION LAW

It would seem rather a paradox that Missouri, one of the leading states in horse production, should be without the protection of a stallion registration law. Several efforts have been made to have such a law enacted by the state legislature, but each time the measure has been defeated. These past defeats can be traced to two or three sources, first, the owner of the grade stallion; the owner of the unfit stallion; the crooked stallion owner, the legislator who does not understand the need of such a law and who is therefore indifferent, and the legislator who is afraid that the folks back home do not want it.

There have been any number of arguments advanced against such a law —but as yet not one argument has been advanced that "would hold water" or that would do the opposition credit.

Perhaps most of the opposition comes from those who do not understand the purpose or the operation of such laws. Briefly there are two laws in operation in the twenty or more states that have registry laws. One requires that every stallion or jack standing for public service shall be advertised for just what he is. In other words if a stallion is a pure bred he can be so advertised, but if he is a grade or scrub he must not sail under the false colors of "Pure-bred." The other type of law embodies the above points but goes a step further and requires a certificate of soundness issued by a competent veterinairan, said certificate to be incorporated in the bill or advertisement announcing the service of the stallion or jack. Some states forbid a stallion or jack to stand for public service that has certain diseases or unsoundnesses.

Now Mr. Farmer, can you see any objection to such a law? Whenever you buy any article you want to know what you are paying for, do you not? Would you willingly buy an article that was not right? You are in favor of the law requiring the merchant to truthfully advertise his wares, are you not? Then why should you be indifferent about requiring the stallion owner to be honest with you? Why should you not exercise as much care in breeding your mare as in other business transactions? You breed your mare for the purpose of raising a colt, you want a good colt, you should want to know before-hand what sort of a stallion you are breeding to and the only way that you can be sure that you are being treated fairly is to know that his pedigree has been examined by the proper board and that he is what the license says he is.

The matter of securing a stallion registration law is practically entirely in the hands of the mare owners of the state, and the owners of sound, pure bred horses. The man who stands an inferior horse or a crooked owner will never come out as an advocate of such a law and whenever a man opposes such a law it is always well to ask the reason.

It is well to bear in mind that these laws do not work a hardship upon any one. It does not prevent a man from standing any sort of a stallion he has, except in cases where the horse has certain transmissable diseases or unsoundnesses, and of course, in such cases the horse should be eliminated from public service. The man with a good grade stallion, or even a scrub or mongrel horse, can continue to draw patronage, if the mare owner wants to breed to such a horse, but he can not draw patronage under the false statement that his horse is pure bred.

It is a notable fact that in twenty states which have enacted such laws, that the horse stock has shown a marked improvement, and the average value per head has increased. It is further noteworthy that no state has ever repealed a stallion registration law— which is ample proof that the law must be popular.

A further fact that should be of particular interest to Missouri mare owners is that every state that borders Missouri, with the exception of Arkansas, has a stallion law in operation. This condition has operated to make Missouri the dumping ground for a lot of unfit stallions that were driven out of the neighboring states. It would be humiliating to know how many such horses are now being patronized by Missouri farmers. How much longer will Missouri permit such a condition to exist? The answer will depend on how much interest the Missouri farmer will take in the matter. Until they exercise themselves over the situation and until they see to it that their representatives in the State Legislature take the matter seriously. They will pass the law if you want it —the question is do you? Or will Missouri mare owners continue to breed their mares to a lot of nondescript stallions that could not stand for public service in other states.

R. R. Royce.

More Shorthorns to Foreign Ports

In addition to the recent export shipment of Shorthorns to Argentina under the direction of Sec'y. Harding of the American Shorthorn Breeders' Association, an order has been placed with Frank Scofield, Hillsboro, Tex., by Brazilian parties for 25 head of tick-immune bulls for shipment by June 10th. The price is $500 per head. This is the largest individual foreign order ever placed for bulls from south of the quarantine line. Mr. Scofield is drawing upon the various Southern herds to complete the order. In addition, Mr. Scofield has sold a yearling bull to Casa Alemana, Governor of the Atlantic Coast of Nicaragua and two yearling bulls to Henry F. Springer, Bluefield, Nicaragua; a yearling bull and heifer to Senor Manual Estrado, President of Guatemala.

Another Argentina shipment includes twenty Shorthorn bulls of varying ages selected by W. A. Forythe & Sons, Greenwood, Mo., for J. N. Foley. This shipment is now en route and is due to arrive at the destination in August. This is a very important consignment including bulls of high individual merit and representing the progeny of the most noted sires of recent times. The selections were made with exacting care and the character of the shipment can scarcely fail to strengthen our business relations with the Argentina breeders.

It is apparent that our Southern neighbors are looking to this country for Shorthorn breeding stock. There is an unlimited field and we have an advantage now over breeders of the British Isles due to the European war conditions.—Frank D. Tomson.

Feed 3 Per Cent Grain Ration

Pigs on alfalfa pasture will return more profit per pig if fed a grain ration equal to 3 per cent of their weight, according to data of the Nebraska Experimental Substation. The pig is a pork-producing machine and like other machinery is most profitable when run at full capacity. A pig's stomach is so small that it will not digest enough alfalfa alone to make a profitable growth. Pigs cannot produce the best gain when on pasture alone or when on pasture supplemented by only a small amount of grain. Tests made at the North Platte Substation show clearly that two and one-half to three pounds of corn daily per 100 pounds of live weight of the pigs produced not only the greatest gain but the greatest profit. The higher the price of corn, the smaller the profit in favor of the heavier ration. However, on a market quoting corn at 70 cents and hogs at 7½ cents, the 3 per cent ration is still the most profitable.

What One Jersey Cow has Done

At the University of Missouri a record of the milk and butter production of a small Jersey cow was kept for fifteen years. The assistants who handled her have come and gone, but the Jersey cow is still on the job. In the fifteen years she has produced 108,968 pounds of milk and 5,000 pounds of butter-fat, equivalent to 5,882 pounds of butter. Her best year's record was 13,322 pounds of milk and 735 pounds of butter, authenticated under the rules of the American Jersey Cattle Club. During the fifteen years Grace Briggs has given birth to twelve calves. Her last calf sold for $300, and the average for the twelve is about $200. About $2,400 was obtained from the sale of all the calves. Figuring the entire milk production for fifteen years at eight cents a quart, the total would be $4,358.72. The approximate cost of keeping her was $50 a year, or a total of $750.

The average daily production of milk for fifteen years was a little more than nine quarts a day. During her best year she produced a little more than eighteen quarts a day.

If the butter was sold instead of the milk, at the price of thirty-five cents a pound, the total for the butter production from Grace Briggs would be $2,041.55.

Get Rid of WORMS and INDIGESTION

Do you know that ninety per cent of all live stock losses are caused by Worms and Indigestion and both these conditions are preventable? Get rid of the blood-sucking worms and you will remove the chief cause of losses. Wormy animals can't thrive; the food they eat is largely wasted; they run down in condition — become easy victims to diseases. Worms eat up your high cost feed — bring on indigestion — cause heavy loss. Get rid of the worms with—

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The medicated salt without Antimony. Give your animals free access to it; they'll rid themselves of worms. Costs only 1-12 of a cent a day for each sheep or hog and only 1-3 of a cent a day for each horse or head of cattle. SAL-VET will do the work; I'll prove it or no pay.

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Fill in the coupon below — tell me how many head of stock you have; I'll supply you enough SAL-VET to last your animals 60 days. You pay the freight when it arrives; feed as directed, make a specific report at the end of 60 days. If SAL-VET does not do what I claim it will cost you nothing.

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Supply me enough SAL-VET to last my stock sixty days. I agree to pay the freight, feed it as directed, and will then pay for it if it does what you claim. If it fails and I so report specifically in sixty days you are to cancel the charge and I will owe you nothing.

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(257)

ABERDEEN-ANGUS BREEDERS' SALE!

65 Head of High-Class Bulls, Cows and Heifers

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Without question it is one of the greatest offerings of Aberdeen-Angus Cattle that has been booked this season. Your last opportunity to make selections at your own price before the season closes.

40 Bulls of serviceable age, good individuals and teeming in the blood of the most renowned animals the breed has ever produced. HERD-HEADERS of top notcher kind. Bulls that will please the breeder, bulls that will please the farmer and cattleman who wishes to produce the steer that will top the market.

25 Cows and Heifers of superior individuality and blood lines. Cows with calves at foot. Some of the very choicest yearling heifers seen in any auction this season. Every female in this sale has superior value.

All the most fashionable families represented:—Blackbirds, Trojan Ericas, Pride of Aberdeen, Queen Mother, Jilt, Barbara and other popular tribes. The contributors are well known breeders and exhibitors whose herds are the very best in Illinois, Ohio and Michigan. **A. A. Armstrong,** Camargo; **J. Garrett Tolan,** Farmingdale; **A. Middleton & Son,** Assumption; **J. & D. W. Mobley,** Mt. Sterling; **F. A. Clark,** Mt. Sterling; **D. F. Jarrett,** Vandalia, Illinois, and **U. L. Clark,** Hunters Creek, Mich. and **F. B. Turnbull,** Cedarville, Ohio. Breeders of such reputation insure animlas of the right sort.

IF YOU ARE IN THE MARKET FOR HIGH-CLASS ABERDEEN-ANGUS THAT WILL MAKE GOOD DO NOT FAIL TO ATTEND THIS SALE. FOR A CATALOG AND OTHER INFORMATION ADDRESS

M. A. JUDY, Sale Manager,

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Col. W. W. COOPER, Auctioneer.

Suggestions for Concrete Tanks

A good mixture for a concrete tank may be made of one part Portland cement, two parts of clean, coarse sand, and four parts of screened gravel or crushed rock. Where neither gravel nor crushed rock is available use one part of cement to three of sand. If less cement is used than the amount given, the mixture will not wear.

The foundation should be about six inches thick, enough so that there will be no danger of heaving from frost. It should be reinforced with woven wire.

The sides of the tank may be reinforced the same as the foundation, care being taken that the reinforcement is placed near the outside wall. Only wire or iron of good quality should be used, as rusted material only fills space and does not reinforce.

There should be continuous reinforcement around corners. Where the wire or other material laps, the laps should be several inches.

The form for the tank should be so made as not to crack the cement when taken apart.

After the forms are removed, the inside of the tank may be waterproofed by applying a coat of concrete paste made of pure cement and water mixed to the consistency of cream.—Nebraska College of Agriculture.

East St. Louis Aberdeen-Angus Sale

On June 22nd at the East St. Louis National Stock Yards Pavilion, there will be a sale of high-class Angus cattle consisting of 25 cows and heifers and 40 bulls from the herds of such well known breeders and exhibitors as A. A. Armstrong, Camargo; J. Garrett Tolan, Farmingdale; A. Middleton & Son, Assumption; J. & W. D. Mobley, Mt. Sterling; F. A. Clark, Mt. Sterling; D. F. Jarrett, Vandalia, Ill; U. L. Clark, Hunters Creek, Mich., and Frank B. Turnbull, Cedarville, Ohio. The breeders and farmers should appreciate such an offering as may be expected by such a prominent lot of contributors. The offering is largely selected from the most fashionable families and they are backed by superior merit. Field Representative M. A. Judy of the Aberdeen-Angus Breeders Association is very much pleased with the animals listed and it is his opinion that there has been no bull offering this season that is the equal of this offering in blood lines and merit. More high-class herd headers can be secured in this sale than any sale of the year.

You will find bulls in this sale that have been in the show yard and made good. You will find bulls in this sale that will make good prospects for the fall shows. Breeders who may be in the market for a high-class top-notcher herd-header should by all means inspect this offering. The 25 cows and heifers listed for this sale are in the very pink of condition and every one wears the very stamp of approval. Several of the cows have calves at foot and every female of a breeding age has been bred. You will find females listed that should please the most exacting cattle buyer. All forecasts indicate higher prices for Angus cattle. All previous records of all beef breeds have been smashed within the last few months. The demand and prices are fast advancing. The wise will purchase while they yet remain within the price of the average man. The writer has visited and made sales in several states, and he is free to say that he never experienced such a demand before. The prospect for a bumper crop is good this year and we are sure to see a much greater demand for all kinds of good breeding animals. Send to M. A. Judy, sale manager, 817 Exchange Ave., Chicago, Ill., for a catalog.

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The Cripples

As I was walking along the street the other day there hobbled along some distance ahead of me a hunchbacked cripple and as I passed a group of idlers I heard one of them remark to the others, "Gee, wouldn't you hate to be a cripple like that fellow?" Now it happens that I know both of the parties in question quite well. It is true that the hunchback is tremendously handicapped in the physical sense of the word—so much so that most of the joys and pleasures incident to buoyant manhood have forever been denied him. But, for all that, he has long since become reconciled to his lot and instead of sulking and railing at an unkind fate which from early youth marked him for its victim, he makes the best of his situation. For some years he has filled an humble though menially responsible position and whether it rains or whether it shines he can be found at his post of duty — contributing what he can with his gnarled and twisted limbs to the thrift and industry of the community of which he is a part. And I know of no one whose smile, chastened by years of silently endured pain is more kindly and friendly. During his idle moments he reads the best of books and magazines and his mind is as alert and keenly interested in the things which go on in the World as anyone of my acquaintance—and when Sunday comes he hobbles into an obscure place in the rear of his favorite church and I doubt whether there is another individual in the congregation who gets as much real enjoyment out of the sermon as this little hunchback who is clean in thought and mind and who, for all his handicaps, finds the World a most interesting and beautiful place to linger in.

But how different is the picture of the young fellow who made the pitying comment referred to above? In the beginning, nature was exceedingly kind to him. It gave him indulgent parents, a splendid physical constitution, ample opportunity for a good education and a chance to take his place alongside of the best young men in the community. But all these things he has ruthlessly trampled beneath his feet. He has not appreciated the love of his parents nor sought to please their fond hopes by treading the path of useful manhood. He spent a couple of years in the first year of high school and then gave it up as a hopeless task—not because he didn't have the ability to learn but simply because he preferred the society of indolent, idling friends. His splendid erstwhile constitution is fast giving away under the strain of dissipation. His finger tips are yellow with the taint of the cigarette and I have no doubt that he indulges other habits even more deleterious to moral and physical health —for he has never been able to hold a position of responsibility and three-fourths of his time is spent in idleness with companions whose ideals are no higher than his own.

Under these circumstances, I leave it for the reader to say which of the two is the greatest cripple—the little gnarled and twisted hunchback whose heart and mind is clean and pure and who is trying to contribute his mite toward making the World better—or the shiftless young fellow who pitied him and who has wasted the splendid opportunities with which a kind nature had so generously endowed him—whose moral sense and appreciation of the things that are pure and splendid have become so dulled that he is destined to flounder along aimlessly until finally he will be swallowed up in that black night of despair which knows no sunrise? Verily my boy there are many cripples in the World. There are those who know no moment which is free from anguish. There are those who drag themselves through life upon crutches even as my little hunchbacked friend. But greater cripple than any of these is the man whose heart and mind have lost the power to love and strive for the things that are truly worth while and that stand for the best there is in clean, wholesome and useful manhood. Better far that your limbs should be mis-shapen than that your soul and vision should be tainted by a moral leprosy which neither sunshine nor physician can cure.

—By the Author of After-Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VIII JUNE 15, 1916 NO. 12

WILLIAM HIRTH
PUBLISHER

WANTS CONGRESS TO CONTROL THE PACKERS

To The Missouri Farmer:

Your recent article on a National Council of Agriculture exactly hit my views. Back in Illinois only a few years ago I knew a few farmers who organized a club of only 16 members but it has accomplished a great deal of good for that community. They handle their business together as one man and when their hogs were all sold in one lot they could get from 25 cents to 50 cents a hundred more than farmers who did not sell with the club. The same was true of the grain and other products that were sold. One year after outsiders had sold their corn for 40 cents a bushel, the club sold the corn for its members for 60 to 62 cents a bushel. Today the charter members of that club are nearly all dead but the descendants are well-to-do as a result of the better business methods of their fathers.

I have tried to organize the same kind of a farm club here in Macon County but so far have not been able to get more than three or four who will stay with it. Why it is I do not know. Farmers are the only class not organized and as a consequence the other fellow sets the price both ways. I know that for several years past most of our cattle and hogs have had to sell at a loss, sometimes at a sacrifice of one to two dollars a hundred and no discount to the consumer.

This whole thing of controlling the packers will have to be handled by Congress and your idea of organization is what we must take up in order to make Congress act.

I am pleased with the stand The Missouri Farmer has taken on this question and hope you will continue the fight until we get some action by Congress. I hope to be able to organize a club here as soon as I am able to get out. R. W. Dever.

FARMERS GIVE THE INFORMATION

Sometimes we hear people discredit the general information given out by the Department of Agriculture and while there may be a lack of accuracy in conclusions drawn by those who sit behind the desks in the department the figures upon which crop and live stock data are based are furnished by the farmers themselves. It is estimated that 770,000 farmers are in cooperation with the United States Department of Agriculture by furnishing information, demonstrating the local usefulness of new methods, testing out theories, experimenting and reporting on conditons in their districts—by helping, in short, in almost every conceivable way to increase the knowledge of the Department and to place that knowledge at the service of the people. This army of volunteers receives no pay from the Government. Many of these cooperators are actuated solely by a wish to be of service to their neighbors. Others take part in this work because of their own keen interest in testing new methods, or in trying out for themselves crops either new to their own sections or imported from foreign countries through the Department's plant explorers.

It is estimated that at least one farm out of every twenty is working in some way with the Department of Agriculture and thus has become a center of advaiced agricultural information for its community. In addition to the farmers who work directly with the Department of Agriculture, there are thousands of others who render a similar valuable service to the scientists and field workers of the State agricultural colleges and experiment stations.

With such a large number of farmers willing to work with the Department and the colleges and test out their recommendations, it is clear that a significant change has taken place from the day when the average farmer was decidedly skeptical about scientific agriculture and slow or unwilling to give attention to the recommendations of what many used to designate as "book farmers."

The wide use made by the Department of this large number of practical farmers indicates clearly how erroneous was the once prevalent idea that agricultural scientists held themselves aloof and that the Department of Agriculture consisted mainly of college-trained men, who were far more at home in their offices or laboratories than on actual farms. As a matter of fact, the scientific agriculturist today does not attempt to evolve theories in the seclusion of a Government building. It is true he may develop ideas in his laboratory, but before he is ready to advise farmers to adopt them he tries them out in actual practice on Government farms, and then calls on a large number of successful practical farmers to give these ideas an independent practical test on some of their own acres. In many other cases the scientist goes to the farmer both for his theory and practice. He studies and analyzes the practice of hundreds or thousands of successful farmers in an endeavor to find the scientific basis or underlying principle of farming methods which have, through long years of practical experience, been found to be most successful for their farms and neighborhoods. Frequently the scientist finds in one community certain farmers who are successful and others who are unsuccessful. He searches for the reasons for the success and failure of the two groups, and then endeavors to make clear to the successful ones the scientific reason for their success and to develop sound rules which will enable the unsuccessful to apply to their own farms the methods employed by their prosperous neighbors. In many cases, therefore, the scientist's recommendation represents the consensus of opinion of a large number of successful grain growers, truck raisers, dairymen, or other classes of farm managers.

Are Not Getting A Square Deal

To The Missouri Farmer:

I have been reading so much in The Missouri Farmer lately about farm organization and cooperation that three or four weeks ago I caught the spirit. And realizing the importance and absolute necessity of organization I called the dairymen together and said, "Gentlemen, we are not getting a square deal." They said, "We know it, but what are you going to do about it?" I said "Organize and stand together." They all said, "We are in." So we have organized and we met Friday night and organized another community and we are going to-night and organize another. Every place we have been or heard from is much interested. We are going to not just try but organize every dairyman around K. C. within a radius of twenty-five miles. That will be the bulk of Kansas City supply. And when we do that, don't you think we can have a say? There are about fifty dairymen in this organization and they are anxious that Mr. Hirth come and give us a talk on organization and they asked me to write you and find out if you would come, and when it would suit you to come.

We will have representatives here from the other organizations and try and have you a good crowd. We will be glad to pay your expenses. And personally, I will say this. That I will try to get every member of the organization to subscribe for your paper, for I really think if we could get The Missouri Farmer in every farm home in the state that it wouldn't be a year until the tide would turn.

V. C. Keer,
President of Organization,
Belton, Mo

Summer Handling of Meat

Meat that has been smoked slowly for at least four or five days is in the best condition for summer keeping. Ordinarily a smokehouse is the best place for storing meat until extreme hot weather sets in. Meat will keep in the summer where it is cool, dark, dry, well ventilated, and free from flies. It may be wrapped in paper and muslin and be buried in the oat bin. Some farmers have obtained satisfactory results by packing it unwrapped in clean, granulated rock salt. The smoked meat will take up little or no salt from the packing, and the rock salt does not collect the moisture that common salt does. Ventilation, dryness, and freedom from flies are the most important things to be considered in the successful keeping of smoked meat.—Nebraska College of Agriculture.

What To Do For Wormy Pigs

Little pigs become infected with worms by the litter picked up in old hog houses, pens, and pastures, eggs having been passed off by the older hogs. Sanitation, including freedom from dirt, drainage, sunshine, freedom from dust, and other disinfectants are the best preventives. The College of Agriculture suggests that santonin and calomel is the best means of ridding hogs of worms. Ordinarily five grains of santonin and three grains of calomel when mixed in a thin slop is sufficient for 100-pound pigs. Care should be taken to see that at feeding the pigs get a fairly equal amount. Fifty-pound shoats may be given four grains of santonin and two grains of calomel. Big hogs should be given six grains of santonin and four grains of calomel.

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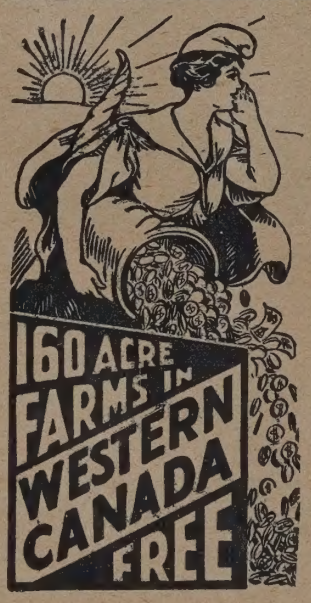

BUMPER GRAIN CROPS

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The winnings of Western Canada at the Soil Products Exposition at Denver were easily made. The list comprised Wheat, Oats, Barley and Grasses, the most important being the prizes for Wheat and Oats and sweep stake on Alfalfa.

No less important than the splendid quality of Western Canada's wheat and other grains, is the excellence of the cattle fed and fattened on the grasses of that country. A recent shipment of cattle to Chicago topped the market in that city for quality and price.

Western Canada produced in 1915 one-third as much wheat as all of the United States, or over 300,000,000 bushels.

Canada in proportion to population has a greater exportable surplus of wheat this year than any country in the world, and at present prices you can figure out the revenue for the producer. In Western Canada you will find good markets, splendid schools, exceptional social conditions, perfect climate, and other great attractions. There is no war tax on land and no conscription. Send for illustrated pamphlet and ask for reduced railway rates, information as to best location, etc. Address

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The Missouri Farmer

VOLUME VIII JUNE 15, 1916 NUMBER 12

The National Land Bank Plan

By Geo. B. Ellis, Managing Editor

At this writing the National farm loan bill has passed the U. S. Senate, passed the House with many changes and stands a good show to very soon become a law and in this article we want to acquaint our readers with the essential features of the plan.

But before we outline this measure we want to tell you again why we are so much in earnest about this matter of bringing about a system of better facilities for rural credits. Our readers know that for several years we have been urging the need of a system that would furnish farmers cheaper money on longer time than they can usually obtain it under present conditions and it is because we see a danger signal ahead for this country if the present tendencies of land tenure are not checked that we want to put all the facts before our readers.

A Danger Signal

The writer has reached the period where he can not hope to be personally benefitted by any farm loan plan but we have that abiding hope that this great country of ours shall live on and on until the end of time and not make the mistakes which have in the past caused the downfall of many nations. A recent writer says, perhaps more forcibly than I could say it "That one people after another, one civilization after another has culminated and decayed, need be ascribed to no mysterious decrees of fate or jealousy of gods fearful of being displeased by a more perfected human race. The reason is obvious and thoroughly well known, if not adequately recognized. Each people in turn became urbanized, lost its connection with the soil and departed out of its natural environment, so that its members no longer generally attained their full development of physical strength, mental energy and social efficiency." Are we not going in that direction? Did not the last Census show that the rural population of 70 counties of Missouri was on the decline? And the same is true of Illinois, Iowa and other agricultural states. The best farm lands are fast drifting into the hands of rich land lords and these rich counties everwhere show a rapid increase in land tenantry and the absentee land lord, and something must be done to stop this tendency else our country will fail just as other great nations have failed in the past.

More Capital Needed

We have said often that farmers need a great deal more money now to buy and to operate their farms than what was required a few years ago. Labor is higher in price and harder to keep so farmers must depend more on farm machinery. The land has grown poorer on account of long-time cultivation and soil washing and more fertilizers must be bought to make crops at all profitable. With the better standards of living demanded people will not remain satisfied on the farm unless they can have better buildings and modern conveniences which they see even some of the poorer classes of the cities enjoy and to keep the best people in the country, to keep the most enterprising and thrifty boys and girls away from the cities we must furnish them better homes on the farm. Farmers need to buy for cash rather than pay high prices for time purchases. How are you going to do these and many other necessary things without the use of more money than former generations have needed?

Cheaper Money Encourages Improvement

I know there are some who tell us that cheaper money means that land will go higher in price and that it will cause people to be more extravagant in their living expenses but the answer I make to that is that if those who argue thus are sincere why do they not try to have a law passed raising the rate of interest? Money spent for better living and better education so long as the expenditures are within the income is in no sense an extravagance. The farmer who builds a two-thousand-dollar house when money can be had at 5%, figures that his house rent costs $100 a year. But if he must pay 8 per cent his rent goes up 60 per cent higher and costs him $160 a year.

The U. S. Department of Agriculture after a thorough investigation has found that Missouri farmers pay an average interest rate on the money they borrow of 6.8 per cent, which includes the average commission charged by agents of .6 per cent. Estimating the farm loans of Missouri at $225,000,000 a reduction of the interest rate of only 1 per cent would save them $2,225,000 annually. If we save only the .6 of one per cent charged for commission there will be a saving of $1,350,000. Is there any one so blind he can not see that a million dollars or two million dollars expended for farm betterment, for better schools or for better roads every year will not soon tell on the country life of the state?

It Will Help the Lender

This scheme will help thousands of small lenders while helping the borrowers, paradoxical as that statement may appear to our readers. The money to be loaned on farms under either the Missouri plan or the Federal plan is not to be furnished by the government. Neither the State or the National Government proposes to loan any money and hence there will be no government competition with private money. The national and state plans propose to furnish the machinery for getting borrower and lender together and to reduce the expense in making loans. There is where the saving comes from. The committee in Congress having charge of this legislation says, "Of money seeking long-time investment at low rates there is an abundannt supply. It includes the ordinary savings of the school-teacher, clerk, minister, and wage earner; the proceeds of life insurance in the hands of widows and other beneficiaries; funds belonging to estates, minors, and wards in chancery in the hands of executors, guardians, and trustees; funds of insurance companies, benevolent orders, and societies of various kinds; endowments of colleges, hospitals, museums, and other institutions; and assets to be invested by receivers, courts, and governments. The aggregate of these is enormous. They require an investment that is absolutely safe and reasonably liquid in the sense that it may be converted into cash upon moderate notice; in other words, that it may find a ready market. A safe investment of this character need not carry a high rate of interest."

Borrower and Lender Not Acquainted

Under our present system the man who has a little money to loan does not know the borrower, does not know the value of the land he offers for security and he therefore prefers to put his money in the savings bank or some trust company. But with the Land Bank in operation the man with surplus money buys bonds drawing a low rate and absolutely safe and the bank looks after the title and value of the land offered as security. The government does this work without profit but adds enough to the interest charged the borrower to pay all necessary expenses. Then the average man with a little money to loan is not sure just when he will need it so these land bank bonds which will be bought and sold in all the money markets can be converted into cash most any time which together with their absolute safety make them a desirable investment.

The Plan Proposed

The plan before Congress and which seems likely to become a law very soon provides for a farm loan board to consist of three members, to be appointed by the President and not more than two shall be of the same political party. The first appointments are to be for three, six and nine years and the full term thereafter shall be nine years, which of itself largely divorces the institution from partisan interference. The members of this board can not hold any official connection with any bank, farm mortgage or trust company and their annual salary is fixed at $7,500. The bill when introduced provided for five members with a salary of $12,000. The farm loan board shall appoint a farm loan registrar in each land bank district to receive applications for issues for farm loan bonds and other duties prescribed by the board. The board shall also appoint one or more appraisers for each land bank district, and examiners, attorneys, experts, assistants, clerks and other employees as it may deem necessary to conduct the business. The salaries of all employees are fixed by the board. This national farm loan board will have power (a) To organize and charter Federal land banks and to charter farm loan associations, and joint stock land banks. (b) To review and alter the rate of interest to be charged by the land banks. (c) To grant or refuse Federal land banks and joint stock land banks authority to make any specific issue of farm loan bonds. There are other duties prescribed giving the board a very close supervision of the land banks and farm loan associations.

There is to be established in each of the twelve districts formed by the board a Federal land bank with not less than $750,000 capital stock, and shall designate the city where the bank is to be located, but these banks are authorized to establish branches in other cities within the district subject to the approval of the board. Each bank is temporarily organized with three directors, but after a complete organization there shall be nine directors, six of whom are local directors elected by the farm loan associations. The other three directors are appointed by the Federal Board.

The capital stock is divided into shares of $5 each and may be subscribed for and held by any individual, firm, or corporation, or by the Government of the United States. The stock held by the National Government shall receive no dividends, but all other stock shall share in dividend distributions without preference.

After the land banks are organized the bill provides for organizing national farm loan associations made up of ten or more persons who are owners or about to become owners of farm land which they can offer as security for loans to be made. Before any loan association can get a loan for any of its members it must subscribe for capital stock in the bank to the amount of one-twentieth (5 per cent) of the loan and this to be paid in cash. This amount of stock is held as collateral security by the land bank. The individual borrowers must subscribe for stock in his farm loan association to the amount of five per cent of the amount desired by him and this amount of stock is held as collateral security for his loan. This in fact makes his liability five per cent stronger than the value of his land and the improvements mortgaged but the borrower is entitled to his share of dividends whatever they may be.

Any one may borrow not more than $10,000 nor less than $100 and any association can not make application for loans which aggregate less than $20,000. Every shareholder is held "individually responsible, equally and rat-

ably, and not one for the other, for all contracts, debts, of the association to the extent of the amount of stock owned."

The interest rate charged borrowers shall not exceed six per cent but in fact the rate will be based upon the price that can be obtained for the bonds plus a margin for losses and expenses. In addition to the interest payment the borrower will be required to pay a small amortization payment which will extinguish the debt in the time agreed upon which shall be not less than five nor mor more than thirty-six years. The borrower may after the loan has run for five years make payment at any regular installment date of $25 or any multiple of that amount and thus reduce or pay off the entire debt.

The owner may borrow up to 60 per cent of the appraised value of the land and 20 per cent of the value of permanent insured improvements. As an example as we understand it a man owning 160 acres of land appraised say at $50 an acre ($8,000) can borrow $4,800. If the improvements are appraised at $2,000 and are insured for that amount he can borrow 20 per cent of that amount, or $400. This would make $5,200 loaned on a valuation of $10,000 or in fact approximately fifty per cent of the value of land and buildings.

The loans may be made for the following purposes and for no other:

a. To provide for the purchase of land for agricultural uses.

b. To provide for the purchase of equipment and live stock necessary for the proper and reasonable operation of the farm.

c. To provide buildings and for the improvement of farm lands. (The board may determine what is meant by equipment and improvements.)

d. To liquidate indebtedness of the owner of the land mortgaged, existing at the time of the organization of the first national farm loan association established in the county in which the land is situated, or indebtedness subsequently incurred for one of the purposes provided.

Thus it will be seen that the uses for which the money can be applied are about the same as under the Missouri Land Bank. In appraising the land its use for agricultural purposes is to be the basis of value and the earning value of the land is to be considered.

To prevent the use of the money in land speculation no loan is to be granted any one who is not at the time or shortly to become engaged in the cultivation of the land to be mortgaged. In case the land is sold the loan is to be paid unless the buyer is elligible and in no case can any one person have a larger loan than $10,000.

The bill provides for the exemption from Federal, state and local taxation the assets of these Federal land banks and farm loan associations, except any real estate held, purchased or taken to satisfy the mortgages. This is a necessary feature of all rural credit systems. One of the principal objects of land banks is to furnish farm home owners with cheaper money and one way to do it is to reduce the expenses of making loans and then by making such provisions that will make the bonds readily salable. The bill provides that no loans shall be made at a higher rate than five per cent interest plus one per cent for expenses. These are the maximum rates but in actual working, the rate of interest will be governed by the price of the bonds.

WANTS A STATE ORGANIZATION

The Missouri Farmer:

I am very much interested in your earnest appeal for farmers to organize and we have responded to the call in a small way. We have organized with 18 members and think many more will become interested and join the ranks in the near future.

I think it is time that farmers should wake up to a realization of the necessity for farm organization, for in unity there is strength.

We have ordered our twine from the state twine plant at Jefferson City and count on saving enough from our first order to pay well for getting together.

I think the farmers of every county should hold a two days meeting and picnic sometime during the year, when the rush of work is over, and have some good speakers present and try to interest more farmers in club work.

Fellow farmers let us all help The Missouri Farmer in the good work it has inaugerated. We should not stop with school-district organization but should go on to county and state-wide organization and when that is accomplished the farmers will command greater respect and reap a greater reward for their hard labor.

Aaron Bachtel, Brunswick, Mo.

LYONS PRACTICAL FARM PAPERS

I sometimes wonder what we know, and what we don't know, until I have my doubts as to whether we know half as much as we think we do. A recent article on asparagus culture says that a bed properly set, manured every year and well cultivated, will last twenty to twenty-five years.

About 1853, my father set an asparagus bed in his garden, about fifty feet north of the house and on the eastern slope of a mound builders' mound.

In 1865 the garden was moved, and ever since that date the mound has been in blue grass. Most of the asparagus bed was thrown into the pasture, and that is all gone, but there is one clump about two and a half feet square in the blue grass lawn, and that clump affords us more asparagus than double the space in the regular bed, where it is manured and cared for as per rule.

When setting a strawberry bed four years ago, I found that the plants I had bought were not sufficient to set the land I had prepared, so I went to where there were some fine plants that had escaped from a bed set many years ago and dug up fifty plants to finish my bed.

This original bed had probably been set fifty years ago, Burr Pine, Triumph De Gund, Wilson, Early Scarlet and other old time varieties, and, as the children always got a few quarts of small berries there every year, I reasoned that if I took up the plants, set them in good soil, cultivated and manured them, and did not allow too many new plants to set, I might get to compare the kind I remembered for fifty years with the newer varieties.

That was four years ago, and three fruiting seasons have shown us but little better berries from these cared for, cultivated and manured plants, then those which grew in the patch I got these from.

One thing, however, they had certainly gained in the ability to propagate the species, as they easily make half a dozen runners to one for the other sorts, and Beder Wood is good at plant making.

The next thing in mind, is the fact that some eminent veterinary authorities, have decided, that clover bloat in cattle is caused by the fermentation of the sugars in the bloom, and that formalin, in half ounce doses given in a quart of warm water is a cure.

We have found the formalin to act well in cases of bloat, better in fact than any other mouth-given remedy we have ever used, this whether the bloat is caused by sugar or not.

Now I remember very well, that when I was a small boy I heard my father and a neighbor say, that when the clover came in bloom most of the danger from bloating was over, and I have observed this to be true, or at least I have believed it to be true, yet here comes along a real scientist and tells me, sugar in the bloom causes the bloat.

I have an object in writing of these things, and that object is to set people to studying over such problems in every day life on the farm.

The asparagus has not degenerated in the sixty-three years it has stood in the same place, yet the strawberries, set in 1866 as I find from father's old records, have "run out," so that no amount of cultivation, manuring and thinning out, lasting through three or four seasons, will cause them to grow berries much larger than those in the bed they came from.

I am going to keep on trying to make them do better, and with that object in view, set out half a dozen plants of them this spring.

Most of us who are near sixty years old remember the old Blue Neshannock potato, a safe cropper, a fair yielder and of fine quality. It is said that this potato "ran out" until it would no longer produce even fair sized tubers, and the Peachblow, that came some forty-five or fifty years ago as an extra good late potato, has gone the same way.

Why should potatoes and strawberries do this, while asparagus does not? And while only mentioning asparagus there are other plants that have been grown from the same stock, with no especial care, for scores of years and that yield well.

June 1, corn all planted, excepting near river. Tobacco crop half set, plants scarce and wheat and oats poor, rye good.

Sam Jordan does well to warn against Red Sorrel. As for its being partial to acid soil, and lime being a probable means of combating it, Col. Waters and I found it growing right up to the edge of an old lime kiln, where the soil was half or more lime. I got rid of the few small patches on my farm, by heavy manuring and heavy grass seeding, but still a few plants crop out every season.

Cattle will scarcely eat it, but horses are very fond of it, and hereby hangs a tale.

Conrad had considerable red sorrel in his pasture, and Billy, right across the road, had none. The two men were in the habit of changing work in harvest, each taking a horse to assist in pulling the binder. Red sorrel began to come in Billy's fields, and being of a very investigating turn of mind, he traced it directly to the droppings of Conrad's horse, brought from a sorrel infested pasture.

Today I found a bunch in an old strawberry bed, and am confident that it was carried there, as a seed, in horse manure.

Crowding out blue grass timothy and white clover, as it does on any but very rich land, it is a weed to be feared as one of the worst we have to contend with.

Sam, if somebody was driving a herd of wild bulls down the road, I might stand on my rights as an American citizen and take a stroll right down that road bulls or no bulls, but people would call me a damphool as they went home from my funeral. That is just the way I look at the fellow who wants to go to Europe on a ship which stands a 3 to 5 chance of being blown up.

C. D. Lyon.

Farmer Girls Attention

We want every bright, ambitious farmer girl in whose home The Missouri Farmer is a visitor to read carefully our great free automobile offer on the back page in this issue. Here is a great opportunity to win a beautiful automobile all through your own efforts by a few weeks hustling—and why not put the summer to practical use? While the others are busy at home and in the fields, why not go out and win this splendid prize? Our plan will make it very easy for you. Especially is this true of any farmer girl who happens to live in Audrain, Monroe, Randolph, Marion, Shelby, Knox, Macon, Adair, Linn, Sullivan, Grundy, Daviess, Livingston, Caldwell, Putnam, Gentry, Nodaway, Atchison, Platte, Ray, Jackson, Henry, Cooper, Polk, Greene or Jasper Counties. We have quite a number of delinquent subscriptions in these counties which you will be able to renew as quickly as you get to them. Every farmer girl, young farmer's wife or young farmer owe it to themselves to investigate this great opportunity fully at once. If any reader of the paper knows of someone in his neighborhood who would likely be interested in this offer we will thank them to advise them. The party you have in mind may not be getting The Missouri Farmer.

CITY ABATTOIRS

In a recent article in "The Missouri Farmer" Mr. Ellis has brought up the subject of City Abattoirs. This is certainly an important and practical subject. It deserves further discussion and, in my opinion, some definite action should be taken looking to securing the building of city abattoirs all over this state. The city abattoir is the beginning of the solution of the question of the meat trust. As long as we continue to raise food animals and ship them all to the "big packers", the "big packers" will certainly fix the price to suit themselves. We may curse the packing trust and we may legislate against it, but we will never get anywhere with this fight as long as we diligently and systematically contribute to the success of the big packers by selling them everything that we raise and buying from them the most of the meat that we consume.

Mr. Ellis has pointed out that about nine tolls are taken on meat from the time it is produced until it reaches the consumer. Why should we continue to pay freight, yardage, commission, shrinkage, and other unnecessary tolls on livestock and meat? With proper organization, we can certainly kill enough of our food animals at home to supply the local needs. Where does the city abattoir come in? The city abattoir is the place to begin the development of home killing of food animals. Every town in the state which now has two or three butcher shops should build a city abattoir. The larger cities should build from one to a dozen according to their needs. The next Legislature ought, by all means, to pass a law authorizing all cities and towns to build these abattoirs. If

all the towns and cities in the Union would build a city abattoir, we would start so many little packing plants that the big packers could not smother the competition. We would let the big packers enjoy a fair share of the meat trade of this country and they would come in handy to work off our surplus products on foreign markets. But instead of the packers ruling the situation, the public would rule the packers and use them for a good purpose.

We may continue our tirades against the packer and we may spend the next fifty years trying to secure legislation that will curb the packers' trust, but we cannot materially change the present situation until we develop competition. The big packers are not afraid of the scolding they are getting through the farm papers and they do not appear to be alarmed about either State or Federal legislation. They are afraid of competition. The city abattoir is the beginning of a competition that will make it impossible for the big packers to fix the price of livestock. D. F. Luckey.

SAM JORDAN'S SENSE AND NONSENSE

Its mostly what a fellow don't know that gives him the least worry.

* * *

Helen Hiwater has new bo. Helen is a popular girl in some places.

* * *

I have never been much of a fighter, but there is one thing I never could whip. Its a bad egg.

* * *

Too bad that for the next few months we have to be pestered by seeing all partisan papers mud slinging against candidates for office. This dirty stuff is commonly credited to the "Press Bureau" of one political party or the other. The men who are nominated in all parties are almost without exception high class men, and it looks now like we ought to have sense enough not to tolerate the slush that goes the rounds of the partisan press in many cases. It did perhaps appeal to the lower classes several years ago, but surely at this time it does more harm than may be suspected.

* * *

The biggest success Charley Chaplin ever made was making a fool of himself.

* * *

Idiots, Indians, and your mother are not allowed to vote. Oh, you peanut!

* * *

When booze dealers complained that the movie was hurting their business by showing up the bad, it was suggested by one manager that he would be glad to put on the screen all the good things that booze accomplishes, if the booze interests would just furnish the material. It looks like those booze gents should now come across and get some free advertising. Some of the good things they could show would be fine mansions, beautiful clothes, and a great display perhaps of diamonds and jewelry. They would look nice to the most of us even if our money did help to buy them, but they need not say anything about that. The movie should of course say nothing about the poor devil in the ditch, nor starving women and children, inmates of prisons and crazy houses. That would spoil the show.

* * *

Are you as big as your mistakes?

* * *

Is it not funny how we get excited over things? Preparedness parades for instance. We get all "het" up just to please DuPont, and little Georgie Perkins, the boys that have powder and steel to sell. That's right boys, go to it. Holler your wheezers out. No war, no powder, nor guns, nor battle ships needed. Let's have war by all means. The folks then can sell steel, bullets, powder, guns, and build battle ships. We should want them to get rich even if we do have to be all shot up. Our hides and the hides of our boys are not worth so much to them as the cash. Then maybe most of us are going to hell anyway.

* * *

Did you ever notice that a man with the biggest fool nation on earth can get a lot of us into his "parade"? On preparedness, why not go about it in a sensible way, for so many of us lose our heads so easily, and the wise guys know it. They operate on our passions instead of our sense, and make a howling mob of us, then stand in the "steenth" story and look out of the window, and see us marching in their "parade," and how they do laugh, at us, and say, "Just watch those silly idiots." Get in the parade, boys.

* * *

Not long ago I was compelled to go to a town with but one (hotel?). It was that hotel or no breakfast, so I "attacked" the hotel. It was a little late and I saw no one but a girl about fourteen years old and asked her if I could get some breakfast. It was ready for me in a short time and consisted of a slice of bacon two inches long, and wide as the blade of a table knife, one cold fried egg, a dish of half done fried potatoes, bread, butter, and something she presumed, I suspect, was coffee, and such thin skimmed milk for it, that no self respecting cow would own. It had about the same amount of butterfat as March rain water would have. At the termination of the ordeal, I reached into my pocket to hunt for a quarter, and asked my bill. She said "fifty cents." She did not seem overly smart either.

* * *

Politics seems to be a great pastime now, but wait till dog-days.

* * *

I was on Salt River not long ago, and asked a native if he ever saw any of that long string of politicians that go up that river about every "so often." He said none had ever been shot that he had heard of.

Have You Got a Sweetheart?

Every man's wife ought to be his sweetheart just as much as when she was a red cheeked, fluffy haired girl—but in asking the above question we have in mind young farmers who look forward to the coming of Sunday which will give them an opportunity to spend a few hours with the "best girl in all the World" who someday will likely get the pie dough mixed up in your hair. Now wouldn't you like to take this girl out riding in a beautiful Overland car described on the back page in this issue rather than an old slow moving buggy? Why not write us today and let us tell you how you can win it?

Attention, Young Farmer Wives?

If you are so situated at home that you could go out among your neighbors and win the beautiful Overland car described on the last page, why not do it? You have no idea how easy our plan will make it for you—and you have all summer in which to do it? Why not at least investigate this splendid affer fully by writing us for full particulars today?

THE NATIONAL TRACTOR DEMONSTRATIONS

By J. B. Bartholomew, Chairman, Manufacturers' Tractor Demonstration Committee.

"Yes but what do the figures mean?" an expression credited to thousands of farmers who tried to study out the meaning of the Winnipeg Contest Score Sheets, was probably the nucleus of the idea that started the National Tractor Demonstrations in the United States three years ago.

If a farmer tried to study out the details of the Winnipeg Score Sheet he soon found himself mixed up in a mass of figures and per cents covering technical tests, with fuel and water consumption figured in pounds, which required further figuring on his part to reduce to gallons, and all based on work done under conditions he knew nothing about.

If he turned to the manufacturers' advertising for enlightenment he found to his surprise that apparently every body had won—at least something—and he was little better off than before.

But the Winnipeg Motor Contests had at least served a purpose—they had shown clearly what the farmers did not want. During all this time the idea as to what the farmer did want had been germinating and finally crystallized in a decision on the part of the Twentieth Century Farmer to promote a Tractor Demonstration at Fremont, Nebraska, based on these four fundamental principles—first, to show all makes of tractors manufactured; second, to show them under conditions about which the farmer knew; third, to show them all in one field at one time; and fourth, to let each farmer be his own judge as to the machine he wanted to tie the blue ribbon on.

Tractor manufacturers welcomed the new idea with great enthusiasm, particularly those who in the Winnipeg Contests had spent from three to four weeks waiting their turn to run off a few hours' test and then waited another week to get the reports.

Farmers welcomed the new idea with equally as great enthusiasm and flocked to the first Demonstration at Fremont by the thousands. They came and saw and stamped their approval by coming again in greater numbers the second year.

The third year, 1915, the Tractor Demonstration Bug had so infected the minds of manufacturers, farmers and farm papers that tractor demonstrations grew overnight all over the country like magic. Nearly every farm paper considered promoting one. Cities and towns everywhere decided to hold a demonstration. The demonstration idea had grown to full maturity and had likewise grown almost uncontrollable. Appeals to enter tractor demonstrations promised to swamp the manufacturers in 1916 unless some definite organized effort were made to control them.

And thus we come to the third and present stage—a National Tractor Demonstration Circuit, conducted under the direction of the National Tractor and Thresher Manufacturers' Association, in co-operation with the national, state farm and trade papers and the local newspapers and commercial clubs.

At the annual meeting of the Tractor and Thresher Manufacturers' Association last fall, the preliminary steps were taken. A Tractor Demonstration Committee was appointed consisting of the following:—

J. B. Bartholomew, of Avery Company, Chairman.
W. H. Haggard, of Emerson-Brantingham Co.
G. P. Alexander, of Aultman-Taylor Machinery Co.
P. J. Lyons, of Bull Tractor Co.
E. J. Gittins, of J. I. Case T. M. Co.
J. A. Everson, of International Harvester Co.
H. B. Dinneen, of Deere & Co.
Bradford Brinton, of Grand Detour Plow Co.
Geo. McFarland, of Peoria Tractor Co.
H. H. Bates, of Joliet Oil Tractor Co.

This Committee was given power to act under the following limitations:—

That no tractor demonstration be sanctioned where an entry fee was to be charged;

That no tractor demonstration be sanctioned where contest features were to be carried on;

That the number of tractor demonstration be limited to not to exceed one in a state.

After a thorough canvass of the country and repeated consultations and meetings of the Committee, it was decided to hold eight National Tractor Demonstrations this year at the following points:—

Dallas, Texas, July 17-21.
Hutchinson, Kansas, July 24-28.
St. Louis, Missouri, July 31-Aug. 4.
Fremont, Nebraska, Aug. 7-11.
Cedar Rapids, Iowa, Aug. 14-18.
Bloomington, Illinois, Aug. 21-25.
Indianapolis, Ind., Aug. 28-Sept. 1.
Madison, Wisconsin, Sept. 4-8.

Commencing at Dallas, Texas, the tractors entered in the Demonstrations will be loaded on special trains and shipped from point to point. Special trains of Pullman coaches will also be run for the accommodation of the exhibitors. Arrangements have been made for two sets of tents, one set to be shipped ahead and set up at the next point, in order to have everything in readiness when the special trains arrive. The rules under which the Demonstrations will be conducted have been provided by a Committee appointed by the American Society of Agricultural Engineers. The Demonstrations will be under the personal management of Mr. A. E. Hildebrand, who has had charge of the three tractor demonstrations held at Fremont, Nebraska, and who is conceded to be the best posted demonstration man in the United States.

This 1916 Circuit of Tractor Demonstrations promises to be the greatest educational event ever conducted by any organization of manufacturers. It will be a sight worth going hundreds of miles to see. The Demonstrations have been located by the manufacturers at the points thought to be the most convenient for everyone to reach. Through the co-operation of the manufacturers with one another it is thus possible for everyone interested to see practically all makes of tractors at one time at much less expense than would otherwise be possible. The limiting of the Demonstrations to one in each state likewise reduces the expense to the manufacturers to the minimum, enabling them to sell their machines at the lowest possible advertising costs.

While the previous demonstrations have been limited to plowing, the 1916 Demonstrations will not only cover plowing but other forms of field work as well, such as drilling, harrowing, seeding, spading, cultivating, packing, rolling, clod crushing, corn cultivating, etc.

The indications are at the present time that there will be a total attendance at the eight demonstrations of anywhere from one-half million to a million people. They will unquestionably be the greatest agricultural events ever held. No man interested in scientific methods of farming should fail to attend.

A Successful Horse Show

The Horse Show given in Columbia under the auspices of the College of Agriculture the first week in June was considered by competent judges to be one of the best ever held in the state. There are few people who do not take delight in watching good horses in action and perhaps an equal interest is shown in good drivers or riders.

The champion road horse of the show was Animation, owned by Miss Loula Long of Kansas City, who won the Columbia Commercial Club trophy. Champion harness horse was Illustration also owned by Miss Long was awarded the trophy offered by the Board of Curators. Champion five-gaited saddle horse was Ruth St. Denis, exhibited and owned by L. H. Ingram of Little Rock, Ark. The champion three-gaited saddle horse, Johnny Jones, owned by Colonel Paul Brown of St. Louis and exhibited by E. D. Moore of Columbia. Other exhibitors who won prizes were: J. T. Davis, Columbia; Miss Myrene Houchin, Jefferson City; E. F. Reuther, Columbia, Gerard Parsons and W. R. Bush, Benson, Vermont; August Busch and Adolphus Busch, St. Louis; Miss Burr, Bement, Illinois; J. T. Harris, Frank Harris, Jr., and W. R. Prather of Columbia.

The Dairy Cow More Efficient Than the Steer

(Abstract of an address delivered before the State Dairy Association of Kansas by President H. J. Waters of the Kansas Agricultural College. President Waters is not a stranger to the readers of The Missouri Farmer. He has made thorough investigation of both dairying and beef production in this country and in Europe and the facts he presents are founded on first hand information.)

This subject is not of my own choosing. I am not by birth, education or sympathy a dairyman. My sympathies and tastes are all in the other direction—the production of meat, and primarily in the production of beef. I like the Shorthorn, the Hereford, and the Angus much better than I do the Jersey, Holstein, and Guernsey. I like the beef business much better than I do the dairy industry. Nevertheless, I realize that the man who stands out against dairy and poultry husbandry as the basis of a permanent agriculture is standing out against an irresistible force, and he will in the end be as effectual as one who attempts to sweep back the ocean tide with a broom. Either this country is going to be an exception to all human experience, or we must ultimately surrender to the inevitable.

The beef business is primarily adapted to the newer conditions such as broad acres, cheap land, scarce and high-priced labor, and to the transportation of the products over long distances. As population becomes more dense, as land becomes more dear, as labor becomes more abuntant, and, therefore, cheaper, we shall produce on our farms products which will employ the maximum of human labor. The dairy cow, the pig, and the hen will be the last animals to be driven from our farms. We must not forget that human labor is the only exhaustless element in production. New York, Pennsylvania, Massachusetts, New Hampshire, and Connecticut were formerly the great beef-producing states of the Union. At that time the dairy industry was being nursed and carried along by its enthusiastic friends just as it was in Kansas a few years ago and as it yet is in some parts of the state. The beef business was able to take care of itself then as it is yet in Kansas. Now the dairy business dominates in the East and they are trying to coax back the vanished beef industry.

Dairying Builds Up the Farm

Thus, as the farm land of a community is divided into smaller farms, and as the people are forced to work on an economical basis and when their soil fertility has become so depleted by grain farming that they must conserve their resources, the beef industry is the first to wane and in its stead the dairy industry comes. First it is usually combined with beef, but later, especially in the vicinity of the large cities and in the most congested centers, it becomes a highly specialized industry. In the rural districts the combination of beef and dairy production, with dairying as the principal feature and beef as an adjunct, has remained stable in the oldest European countries.

Broadly speaking, the second class of meat animals to diminish outside of the mountain and other strictly grazing regions, is the sheep. Then follows the hog, although on account of the use to which the hog may be put as a consumer of waste products around the home, it remains a prominent feature in the agriculture of the most densely populated regions of Europe.

We have not yet, however, approached the most cogent reason for the elmination of the beef industry when great economy must be exercised in production and consumption.

Cow Eats Less, Produces More

The most striking fact in connection with this whole question is the inefficiency for the production of human food of the beef animal as compared with the dairy cow.

Let us assume that we full feed a steer for 300 days, and that his average daily gain for that time is two and one-fourth pounds, making a total gain or 675 pounds. In the same length of time a dairy cow of quality equal to that of the steer above assumed would produce, at the very least, 6,000 pounds of milk. The dairy cow will require for the production of her annual milk output less grain, less hay, less grass and less range than will the steer in the production of its 675 pounds of gain in weight.

Let us, however, inspect these total annual products more closely. The 675 pounds gained by the steer will contain ·286 pounds of water; 253 pounds of fat; 95.5 pounds protein; and 40.5 pounds ash; or a total of 389 pounds of dry matter.

The 6,000 pounds of milk produced by the cow in the same length of time might be safely estimated to contain 5,160 pounds of water; 276 pounds of fat; 285 pounds of sugar; 231 pounds protein; and 48 pounds ash; or a total of 840 pounds dry matter.

The water in the meat and in the milk is of no more value for food than that which comes from the cistern or spring, and we are, therefore, primarily interested in the quantity of dry matter produced.

Butter Worth More Than Tallow

A close scrutiny of the detailed figures given above will show that the whole story is not yet told. The steer's product will need to be still further reduced, because a portion of the gain made in weight of bone, hoof, horn, hide, vital organs, blood, etc. We have no reliable data from which to estimate the amount of the annual growth of this material on a steer, but it is certainly safe to assume that the amount of ash given could be classed as inedible and of use only for the manufacture of leather or fertilizer. On this basis there would need to be deducted 41 pounds from the total of 389 pounds of dry matter, leaving a total of 348 pounds of edible material produced by the steer, compared with 840 pounds produced by the cow.

There is yet a difference to be considered. The fat produced by the cow is the most digestible of all the animal fats. The sugar in milk is perhaps the most easily digested and assimilated of all sugars, and is assumed to be all available when used as food. In the case of casein and albumen—the protein of milk—it is practically completely digestible, and the same is true of the ash. Therefore, not only is the edible material produced by the cow more than two and a half times as large in amount as that of the steer, but it is a significant fact that practically all of this is digestible and easily asimilated by people of all years, from youth to old age.

Too Much Waste in Steer's Products

In the case, however, of the production of the steer, there is a further waste. For when the animal is slaughtered the butcher is compelled to trim the carcass of its excess of fat or tallow. In the average case this green tallow is not worth as much per pound as he has paid for the steer alive. This tallow has perhaps cost the feeder ten cents or twelve cents a pound to make, and it has a value when sold as such, and not attached to a steak or roast, of perhaps less than four cents. Furthermore, when the butcher divides this carcass into steaks and roasts, the customer is constantly insisting upon having the excess tallow trimmed off before it is weighed. All of this tallow must, like that which was trimmed from the carcass when the animal was killed, go into the tub as low-priced material. Furthermore, when the steak or roast is cooked, a considerable portion of the fat is fried or stewed out, and this is likely to be poured into the garbage can or sewer. Then, when the meat comes to the table, the first protest from the childern is against being given too much fat. The portion of the steak or roast that is left uneaten is the fat, and this is essentially wasted or fed to the dog, the chickens or the pigs.

Thus, this high-grade material—that is, material that is most expensive of all animal products to make, is really of least practical use for human consumption, because it, unlike butter fat, is of itself not especially palatable.

In New York City so much fat is poured into the sewers that recently the city authorities set about to recover it, and millions of pounds are thus taken from the sewerage and sold at a low price, chiefly for the manufacture of soap. This means that the corn of the Mississippi Valley is being converted into high-priced fat on our hogs, cattle and sheep, a portion of which finally finds its way into a soap factory through the sewers of our great cities.

Just what number of pounds of the annual production of the steer would be actually left as digestible material it is impossible to say, but it is perhaps not unreasonable to say that the amount of digestible matter produced by the cow is about three times as large as that produced by the steer in the same length of time.

Thus it is perfectly evident that the dairy cow is a very much more efficient machine for the manufacture of our grain, grass and hay into edible animal products than is the beef steer, or than is any animal producing meat, for that matter.

Cow Uses Cheaper Feed

Of equal importance is the fact that the cow will make the yearly product ascribed to her in the foregoing computations on grass alone without grain during the summer months. The rest of the year she will eat less grain per day than the steer will require. On the other hand, it will be necessary to feed the steer to the full limit of his appetite for each one of the 300 days figured in the foregoing tables in order to have him make the amount of gain credited to him. All these figures for the cow are in every way conservative. It is likely indeed that the amount of food consumed by the steer to make the gains used in our computations would produce fully one-third more milk and total solids than has been credited to the cow.

Little Fertility Sold With Butter

The economic advantages of using dairy animals as a market for farm-grown feeds, are most strikingly shown in the table on this page. The amount of butter sold in one year to other states is from actual figures secured from the creameries of the state. The feed required has been calculated on the basis of standard dairy rations and in placing a value on the feeds it has been assumed that they could be sold on the market as readily as the butter. The freight figures were supplied by one of the railroad companies of Kansas and represent actual conditions at the present time.

Foreign countries in making their purchases almost invariably buy raw material and in so doing fatten their soil at our expense. We sell annually twenty million dollars' worth of products to the little country of Denmark and buy but two million dollars' worth of products from that country. They buy enormous quantities of oilmeal, cottonseed cake, and bran. Their chief exports are butter, cheese, and bacon. In the past twenty-five years the Danish farmer has increased the acre yield of his land 50 per cent.

A farm used for dairy purposes should gain constantly in fertility because the manurial value of the feed grown on the farm is retained and that of purchased feeds is added. When milk products are sold from the farm only a small portion of the plant food contained in the entire crop, is sold.

***Saving Effected by Selling Butter Instead of Feed**

Butter sold to other states in one year	9,305,603 pounds	
Total feed required to produce this amount of butter	537,398,000 pounds	
Farm value of this feed		$1,768,065.57
Value of butter at 20 cents per pound	$1,861,120.60	
Value of skim milk at ¼ cent per pound	442,016.14	2,303,136.74
Excess value of butter and milk		$ 535,071.17
Value of fertility in butter at 51 cents a ton	$ 2,372.94	
Value of fertility in feed	1,236,714.64	
Saved to farm when marketed as butter		$1,234,341.70

Freight Balance Sheet

Freight on butter	$ 59,928.06	
Freight on feed	1,236,016.78	
Saving in freight by marketing butter instead of feed		$1,176,088.72
Total saving to state through selling butter instead of feed		$2,945,501.59

*This table prepared by President Waters is based on Kansas statistics but the same relative facts are true of Missouri.

FEDERAL LAND BANK ACT IN HARMONY WITH STATE LAND BANK ACT

Written by Frederick D. Gardner, Author of the Missouri Land Bank Act.

The enemies of rural credit in Missouri, who have at heart opposed cheaper money for the farmer, have used every argument possible to belittle and injure the Missouri Land Bank Act. One of their stock arguments has been their fake claim of "single tax." Now that the Congress of the United States and President Wilson have sanctioned every principle worked out in the Missouri Land Bank Act, the enemies of cheaper money for the farmer will now perhaps say that there is no need for a state land bank in Missouri as the Federal Government has passed a bill covering the needs of all states. But those who make such a statement do not understand the first principle of the Federal bill, nor do they understand the needs of rural credit.

There was no intention on the part of the Government to have the Federal bill take the place of individual states also supplying capital for land banks of their own. The Federal Land Bank is merely to assist, or work in conjunction with the state land bank, exactly as National and State banks work in harmony together.

The National rural credit bill is intended to embody and place the nation's stamp of approval on certain principles of rural credit which are safe and sound. Those principles are:

1st. That land credits should be handled through land banks.

2nd. That capital for these land banks must be furnished by the Government.

3rd. That the land banks must have authority to issue debenture bonds to secure additional sums of money to be loaned.

4th. That loans must be made for long periods—not less than 25 years, and be paid off in small installments, the payments to include interest and principal.

5th. In order that the farmers may secure the money at a low rate of interest, the bonds must be exempt from taxation, the farmer to have the money at the exact rate at which the bonds sell, thus giving him the benefit of the bonds being exempt from taxation.

All of the above principles were worked out in the Missouri Land Bank Act and have now been approved by the Federal Government. But the Federal bill does not provide for the full amount of money needed in Missouri. The Federal bill provides for twelve land banks to be established in the United States, with a capital stock of $750,000.00 each, which would be nine million dollars. It provides also for an issue of $180,000,000.00 worth of bonds, which would make a total of capital and bonds of 189 millions, this to be divided among the 48 States. This would mean an allotment to Missouri of about nine million dollars.

Now, when it is considered that we need $300,000,000.00 in Missouri to make the farmers' homes equal to those in the State of Iowa; and that we need $110,000,000.00 to make the farm equipment equal to that of North Dakota; when we consider that the bank deposits per capita in Missouri are only $20.00, and in Kansas $140.00; when we consider that the assessed pro-rated valuation in Missouri is $300.00 and in Kansas $1700.00 it must be apparent that the $9,000,000.00 which the Federal Land Banks will be able to loan in Missouri under the present government plan would be only a drop in the bucket. The great benefit to be derived from the Federal Land Bank is the fact that it establishes the principles and soundness of rural credits. From there on it must be taken up by each State. This is where the Missouri Land Bank will come into play. Under the Missouri Land Bank Act, during the first year we can place in circulation in Missouri $40,000,000.00 now lying idle in the great financial centers of New York, Boston and Philadelphia; and in a few years can have in circulation $100,000,000.00 in Missouri of new money brought into the State from the outside. No Federal Land Bank system could ever benefit the individual state to this extent.

The operation of the Federal Land Bank is much more complicated than the Missouri Land Bank. But this is only natural. There are to be twelve Federal land banks—one for each four states. Suppose one should be located in Columbus, Ohio, and one in Denver, Colo. The inaccessibility of a bank located at either of these points for the Missouri farmer is apparent, whereas a State Land Bank located at Jefferson City would be convenient and of easy access to the Missouri farmer.

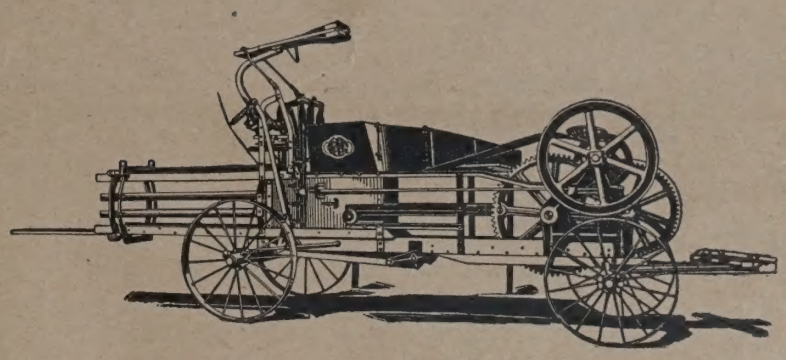
The Federal Land Bank Act provides that an association of ten must be formed to borrow money; and that after loaning 50% on the farms 5% must be reserved by this association of ten to pay in as capital to the Federal Land Bank. From this it will be seen that the farmer gets 45% in cash and 5% in stock in the Federal Land Bank. The Missouri Land Bank makes no such provision. It gives the farmer the entire 50% and does not require him to take any stock in the land bank.

The Federal Land Bank provides that the farmer must pay the cost of appraisal. The Missouri Act provides for no cost of appraisal at the farmer's expense. The Federal Land Bank Act provides that he pay 1% each year for expenses. The Missouri Land Bank Act provides that he pay ½ of 1%; and that when the 25 years are up that this ½ of 1% be refunded him less expenses and losses; and there should be no losses and practically no expenses. Therefore, while the Federal Land Bank Act embodies the fundamental principles enumerated above, it is not so far reaching, nor is it so accessible, nor does it provide as cheap money as the Missouri Land Bank Act, and it will not furnish the great abundance of money which the Missouri farmer so badly needs as will the State Land Bank Act.

After all the vicious attacks made here in Missouri on this movement to give our farmers cheaper money it certainly is gratifying to me to see our principles now endorsed and approved by the National Government. Every farmer knows that for years I have been abused as a single taxer, Socialist, crank, etc., because I have night and day, in season and out of season, defended this great movement in their behalf.

You must not forget this is your opportunity. Go to the polls and vote for the Land Bank. It is your only hope of securing the use of the wealth which you create at as low rates of interest as enjoyed by the big cities.

Baled Hay at Lowest Cost



THE price of hay, and the profit in it for the grower, depends upon the condition in which the hay is marketed. Hay of the same quality, in tight, smooth bales, brings a higher price than when shipped in loose, ragged bales.

International Hay Presses, with their powerful toggle-joint plungers, produce tight, solid bales. The roller tucker makes the bales smooth. The bale chamber tension produces bales of uniform size. The presses work fast, the different sizes and styles baling from 6 to 35 tons per day.

The line consists of one and two-horse presses, motor presses, belted jack presses and fast power presses. The one-horse press is made in 14 x 18 size only—all others in 14 x 18, 16 x 18, and 17 x 22 sizes, the accepted standard. The capacities vary from a small horse power press for the man who wishes to bale a little hay, to the largest, fastest custom power presses ever required.

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TO MEASURE THE COLLEGE OF AGRICULTURE

Is the university educating the boys away from the farm or is it sending them back to the farm better prepared to make a living and to serve their community better than they could have done had they not taken a course in scientific agriculture? This year there were graduated from the agricultural classes in the state university 93 as compared with a senior class of only two fifteen years ago. Is this great increase in the number graduating from the College of Agriculture of Missouri the result of the making good on the part of those who have in past years come out from the College of Agriculture or is it merely the increased interest among farm boys and girls to train themselves as efficiently as those are trained who enter the professions?

The growth of all the leading agricultural colleges during the last fifteen or twenty years is within itself pretty good evidence that the boys and girls who have graduated from these colleges and who have nearly all entered professional work have, as a whole been making good. Measured then by this test we would say the work in the colleges of agriculture has been a success. But what about the future? From now on will not a majorty of those who graduated from the colleges of agriculture fail to find places in professional work and will not most of them be compelled to return to the farms from which they came and there be forced to test their skill along side those who have spent their four years "learning to farm by farming"? In this try out between those who have had the training of the college and those who have had only the training of the farm will we find the true measure of the worth of the College of Agriculture.

Why would it not be a good thing both for the State and the State University to have a survey made of the work accomplished by all those graduates of the College of Agriculture who have been engaged in practical farming and compare this with a like number of farm trained farmers? Such a survey should be made by practical farmers who are not at all prejudiced against college made farmers. We believe the College of Agriculture will profit by this kind of a survey and we think it is the only standard of any value by which to measure the institution but whatever the results are let us have them made known by a committee of intelligent farmers.

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32x3½ in.	12.75	3.20	36x4½ in.	22.50	5.75
33x4 in.	15.75	4.20	37x4½ in.	23.60	6.20
34x4 in.	16.70	4.35	37x5 in.	26.30	6.60

All other sizes not included in above list also furnished. Non-skids at 10% additional.

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CATCH CROPS

Most farmers have a system of farming they have worked out to suit themselves but their plans are often interferred with by drouth, flood, or insects and some temporary change must be made. Because of the small acreage of wheat sown last fall there was a larger acreage for corn this spring but the excessive rains in many places has made corn planting impossible on some fields and has given a poor stand on others. For the man who keeps live stock and who can find use for a lot of forage we think it is always a safe risk to plant corn on good land up to July 1 and in some instances even 15 days later. In normal seasons this corn will produce some grain and in most all seasons it will make a lot of good forage. Sorghum may be safely planted for forage most any time in July and few if any summer crops will produce more feed per acre than sorghum. Early varieties of cowpeas may be safely planted up to July 15th or 20th and millet as late as the first week in August.

THE CROP OUTLOOK

This is the anxious season for farmers and while the individual knows what his own prospects are he is interested in many ways in the out-look for his own community and for the entire country. The volume of business in a good many lines is limited by the price and amount of the crop produced and so many of the large business concerns have their dealers report to them on the condition of crops in their trade territory. Then with the help of state and government crop reports these business men are quite often better posted on the crop prospects than farmers are.

The U. S. Government report issued June 8, estimates the winter wheat acreage at only 81.6 per cent of last year's crop and all wheat, spring and winter together at 84.9 per cent. The average condition of winter wheat on June 1 was 73.2 which is 9.2 below the ten-years average. For all wheat the condition was 77.7 or 8.5 below the ten-year average. Upon this basis the present prospects are for a crop of 715,000,0000 bushels of wheat which is only 13,000,000 bushels below the ten-year average but as there is a larger amount of wheat held over than usual there is no alarm about the prospects for bread.

For Missouri the government report indicates a wheat crop of 71.6 per cent of the total of last year, a total of 19,-453,000 bushels. The state report issued by the State Board of Agriculture estimates the crop at 15,000,000. The state report makes allowance for the acreage winter killed which probably makes the difference and we think makes it more reliable than the Government report.

The outlook for oats and meadows is good and corn is irregular but with good weather from now on there will be a full average crop of corn. Taking the situation as a whole the prospects are for about good average crop yields if all crops are considered.

THE ANGORA GOAT

A farmer in a Western Missouri county purchased about 200 high grade Angora goats a few weeks ago and turned them on some brush land that he wants to clear up for pasture. The first clip of mohair has already sold for a little more than one-third what the goats cost and he will have the increase of the flock to add to this income which will make a pretty nice profit. The goats will live very largely on briars, brush and weeds and where the owner has this kind of land to clear up the yearly cost of feed for a flock of goats will likely be balanced by the good they will do. The farmer who makes the most money is the one who adapts his practice to the conditions on the farm rather than merely following his own prejudices or fancies.

This is a pretty good time to get hold of a flock of goats or sheep. The prices are high now both for the animals and their wool but the chances are good that prices will continue high for sometime and these animals are mighty good soil builders any way and should be kept on most hill farms for that reason alone.

ORGANIZATION IN THE AIR

We have heard it said that farmers could be organized for any purpose and then duped by their leaders but this is a reflection on the intelligence of farmers, as a class. It is true farmers have joined in a number of organizations in the past and it is also true that they have been mislead by the leaders in many instances but when we study the results accomplished by farm organization in the past we find that a great deal of good has been accomplished.

The trouble just now is that there is too much organization from the top and the farmer who is out on his farm busy with making a living has not always been consulted. We admire the philanthrophy of business men who are willing to give of their money to organize farmers but let us warn them that if they would accomplish any real lasting good in this direction it must be by beginning with a few farmers out in the country districts. By getting the farmers in a district to working together at home, the benefits will be shared from the beginning and it will encourage farmers to hold on and to work for bigger results through a larger organization.

A recent National body has been formed to be known as the National Agricultural Society and ex-secretary James Wilson has been chosen president. There is no man we could name in the United States who is better fitted by sympathy and training to lead a real farmers' organization than is Mr. Wilson but we think he is making a great mistake in thinking he can organize farmers from the top and do their thinking for them. The avowed purpose of the association will be to serve as the mouthpiece of the farmers of the United States in agricultural questions of nation wide interest. The subjects already suggested to be taken up by the society include rural credits, uniform agricultural legislation, the promotion in congested centers of population of an interest in rural activities, cooperation in the conservation of our natural resources and cooperation among faremrs in establishing better methods of marketing farm products.

Some splendid and successful business men have joined in the movement and will contribute to its support, among whom are Theodore N. Vail president of the American Telegraph and Telephone Company, T. Coleman du Pont, and others just as prominent in the business world. Head quarters have been located for the present in New York City but it is intended to eventually establish them in Washington, D. C.

Another organization has been announced growing out of the Southern Commercial Congress, with Charles H. Thorne of Chicago as chairman and Dr. Clarence J. Owens, managing director of the Southern Commercial Congress as one of the controlling figures. The scope of the work for this National Chamber will be to work for the improvement of the economic conditions of American agriculture. Mr. Thorne the chairman has had twenty-five years experience with one of the largest mail order houses in the country.

The third annual meeting of the National Conference of Marketing and Farm Credits which met last winter in Chicago created what is to be known as the National Agricultural Organization Society which we are reliably informed has been partly financed by some who are deeply interested in bettering farm conditions. As we understand the object of this society is to aid in the proper organization of all kinds of rural societies, both state and local. Its principal work will be advisory and not executive. It has employed able attorneys who will assist state organizations in drafting state laws concerning agriculture and especially laws governing cooperative soceities. Perhaps our readers are not aware that a real cooperative society can not be organized and operated under the laws of many states. This is true of Missouri. Upon request from the farm organizations of the state this society would help to draft a law governing real cooperation. Then there is the form of organization and the system of book keeping to be adopted for each society, whether local or state, that is very important. This N. A. O. S. as it will be called will have a force of expert bookkeepers, men who have studied the best and simplest methods adapted to farm clubs and they will help start the local and state organizations along the right line. It seems to us this is a very important line of work.

The Grange, the Society of Equity, the Farmers' Union and hundreds of independent farm clubs have been doing a lot of good but have lost half their power because they were not all brought together, at least coordinated in one powerful federation. The U. S. Department of Agriculture estimates that the business done in one year by cooperative agricultural organizations already amounts to $1,400,000,000. This society proposes to further the work of societies working for the improvement of transportation, imports and exports of farm products, cold storage for farm products, the creation of uniform packs and grades, the inaugeration of State Market Commissions, the creation of credit facilities for land purchase and for financing the farm business, representation before the Federal Trade Commision that involve unfair discrimination and many other ways of serving the farmers. This seems to have a more comprehensive plan of organization than any of the others and yet does not seem to conflict materially with any of them.

Out of all these efforts to help farmers and correct some of the evils which have grown up under our go-it-alone system much good will finally result but we fear many mistakes will be made and valuable time lost by beginning too much at the top. Somewhere and somehow there must be a directing force for the organization of the local units such as neighborhood clubs, local cooperative creameries, grain ware houses, fruit and live stock marketing associations, etc. If we can get one great National Council of Agriculture to direct all of this work it will bring order and effective results.

ATTENTION FARMERS

Those of our readers who will need binder twine should send their orders to the Penitentiary Twine Plant at Jefferson City at once. The price on 1000 lbs. or more is 9c per lb. while on lesser quantities the price is 9½c per lb. This will save you a considerable margin over the ordinary local price and since the Twine Plant was started for the benefit of the farmers of this State it should have their support. On all ordinary commercial necessities The Missouri Farmer believes in giving the local merchant the preference but in view of the efforts of certain interests to form a "Twine Trust", farmers are not to be blamed for defending themselves as best they can on this item. Your twine can be ordered now and paid for when delivered later on. The best way is to get your neighbors to act with you and make up a 1000 lb. order and thus save the extra half cent. There is no time to lose for the supply may be exhausted at any time.

NATIONAL RURAL CREDITS

There is a strong probability that the rural credit law now before Congress will be enacted into law before adjournment, possibly with some important changes. We give a synopsis of the features of the law we think farmers are most interested in without going into the details of organizing and operating the Federal Land Banks found on page 3 of this issue.

We think in many particulars the Missouri Land Bank is a better plan than the Federal plan. We propose to charge the borrower only one-half of one per cent annually on his loan to pay expenses, losses and create a reserve and it is thought this will be ample because the Missouri plan is so

simple that there should be very little expense in operating it.

The feature of the Missouri law which has been fought the hardest is the exemption of the assets of the Land Bank from taxation and this has been endorsed by the Federal law which makes the same exemption. There should be no double taxation in this country but that is what we have when we tax both the land and the mortgage against it and the farmers pay both when they are forced to pay a higher rate of interest. Rural credit laws are on the way and the debt ridden farmer will have some relief from his heavy load of debt.

BARNYARD GOSSIP

How much would it add to the price of your farm if you had a good road leading in every direction from it? We have made some observation along this line and have talked to many men familiar with farm land values and it is safe to say that a farm located on a nicely kept dependable road will add from $5 to $10 an acre to the selling value of the land. In some instances a thoroughly good road will add $20 an acre to the selling value but the former figures are in the conservative class. It may not add anything at all to the productive value of the land but most men are willing to pay something for the pleasure of riding over a good road. With money worth 6 per cent the man who is willing to pay an increased price of $5 an acre for a 200-acre farm home figures that it is worth $50 a year to his family to have a good road and don't you think he gets his pleasure at a reasonable price?

When we look at it right good roads will not appear as an expensive luxury but as one of the necessities for the best enjoyment of life. It is generally agreed that about the only way to have good country schools is to make the districts larger and more wealthy so that better teachers may be employed, better equipment may be purchased, and better classification provided. But large districts are impossible without good roads. Some people think it is impossible to build good roads in every neighborhood but I think what Indiana has done ought to convince us that it is entirely feasible to do it. Indiana is no better agriculturally than Missouri and they have built a system of good roads covering about 60 per cent of the total mileage and now about half their schools have been consolidated and the farm boy or girl can live at home, be under the parental guidance and get a high school training. They can do this and be at home to help with the work on Saturdays and vacations and not lose their interest in farm life as so many of them do when they go away to the city to attend school.

The good road and the good school adds much to the value of the neighborhood and not only makes outside people want to buy a farm in that neighborhood but it gives the home people a better opinion of themselves and encourages them to do better work. In every way communities are like individuals they need encouragement, they need leadership and they need more—they must have the community spirit, community pride, community team-work if the neighborhood is made a really desirable place to live.

A few days ago I was in conversation with a real estate man who has bought and sold a lot of land in the last fifteen or twenty years. Like all other dealers of this kind this man was in the business for the commission he got on sales, but he had a good opportunity to find out what it was that made land valuable. He said there was one class of men who bought land for the money they could get out of it by growing crops. This class of buyers looked only at the profits and would as soon buy a farm in the river bottom, or some swamp district where there was no school, no church and no society as to buy it in the most up-to-date neighborhood in the land, but, said the real estate dealer this class of buyers make up not more than one in fifty of the hundreds of men I have dealt with. The other forty -nine want to buy a farm for a home as well as for the profit and these men will ask about the roads, the schools, the churches and the community spirit and good fellowship of the neighborhood. He mentioned a neighborhood where they built a modern rural school and where they have for several years maintained a social and educational club and it was this man's opinion that a farm in that district would easily sell for $500 to $1000 more than the same kind of a farm in some other places. This shows the community value of a farm home or rather upon what that value rests.

In trying to bring about this harmony of effort, the team-work for the public good, people must be willing to sacrifice some of their own personal notions and they must get rid of their jealousies and prejudices and try to find a common ground to work on. Through the efforts of The Missouri Farmer more than 200 farm clubs have been organized in the last few months and we hope not one of these will be allowed to die out because of a lack of the right community spirit and good fellowship.

WILL YOU HELP US?

Before The Missouri Farmer can win in the great fight it has undertaken to perfect a Farm Club in as nearly as possible every school district in Missouri it must be introduced into thousands of farm homes in which it is a stranger at this time. Hundreds of these Farm Clubs have already been organized and collectively they have already saved their members many thousands of dollars—and yet they haven't gotten fairly started. Wherever our paper has a strong circulation there you will find a Farm Club—and sometimes a half dozen clustered close together. On the other hand take a community in which we have little or no circulation and there you are mighty apt to find farmers drifting along in the same old "everybody for himself and the devil take the hindmost" fashion.

This shows the necessity of placing The Missouri Farmer in as nearly as possible every farm home in your community and if your heart is with us in this great fight we wish to appeal for your earnest co-operation in putting us in touch with some bright, young, ambitious farmer's daughter who you think would be interested in the splendid Overland car which we offer as a subscription prize on the back page of this issue. It is exceedingly difficult to find solicitors who will go after subscriptions on a commission basis—but surely there is some young woman in your neighborhood who would be interested in this fine offer if she knew about it? In any case, she will receive a good commission on every subscription she turns in—so she can't lose. In the meantime, she has just as good a chance to win the car as anybody. If there is a daughter in your family who would like to take advantage of it, so much the better. It will brighten her wits to put in a few weeks telling farmers about the great fight The Missouri Farmer is making. It will enable her to take better cafe of herself in the years to come because it will make her more self reliant.

Should there be no one in your family in position to take advantage of it, then try to think of some neighbor's daughter who is bright and popular and who might wish to avail herself of this splendid opportunity. Call her up over the telephone and ask her to write us right away. You can't appreciate how easy and fine our offer is until we have a chance to explain the full details. Now please give us your help in this matter if you really want to see The Missouri Farmer made a power in your neighborhood. It may seem like a small matter to you—but it is heartfelt co-operation of this kind which really counts because it enables every friend of the paper to lend a helping hand and collectively this kind of help means everything. For one dollar farmers get the paper for three years—and the right sort of farmer girl, young farmers' wife or young farmer will place The Missouri Farmer in scores of splendid homes in your community where it has never had a chance to preach its gospel of good farming and farm organization before. You know the paper well enough to know that we wouldn't make anything but a fair offer and we trust to have the aid therefore of every true friend of the fight we are making—for upon this depends the future well-being of our farm homes.

Read this Carefully

We want every farmer girl or young farmer who would like to own a beautiful five passenger Overland automobile to read carefully our announcement on the back page and then send us their name and address. You have no idea how easy our plan will make it for you to win this splendid car. It costs $695 at the factory. If you could win it by a couple of months hustling it would be equal to a salary of $347.50 per month—and that much hustling is almost certain to land it. You at least owe it to yourself to investigate this great offer carefully for you will be surprised at our great plan. Be sure to write to us today.

Does this Strike You?

If you are a young farmer and have a young wife and some "little shavers" at home, don't you think you and they would get more enjoyment out of life if you owned the beautiful Overland which is described on the back page of this issue? Well, when the rush of corn plowing and harvest is over, why not take a few weeks off and go out and win it? Our plan will make it mighty easy for you and you should write us for full particulars at once.

This Service FREE TO YOU

Now Is the Time

to think about those minor building jobs—hog houses, poultry houses, sheds, feed racks, gates, fences, etc.,—spring will soon be here.

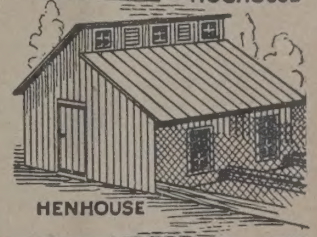
Make your plans now for the coming season.

Prepare adequate protection for your stock.

A building dollar spent in time is sure to save you more than nine!

And when you build, build for SERVICE, build with

HOGHOUSE


HENHOUSE

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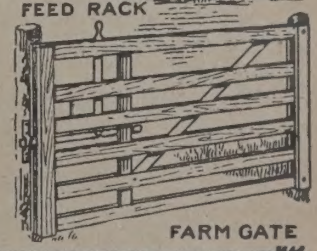
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David Dunne

A Romance of the Middle West

By BELLE KANARIS MANIATES

CHAPTER II

A few days before the time set for his departure David set out on a round of farewell visits to the country folk. It was one of those cold, cheerless days that intervene between the first haze of autumn and the golden glow of October. He had never before realized how lonely the shiver of wind through the poplars could sound. Two innovations had been made that day in the country. The rural delivery carrier, in his little house on wheels, had made his first delivery, and a track for the new electric-car line was laid through the sheep meadow. This inroad of progress upon the sanctity of their seclusion seemed sacrilegious to David, who longed to have lived in the olden time of log houses, with their picturesque open fires and candle lights. Following some vague inward call, he went out of his way to ride past the tiny house he had once called home, and which in all his ramblings he had steadfastly avoided. He had heard that the place had passed into the hands of a widow with an only son, and that they had purchased surrounding land for cultivation. He had been glad to hear this, and had liked to fancy the son caring for his mother as he himself would have cared for his mother had she lived.

As he neared the little nutshell of a house his heart beat fast at the sight of a woman pinning clothes to the line. Her fingers, stiff and swollen, moved slowly. The same instinct that had guided him down this road made him dismount and tie his horse. The old woman came slowly down the little path to meet him.

"I am David Dunne," he said gently, "and I used to live here. I wanted to come to see my old home once more."

He thought that the dim eyes gazing into his were the saddest he had ever beheld.

"Yes," she replied, with the slow, German accent, "I know of you. Come in."

He followed her into the little sitting room, which was as barren of furnishings as it had been in the olden days.

"Sit down," she invited.

He took a chair opposite a cheap picture of a youth in uniform. A flag of coarse material was pinned above this portrait, and underneath was a roughly carved bracket on which was a glass filled with goldenrod.

"You lived here with your mother," she said musingly, "and she was taken. I lived here with my son, and—he was taken."

"Oh!" said David. "I did not know —was he—"

His eyes sought the picture on the wall.

"Yes," she replied, answering his unspoken question, as she lifted her eyes to her little shrine, "he enlisted and went to the Philippines. He died there of fever more than a year ago."

David was silent. His brown, boyish hand shaded his eyes. It had been his fault that he had not heard of this old woman and the loss of her son. He had shrunk from all knowledge and mention of this little home and its inmates. The country folk had recognized and respected his reticence, which to people near the soil seems natural. This had been the only issue in his life that he had dodged, and he was bitterly repenting his negligence. In memory of his mother, he should have helped the lonely old woman.

"You were left a poor, helpless boy," she continued, " and I am left a poor, helpless old woman. The very young and the very old meet in their helplessness, yet there is hope for the one —nothing for the other."

"Yes, memories," he suggested softly, "and the pride you feel in his having died as he did."

"There is that," she acknowledged with a sigh, " and if only I could live on here in this little place where we have been so happy! But I must leave it."

"After my Carl died, things began to happen. When once they do that, there is no stopping. The bank at the Corners failed, and I lost my savings. The turkeys wandered away, the cow died, and now there's the mortgage. It's due to-morrow, and then—the man that holds it will wait no longer. So it is the poor-house, which I have always dreaded."

David's head lifted, and his eyes shone radiantly as he looked into the tired, hopeless eyes.

"Your mortgage will be paid tomorrow, and— Don't you draw a pension for your son?"

She looked at him in a dazed way.

"No, there is no pension—I—"

"Judge Thorne will get you one," he said optimistically, as he rose, ready for action, "and how much is the mortgage?"

"Three hundred dollars," she said despairingly.

"Almost as much as the place is worth. Who holds the mortgage?"

"Deacon Prickley."

"You see," said David, trying to speak casually, "I have three hundred dollars lying idle for which I have no use. I'll ride to town now and have the Judge see that the place is clear to you, and he will get you a pension, twelve dollars a month."

The worn, seamed face lifted to his was transfigured by its look of beatitude.

"You must n't" she implored. I didn't know about the pension. That will keep me, and I can find another little place somewhere. But the money you offer—no! I have heard how you have been saving to go school."

He smiled.

"Uncle Barnabas and the Judge are anxious to pay my expenses at college, and—you must let me. I would like to think, don't you see, that you are living here in my old home. It will seem to me as if I were doing it for my mother—as I would want some boy to do for her if she were left—and it's my country's service he died in. I would rather buy this little place for you, and know that you are living here, than to buy anything else in the world."

The old face was quite beautiful now.

"Then I will let you," she said tremulously. "You see, I am a hard-working woman and quite strong, but folks won't believe that, because I am old; so they won't hire me to do their work, and they say I should go to the poor-house. But to old folks there's nothing like having your own things and your own ways. They get to be a part of you. I was thinking when you rode up that it would kill me not to see the frost on the old poplar, and not to cover up my geraniums on the chill nights."

Something stirred in David's heart like pain. He stooped and kissed her gently. Then he rode away, rejoicing that he had worked to this end. Four hours later he rode back to the little home.

"The Judge has paid over the money to Old Skinflint Prickley," he said blithely, "and the place is all yours. The deacon had compounded the interest, which is against the laws of the state, so here are a few dollars to help tide you over until the Judge gets the pension for you."

"David," she said solemnly, "an old woman's prayers may help you, and some day, when you are a great man, you will do great deeds, but none of them will be as great as that which you have done to-day."

David rode home with the echo of this benediction in his ears. He had asked the Judge to keep the transaction secret, but of course the Judge told Barnabas, who in turn informed Uncle Larimy.

"I told the boy when his ma died," said Uncle Larimy, "that things go 'skew sometimes, but that the sun would shine The sun will allers be a-shinin' fer him when he does such deeds as this."

CHAPTER III

The fare to his college town, his books, and his tuition so depleted David's capital of one hundred dollars that he hastened to deposit the balance for an emergency. Then he set about to earn his "keep," as he had done in the country, but there were many students bent on a similar quest and he soon found that the demand for labor was exceeded by the supply.

Before the end of the first week he was able to write home that he had found a nice, quiet lodging in exchange for the care of a furnace in winter and the trimming of a lawn in other seasons, and that he had secured a position as waiter to pay for his meals; also that there was miscellaneous employment to pay for his washing and incidentals.

He didn't go into details and explain that the "nice quiet lodging" was a third-floor rear whose gables gave David's six feet of length but little leeway. It was quiet because the third floor was not heated, and its occupants therefore stayed away as much as possible. His services as waiter were required only at dinner time, in exchange for which he received that meal. His breakfast and luncheon he procurred as best he could; sometimes he dispensed with them entirely. Crackers, milk, and fruit, as the cheapest articles of diet, apperaed oftenest on his menu. Sometimes he went fishing and surreptitiously smuggled the cream of the catch up to his little abode, for Mrs. Tupps' "rules to roomers," as affixed to the walls, were explicit: "No cooking or washing allowed in rooms." But Mrs. Tupps, like her fires, was nearly always out, for she was a member of the Woman's Relief Corps, Ladies' Aid, Ladies' Guild, Woman's League, Suffragette Society, Pioneer Society, and Eastern Star. At the meetings of these various societies she was constant in attendance, so in her absence her roomers "made hay," as David termed it, cooking their provender and illicitly performing laundry work in the bathtub. Still, there must always be "on guard" duty, for Mrs. Tupps was a stealthy stalker. One saw her not, but now and then there was a faint rustle on the stair. David's eyes and ears, trained to keenness, were patient and vigilant, so he was generally chosen as sentinel, and he acquired new caution, adroitness, and a quietness of movement.

There had been three or four close calls. Once, she had knocked at his door as he was in the act of boiling eggs over the gas jet. In the twinkling of an eye the saucepan was thrust under the bed, and David, sweet and serene of expression, opened the door to the inquisitive-eyed Tupps.

"I came to borrow a pen," she said shamelessly, her eyes penetrating the cracks and crevices of the little room.

David politely regretted that he used an indelible pencil and possessed no pens.

In the act of removing all records and remains of feasts, David became an adept. Neat, unsuspicious looking parcels were made and conveyed, after retiring hours, to a near-by vacant lot, where once had been visible an excavation for a cellar, but this had been filled to street level with tin cans, paper bags, butter bowls, cracker cases, egg shells, and pie plates from the House of Tupps.

His miscellaneous employment, mentioned in his letter, was any sort of work he could find to do.

David became popular with professors by reason of his record in classes and the application and concentration he brought to his studies. His prowess in all sports, his fairness, and the spirit of camaraderie he always maintained with his associates, made him a general favorite. He wore fairly good clothes, was well groomed, and always in good spirits, so of his privations and poverty only one or two of those closest to him were even suspicious. He was entirely reticent on the subject, though open and free in all other discourse, and permitted no encroachment on personal matters. One or two chance offenders intuitively perceived a slight but impassable barrier.

"Dunne has grown a little gaunt-eyed since he first came here," said one of his chosen friends to a classmate one enevning. "He's outdoors enough to counteract overstudy. But do you suppose he has enough to eat? So many of these fellows live on next to nothing."

"I shouldn't be surprised if he were on rations. You know he always makes some excuse when we invite him to a spread. He's too proud to accept favors and not reciprocate, I believe."

David overheard these remarks, and a very long walk was required to restore his serenity. During this walk he planned to get some extra work that would insure him compensation requisite to provide a modest spread so that he might allay their suspicions. Upon his return to his lodgings he found an enormous box which had come by express from Lafferton. It contained Pennyroyal's best culinary efforts; also four dozen eggs, a two-pound pat of butter, coffee, and a can of cream.

He propitiated Mrs. Tupps by the proffer of a dozen eggs and told her of his desire to entertain his friends. It would be impossible to do this in his room, for when he lay in bed he could touch every piece of furniture with but little effort.

David had become his landlady's confidant and refuge in time of trouble, and she was willing to allow him the privilege of the dining room.

"I am going away to-night for a couple of days, but I would rather you wouldn't mention it to the others. You may have the use of the dining room and the dishes."

David's friends were surprised to receive an off-hand invitation from him to "drop in for a little country spread." They were still more surprised when they beheld the long table with its sumptuous array of edibles, —raised biscuits, golden butter, cold chicken, pickles, jelly, sugared doughnuts, pork cake, gold and silver cake, crullers, mince pie, apple pie, cottage cheese, cider, and coffee.

"It looks like a county fair exhibit, Dunne," said a city-bred chap.

Six healthy young appetites did justice to this repast and insured David's acceptance of five invitations to dine. It took Mrs. Tupps and David fully a week to consume the remnants of this collation. The eggs he bestowed upon an anemic-faced lodger who had been prescribed a milk and egg diet, but with eggs at fifty cents a dozen he had not filled his prescription.

At the end of the college year David went back to the farm, and a snug sense of comfort and a home-longing filled him at the sight of the old farmhouse, its lawn stretching into gardens, its gardens into orchards, orchards into meadows, and meadows into woodlands. Through the long, hot summer he tilled the fields, and invested the proceeds in clothes and books for the ensuing year.

There followed three similar years of a hand-to-mouth existence, the privitations of which he endured in silence. There were little occasional oases, such as boxes from Pennyroyal, or extra revenues now and then from tutoring, but there were many, many days when his healthy young appetite clamored in vain for appeasement. On such days came the temptation to borrow from Barnabas the money to finish his course in comfort, but the young conqueror never yielded to this enticement. He grew stronger and sturdier in spirit after each conflict, but lost something from his young buoyancy and elasticity which he could never regain. His struggles added a touch of grimness to his old sense of humor, but when he was admitted to the bar he was a man in courage, strength, and endurance.

CHAPTER IV

It seemed to David, when he was at the farm again, that in his absence time had stood still, except with Janey. She was a slender slip of a girl, gentle voiced and soft hearted. Her eyes were infinitely blue and lovely, and there was a glad little ring in her voice when she greeted "Davey."

M'ri gave a cry of surprised pleasure when she saw her former charge. He was tall, lithe, supple, and hard-muscled. His face was not very expressive in repose, but showed a quiet strength when lighted by the keenness of his serious, brown eyes and the

sweetness of his smile. His color was a deep-sea tan.

"It seems so good to be alive, Aunt M'ri. I thought I was weaned away from farm life until I bit into one of those snow apples from the old tree by the south corner of the orchard. Then I knew I was home."

Pennyroyal shed her first visible tear.

"I am glad you are home again, David," she sniffed. "You were always such a clean boy."

"I missed you more'n any one did, David," acknowledged Miss Rhody. Ef I had been a Catholic I should a felt as ef the confessional hed been took from me. I ain't hed no one to talk secret like to excep' when Joe comes onct a year. He ain't been fer a couple of years, either, but he sent me anuther black dress the other day —silk, like the last one. To think of little Joe Forbes a-growin' up and keepin' me in silk dresses!"

"I'll buy your next one for you," declared David emphatically.

The next day after his return from college David started his legal labors under the watchful eye of the Judge. He made a leap-frog progress in acquiring an accurate knowledge of legal lore. He worked and waited patiently for the Judge's recognition of his readiness to try his first case, and at last the eventful time came.

"No; there isn't the slightest prospect of his winning it," the Judge told his wife that night.

"The prosecution has strong evidence, and we have nothing—barely a witness of any account."

"Then the poor man will be convicted and David will gain no glory," lamented M'ri. "It means so much to a young lawyer to win his first case."

The Judge smiled.

"Neither of them needs any sympathy. Miggs ought to have been sent over the road long ago. David's got to have experience before he gains glory."

"How did you come to take such a case?" asked M'ri, for the Judge was quite exclusive in his acceptance of clients.

"It was David's doings," said the Judge, with a frown that had a smile lurking behind it.

"Why did he wish you to take the case?" persisted M'ri.

"As near as I can make out," replied the Judge, with a slight softening of his grim features, "it was because Miggs' wife takes in washing when Miggs is celebrating."

M'ri walked quickly to the window, murmuring some unintelligible sound of endearment.

On the day of summing-up at the trial the court room was crowded. There were the habitual court hangers on, David's country friends en masse, a large filling in at the back of the representatives of the highways and byways, associates of the popular wrongdoer, and the legal lore of the town, with the good-humored patronage usually bestowed by the profession on the newcomer to their ranks.

As the Judge had said, his client was conceded to be slated for conviction. If he had made the argument himself he would have made it in his usual cool, well-poised manner. But David, although he knew Miggs to be a veteran of the toughs, felt sure of his innocence in this case, and he was determined to battle for him, not for the sake of justice alone, but for the sake of the tired looking washerwoman he had seen bending over the tubs. This was an occupation she had to resort to only in her husband's times of indulgence, for he was a wage earner in his days of soberness.

When David arose to speak it seemed to the people assembled that the coil of evidence, as reviewed by the prosecutor in his argument, was drawn too closely for any power to extricate the victim.

At the first words of the young lawyer uttered in a voice of winning mellowness, the public forgot the facts in the case. Swayed by the charm of David's personality, a current of newborn sympathy for the prisoner ran through the court room.

David came up close to the jury and, as he addressed them, he seemed to be oblivious of the presence of any one else in the room. It was as though he were telling them, his friends, something he alone knew, and that he was sure of their belief in his statements.

"For all the world," thought M'ri, listening, "as he used to tell stories when he was a boy. He'd fairly make you believe they were true."

To be sure the jury were all his friends; they had known him when he was little "barefoot Dave Dunne." Still, they were captivated by this new oratory, warm, vivid, and inspiring, delivered to the accompaniment of dulcet and seductive tones that transported them into an enchanted world. Their senses were stirred in the same way they would be if a flag were unfurled.

"Sounds kind o' like orgin music," whispered Miss Rhody.

Yet underneath the eloquence was a logical simplicity, a keen sifting of facts, the exposure of flaws in the circumstanstial evidence. There was a force back of what he said like the force back of the projectile. About the form of the hardened sinner, Miggs, David drew a circle of innocence that no one ventured to cross. Simply, convincingly, and concisely he summed up, with a forceful appeal to their intelligence, their honor, and their justice.

The reply by the assistant to the prosecutor was perfunctory and ineffective. The charge of the judge was neutral. The jury left the room, and were out eight and one-quarter minutes. As they filed in, the foreman sent a triumphant telepathic message to David before he quietly drawled out:

"Not guilty, yer Honor."

The first movement was from Mrs. Miggs. And she came straight to David, not to the jury.

"David," said the Judge, who had cleared his throat desperately and wiped his glasses carefully, at the look in the eyes of the young lawyer when they had rested on the defendant's wife, "hereafter our office will be the refuge for all the riffraff in the country."

This was his only comment, but the Judge did not hesitate to turn over any case to him thereafter.

When David had added a few more victories to his first one, Jud made one of his periodical diversions by an offense against the law which was far more serious in nature than his previous misdeeds had been. M'ri came out to the farm to discuss the matter.

"Barnabas, Martin thinks you had better let the law take its course this time. He says it's the only procedure left untried to reform Jud. He is sure he can get a light sentence for him—two years."

"M'ri," said Barnabas, in a voice vibrating with reproach, "do you want Jud to go to prison?"

M'ri paled.

"I want to do what is best for him, Barnabas. Martin thinks it will be a salutary lesson."

"I wonder, M'ri," said Barnabas slowly, "if the Judge had a son of his own, he would try to reform him by putting him behind bars."

"Oh, Barnabas!" protested M'ri, with a burst of tears.

"He's still my boy, if he is wild, M'ri."

"But, Barnabas, Martin's patience is exhausted. He has got him out of trouble so many times—and, oh, Barnabas, he says he won't under any circumstances take the case! He is ashamed to face the court and jury with such a palpably guilty client. I have pleaded with him, but I can't influence him. You know how set he can be!"

"Wal, there are other lawyers," said Barnabas grimly.

(To be continued.)

LETTERS FROM BOYS AND GIRLS

We have had a number of nice letters from some of our boys and girls who are reading the story "David Dunne" and we hope more of them will write. In writing do not follow the style of other letters but write in your own way because it will do little good for you to write after the copy of other letters.

We asked you in our first request to tell us which character in the story you liked best and when you do that we want you to tell us why you like him or her as the case may be. Pick out some of the incidents in the life of some character and tell us why you think they show the marks of a good boy or girl.

HOW MUCH PROFIT

is there in a pig? That depends on the man, on the feed, and on the pig. But how do you know when the combination is right to produce best results? **Keep a Farm Account Book and let it be**

THE PRACTICAL FARM ACCOUNT AND RECORD BOOK

Complete Account of Hogs ....., 19 14

Date	Person, Firm, or Account	Item, Description, Price	Cash Received	Cash Paid	Labor Hours Man	Labor Hours Horse	Labor Hours Tractor	Amount Charged	Amount Credited
Nov. 1	Corn Account	100 bus. corn @ 60 ¢						60 00	
Dec. 10	"	80 bus. corn @ 64 ¢						51 20	

Charge the pigs with the corn they eat and then—

THE PRACTICAL FARM ACCOUNT AND RECORD BOOK is a splendid 176 page book, well bound and ruled on extra quality ledger paper. It is designed to contain the accounts of the average farm for five years. This is especially desirable for the purpose of comparison. The book also contains forms for crop, stock, employment, and insurance records.

THE PRACTICAL FARM ACCOUNT AND RECORD BOOK

Complete Account of Corn Crop , 19 14

Date	Person, Firm, or Account	Item, Description, Price	Cash Received	Cash Paid	Labor Hours Man	Labor Hours Horse	Labor Hours Tractor	Amount Charged	Amount Credited
Nov. 1	Hog Account	100 bus. corn @ 60¢							60 00
Dec. 10	" "	80 bus. corn @ 64¢							51 20

Give the corn crop credit and that transaction is closed. Remember that in farm bookkeeping perhaps the greatest number of transactions will be between accounts on your farm.

We will give **The Missouri Farmer** for 3 years, either renewal or new subscription and a copy of **The Practical Farm Account and Record Book** for $2.25.

The Missouri Farmer, Columbia, Mo.

Several of our little folks say they do not like "Jud" because he is mean to David but after all can you not find something good even in Jud? The Editor has never in all his life seen a boy or girl who did not show some good somewhere or sometime and while we do not want you to overlook the bad in anyone we want you to be able to find the good that may be there.

We do not confine you to the story but if you are doing something for yourself, or to help father and mother write us about it. Have you a garden, some fruit, a pig, a colt, a calf, a pet lamb or pony that you are caring for and from which you hope to make some money, or get some pleasure? Just write us a story about what you are doing to enjoy yourself or to make some money for your own. Then what are you going to do with the money when you make it?

About the most fun I had when a boy was with two calves my father gave me to pay me for a summer's work. I had a small truck wagon and I trained those calves to work and I could do a lot of light hauling with them. Sometimes they would run away with the wagon and spill the load and the driver but by being kind to them and feeding them a little salt and meal occasionally I soon had them so they were very gentle and would mind when I wanted them to stop or to start. I sold the calves for $40 when one year old and with the money bought a colt which soon grew into a fine riding horse and I think that was my first liking for the live-stock business which I have never lost.

Do not make your letters too long but try to make every word tell something of interest. Now, let us have your letters.—The Editor.

A Letter from Ollie

Sedgewickville, Mo.

To the Editor:—

I have noticed in The Missouri Farmer that you want to know what some of your boys and girls that read your paper think of the story, "David Dunne." I'm always glad when the paper comes and I think David is the main, and best character.

I hope this will be printed in The Missouri Farmer as this is the first letter of this kind I have written.

Ollie.

Jessie Likes Good Stories

To the Editor:—

I think the story "David Dunne" is just fine. It takes an awfully good story to interest me but this one suits my fancy. I do not like a story that is not moral and that teaches a good lesson. I can read every word of "David Dunne" and find a lesson worth while in every chapter.

Jesse Baldwin, Maple Grove.

To the Editor:—

I have read the request for letters from boys and girls telling what they think of the story "David Dunne." I am a little 9-year-old girl and I am always glad when the paper comes so I can read the story. I like David best of all the boys and girls in the story but I am very much interested in Joe Forbes, Miss Rhody, M'ri and Janey. I don't like Jud much because he is not kind to David and Janey. This is my first letter to a paper and I hope it will be printed in The Missouri Farmer.

I would like to correspond with some of the nice boys and girls who read this paper. Ethel VanVacter, Laddonia.

A Little Irish Girl

To the Editor:—

I am a little "Irish" girl of eleven summers, with light complexion, dark blue eyes and brown hair. I live on a farm of two hundred and forty acres with my father, mother, four brothers, and four sisters.

I am very much interested in the story "David Dunne." I think David is the most interesting character, although I like all of the story fine. I am always anxious for the next paper to come. I hope we will see lots of letters for the "Boys" and "Girls" page in The Missouri Farmer.

Kathleen, Conception Junction.

Another Friend of David

Jamesport, Mo.

Dear Editor:—

I am a boy twelve year's old. I live on a two-hundred-acre farm, northwest of Hickory. I think your story of David Dunne is a good story. I do not think Jud is a good character. I will be glad when the next paper comes. Cleo Buster.

BEAUTY AND EGG PRODUCTION

Can utility and beauty be combined in the same fowl, or in other words is it possible to combine egg production and Standard requirements? If not, we had better change the Standard where necessary. It is said that the life of the average fancier is three years. If this be true it is our duty to get busy and help him develop ways and means by which he will be enabled to make more dollars and cents and thus stay longer in the business which he has chosen and in which we are all pleased to have him engage.

Some are still arguing the momentous question of "Which was created first, the hen or the egg," and also that perplexing question of "Why a black hen lays a white egg." Could they not better spend their time trying to produce the hen and to get the egg? We also see many arguing for and against the question of combining "utility and beauty." Instead of saying it cannot be done, had we not better be trying to harmonize and combine these two desirable qualities? We all admit that they are desirable, then lets quit trying to discourage those who are making the effort, and find out on what basis or to what extent and to the highest degree that they may be combined.

A hen that never laid an egg would naturally be expected to score some higher than a hen of the same variety that laid a great many eggs, but we would rather have a hen that scored 90 and laid 200 eggs than to have one scoring 94 that laid only 90 eggs. The man is either prejudiced or narrow minded who would attempt to discourage the breeders from making an attempt to combine these two qualities in all varieties of poultry. The Standard of Perfection calls for 100 points for each variety. No one ever saw a bird or perhaps ever will see one that is perfect or would score 100 points. But that is no reason why we should discourage breeders in their efforts to breed more perfect specimens. It is just as sensible to do that, however as it is to try to tell them they cannot combine utility and beauty to a greater degree than they are found in the average flock at the present time. The thing to do is to make the effort and quit arguing about it. We are convinced that it can be done. If it can not be then it is high time we begun to discover the changes necessary to make in the Standard requirements so that it may be done.

A prominent breeder of Buff Leghorns has had first prize winners at the World's Fair at San Francisco, and at the Chicago Poultry Show hatched from birds with records as high as 215 eggs. Prominent Barred Rock breeders to our knowledge have had hens lay as many as 250 eggs and still score high enough to win first prizes in strong competition. If this can be done with these two varieties, it can be done with most any other. There is no use to put goggles on our eyes and blind ourselves to the truth, the thing to do is to get busy and turn the trick. The breeders who are making the effort are those who are going to stay in the business when he who hesitates will long be forgotten.

The time to score a pullet is just before she has laid her first egg. It has been long admitted by all fanciers that this is the period in the life of the average female when she is considered in "full bloom." This is when you can get the best check on her from a fancy or Standard point of view. After she has been trap-nested and gone through a hard year's work and the strain of laying a large number of eggs, it is not to be expected that she will retain quite the same beauty of plumage and shape that she had just previous to laying her first egg. But her value and true worth from a fancy standpoint and for breeding purposes may be there just the same. A certain lady may be considered the most beautiful woman in your community, but after that lady has spent a hard day's work in a hot kitchen she may come out with flour and smut on her face and clothing and not look quite as attractive as she does in her evening clothes with her drug store complexion, but the natural beauty and good qualities of the real woman will be there just the same, though they may be temporarily hidden by flour and smut from the pots and kettles.

The various egg laying contests which are being held are doing much to aid the breeders of the country in their efforts to combine egg production and beauty or Standard requirements to the greatest possible degree. The American School of Poultry Husbandry has arranged to establish an American Egg Laying Contest on their own experimental grounds near Kansas City, where all of these points are to be given due consideration, and entries are now being received for this contest. Prizes will be offered, not only for the greatest number of eggs laid by both pens and individuals, but for the greatest weight in eggs and also for the pen showing the greatest net profit. Winter layers will count here.

Each bird scoring 90 or more points and laying 120 or more eggs will be awarded a handsomely engraved certificate to that effect. Here is where beauty and utility will be combined and certified to. Each bird will be officially trapnested and that record certified. Each will be tested for White Diarrhea and that certified. Each will be scored and a Standard score card by a Licensed Judge furnished. If you had a pen of such hens, that had met the test, that had made a good record and you were furnished an official registration certificate to that effect, would not those birds be worth a great deal to you as breeders? Would it not be a great thing to advertise such stock? Would your customers not be pleased to buy eggs and stock from birds which they knew had met the test at the trap nest, met Standard requirements, and which they knew to be free from White Diarrhea? You would certainly have great advertising advantages and great pulling power over the careless breeder who had no such record back of his stock. It would not take such long winded letters to land sales. Your certificates of registration, your score cards and your trap nest records would speak for themselves.

Today, eight or more of our leading State Colleges of Agriculture and Universities are putting on Contests and hundreds of progressive poultrymen are having their birds officially trapnested. The breeder who has a good egg record and a good show record back of his birds is the one who is getting the business. This contest is to be held by the Amercan School of Poultry Husbandry on their own grounds near Kansas City.—T. E. Quisenbery, President Armerican School of Poultry Husbandry.

THE EGG LAYING CONTEST

The Fifth National Egg Laying Contest, 104 pens of five hens each, is making a fine record, all hens in the contest making the highest record of any contest for the first seven months. The averages of all hens in each contest for seven months are as follows: First Contest, 80 eggs each; second contest, 85.6; third contest, 97; fourth contest, 83; and fifth contest, 99.6.

Nine thousand four hundred seventy eggs were produced during May which is an approximate average of 18.22 eggs each.

The averages for the month of May in each of the contests are as follows: First, 17.5; second, 17.5; third, 19; fourth, 17; fifth, 18.2.

There were 207 broody hens recorded during the month.

All prizes for May were won by S. C. White Leghorns. Pen 24, S. C. White Leghorns, from England, won the cup for May by laying 133 eggs.

The five highest pens for May are as follows:

S.C.White Leghorns, England, 133 eggs
S.C.White Leghorns, Missouri, 131 eggs
S.C.White Leghorns, Missouri, 129 eggs
S.C.White Leghorns, Ohio, 127 eggs
S.C.White Leghorns, Missouri, 126 eggs

Hens making the five highest records for the seven months are equally divided between the Plymouth Rocks and Leghorns. They are as follows:

White Rocks, Washington.....176 eggs
S. C. White Leghorns, Washington .....163 eggs
White Rocks, Washington.....160 eggs
S. C. White Leghorns, New Jersey (Tie) .....157 eggs
Barred Rocks, Missouri, (Tie) 157 eggs
S. C. White Leghorns, Washington .....155 eggs

Six breeds share in the honors for ten highest records for the seven months. The five hens in the leading pen have made an average of 12 dozen eggs each in seven months. The pens making the ten highest records for seven months are as follows:

White Rocks, Washington.....721 eggs
Barred Rocks, Missouri.....716 eggs
R. C. Reds, Missouri.....704 eggs
S. C. White Leghorns, Washington .....697 eggs
Black Orpingtons, Indiana.....670 eggs
S. C. Reds, Iowa.....659 eggs
Oregons, Oregon .....648 eggs
S. C. White Leghorns, Texas....637 eggs
White Wyandottes, Michigan....631 eggs
S. C. White Leghorns, Kansas 628 eggs

Thirteen hens have already laid over 150 eggs each.

C. T. Patterson, Director,
Mountain Grove Mo.

MISSOURI STATE POULTRY SHOW

The Twenty-fourth Annual Show of the Missouri State Poultry Association will be held in the Auditorium in St. Joseph, Mo., December 5, 6, 7, 8, 9, 1916. The judges already secured are

Thos. W. Southard, Kansas City, Mo.
D. E. Hale, Chicago, Ill.
Russell F. Palmer, Kearney, Neb.
Adam Thompson, Amity, Mo.

Arrangements have been made with two of the judges to be in attendance from the time the show opens until it closes, affording an opportunity for all exhibitors and visitors to consult the judges relative to any subject affecting Standard-bred poultry. This particular feature should increase interest in the show.

The Missouri State Poultry Experiment Station will have their usual exhibit from the different departments, and a poultry institute will be conducted during the show, under the direction of Prof. C. T. Patterson, Director of the Missouri State Poultry Experiment Station.

Every year shows an increase in number of exhibits of eggs, and this year should bring out the greatest display of eggs ever brought together in Missouri. Competition is open to the world.

For further information, please address. Fred Crosby, Secretary,
Mountain Grove, Mo.

Egg Candling Made Easier

In order to tell, without breaking them, whether eggs are good or bad, candle them. The poultrymen at the Wisconsin Experiment Station are recommending this method of candling:—

"Get a box large enough to hold a lantern on the inside. Either heavy pasteboard or wood boxes will do. Cut a small opening in the top of the box for ventilation; fix the back as a door or slide so that the lantern can be put out and in easily. Then cut a hole about the size of a half dollar in the front of the box at a height just above the lantern flame.

"If the box is not tight, cover it with black paper to keep the light from shining out. A heavy coat of black paint helps materially where the box is made of thin wood or pasteboard. Light the lantern, set it inside the box, and the machine is ready for business. A dark room is the best place to use it.

"To find out what eggs are fresh and which are old or poor one should learn to compare the two. A fresh egg, when placed before this light is clear, with a small air cell. A fertile egg that has been under a hen for a week or so, will show very plainly the developing chick with veins running through the yolk. An infertile egg will show its yolk darkened more than a fresh egg, and its air-cells enlarged. In some fresh eggs little black or dark spots can be noticed near the yolk. these are tiny blood clots on the yolk, and eggs having them are not the best for hatching. Other defects like meat spots will be easily told and can be discarded. They should be used for cooking or some other purpose."

Remedies for "Chiggers."

Washington, D. C.

If a bath in hot water, or in water containing salt or strong soap, is taken within a few hours after exposure in shrubbery and weeds infested with "chiggers," or "red bugs," no ill effects will be experienced. After a long exposure, however, a bath has practically no effect, and direct remedies are necessary.

After irritation has set in, and small red spots appear, the application of a moderately strong solution of ammonia to the affected parts is recommended by the Department of Agriculture's entomologists. A supersaturated solution of bicarbonate of soda, or common cooking soda or saleratus, will afford relief. Liberal applications should be made until the irritation subsides. If the suffering is severe, a dilute tincture of iodine or collodian should be lightly applied.

By Old Jim Riley

I've been sizin' up this Hughes feller that th' republicans nominated in Chicago th' other day and I've made up my mind about just one thing—and that is that I'd just about as leave undertake to tickle a catamount under th' chin as to slap him on th' back and call him "Charlie."

Farm Club Saves $200 on Binder Twine

To The Missouri Farmer:

On receipt of my Missouri Farmer today, and seeing that you call for Farm Club attention, and I being Secretary of our club, I will give you a short report of our Club, as I think it is only fair in return for the favors you have extended us. We organized our club the 1st of February, with ten members, we have at present 38 and expect more yet. We meet regularly every two weeks, and discuss some subject of importance to farmers at each meeting. We thought when we first organized that we would only meet regularly until spring work opened up, and then perhaps once or twice through the summer and then tide over until fall or winter, but no, not so. At our meeting April 24th a vote was taken and carried unanimously that we keep meeting right along regularly all summer. I am sure there is a friendlier feeling, a more neighborly spirit, more co-operation among the farmers of our community than ever before, and I think we have the Editor and Publisher of The Missouri Farmer principally to thank for it. One way I see more co-operation is in road work. I am and have been road overseer for a number of years and I have less trouble getting my help on the road this spring than ever before, so something has been accomplished for good roads.

Our club ordered me to send and get a blank Land Bank petition, which I did and we filled same and returned to Mr. A. T. Edmondson.

I sent off an order today for our club for 4100 pounds of binder twine to our State Prison which is costing us nine cents per lb. plus freight. Our dealer here has sold some already at 14c per pound which makes a saving of about two hundred dollars to our club members.

I shall make an endeavor soon to get some subscriptions and renewals to your paper. Thanking you for past and future favors, I remain,

A. M. Fry, Tipton, Mo.

Look at the yellow lable on your paper and if your time has expired we will be pleased to have you send a dollar bill addressed to The Missouri Farmer, Columbia, Mo., and for it we will set your time ahead for three years.

BUCKSHOT BY THE PROFESSOR

The retired farmer is not necessarily a poor husband. Some, intent upon saving, husband practically their entire incomes.

Farmers may be divided into three classes, tired, retired and rubber tired.

A lot of modern folks poke fun at the old parlor that was open only on Sunday when the preacher came. Is the church that is open only under such circumstances much better?

With many of us it would make for better travel both here and hereafter if our religion and our road tax receipt could be made out in the wife's name.

Every farmer should make his farm a demonstration farm, not an experiment farm.

About the only noticeable difference between some so-called farmers and city folk is that one class gets milk from cows while the other gets its out of cans.

It often happens that the end of the rainbow is on the old farm home. Digging there, we find the fabled pot of gold.

The early settler bought land by the section or "quarter." Now we buy it by the inch—or quart.

Every country boy has a chance to rise—in summer, as early as four o'clock.

Times have changed. As a boy, we didn't get "our jacket dusted" with a vacuum cleaner.

Only the commencement orator hitches his wagon to a star, as Emerson advised. Most of us prefer a Missouri mule.

There's a lot of difference between living in the country and on it.

Own your farm, but don't let your farm own you.

The country, in the main, makes neither millionairs nor mendicants—just men.

The best soil testing "machines" ever put into the ground are the plants that grow out of it.

More men have been kicked by cows than by mules—only they are ashamed to say so.

In finding fault with people and mules the wise plan is to look 'em in the face.

The college of today is teaching of everything from the milk pail to the milky way.

When it comes to real success, we have seen an A. B. C. farmer outstrip a Ph. D. agriculturist.

It is bad to settle in the wrong state but infinitely worse to get in the wrong state of mind—and stay there.

So you are not satisfied with the work of the preacher whom you employ one Sunday in the month? Well, what kind of a showing would you make if you had to farm four farms to make a living?

Smut in oats isn't half so serious a matter as smut in the paper that is read by the boys and girls.

It is charged that the motion picture heroine has alienated the hired man's affections for the farm. Why not, then, moving pictures in the country?

The size of the farm isn't half so important as the size of the farmer.

Acid souls are responsible for more failures than are acid soils.

Rotation is alright, but the country has suffered because of too much rotation among renters, preaches and teachers.

Modern farm methods demand that we trap-nest "Bossie" as well as "Biddy."

Why shouldn't our congressmen send us free records for our victrolas instead of free seeds for the garden? We would actually try the records.

A silo is a monument that the progressive farmer builds during his own lifetime.

If perchance the farm boy should fail to make the forks and spoons come out right at a seven-course dinner, this is no reflection on his ability. He has never had to take his meals on the installment plan.

You can no more make money on scrub cattle than you could operating an ice plant at the North Pole or conducting a fur store at the equator.

It's hard to break away from habit. For instance, there's the retired farmer living in town, but who continues to salt the stock (the lone family horse) on Sunday morning.

It is a great mistake for a farmer to retire and go to town, there to spend his last days—and nothing else.

In a season of protracted drouth—when there are no clouds—it's an optimistic farmer that is able to see the proverbial "silver lining."

TIME AND LABOR SAVERS ON THE FARM

Farmers have plenty of work to do—some never "catch up." However, the busy farmer can take advantage of home made time, step and labor savers. With a few boards and a hand full of nails it is easy to construct hundreds of helpful articles for use about the farm, home and barn. They are all practical for they have been worked out and used by farmers. They can be made at any time and at small cost.

Labor can be saved by using home made tools and implements. One man cut roots for twenty cows all one winter with a home made root cutter. Practical harrows can be made to fit your own needs. A sled corn harvester is a labor saving device for the man with a small corn patch. Besides there are corn shellers, stone drags, husking tables, farm levels, vegetable washers and a host of other handy things easy of home manufacture.

Almost every farm in this country has several racks or troughs in use. Are they the right kind to best serve the purpose? Perhaps one of these would be suitable: a portable feeding rack, a feed rack for roughage, a combined shed and feed rack, an alfalfa feeding rack, a movable hog house and hay rack or a self feeder. There are many kinds of troughs—a weaning trough for hogs, an adjustable hog trough, an ensilage feed box and a wooden water trough. There are these wagon racks: a rack for hauling hogs, a hay rack, a calf moving rack, a float type rack and a dozen others. The small "A" hog house is a valuable aid at farrowing time. Then there are portable hay roofs, hay covers of wood dehorning chutes, tobacco frames, seed corn racks and salt boxes for sheep and cattle.

Time can be saved by using ltitle labor savers that are very easy t make. There is a contrivance that facilitates the slopping of hogs, a rack that unloads or loads a heavy farm rack and a wagon box storage rack.

Every work shop should have a good bench, a bolt and nut cabinet and a handy mail box with a handle on it so that it may be carried from place to place. There are hundreds of other labor savers such as milk stools, wagon jacks, ensilage trucks, wire stretchers and time saving stiles.

One class of farm helps might be called step and back savers. They are designed for the home. Remember that your wife helps you make a living—she is your business partner—and she may work at a disadvantage, taking thousands of useless steps and bending her back until she is so weary at the end of the day that she can hardly stand. It is easy to remedy this waste of energy—just get a few boards and some nails and you can make anything from a small kitchen shelf to a complicated kitchen cabinet. The following list may suggest what you can do to make your wife happy her work easier or your home life more comfortable: a porch swing, a plate rack, a clothes rack, a good quilting frame, a book case, an iceless refrigerator, a tea wagon, a wood box that can be filled without coming into the house, a disappearing ironing board, an up-to-date wash bench, a door stop, a hanging shelf, a clothes box, a dish pan rack that will raise the dish pan so that mother will not have to bend so much when washing the dishes, a sunning rack for milk cans, a folding table for a small kitchen or a bread board.

If the chickens are properly housed and fed they will prove to be the best paying investment on the farm. Of course, you will have a good poultry house and equip it with hinged nests and movable roosts. Then there are coops for hen and chicks, chicken feeders, brood coops and home made brooders.

These are just a few of the possible uses of wood on your farm. You can make everyone of these articles yourself. Naturally, the question will arise, which is the best wood to use in making them?

Southern Yellow Pine has gained the name of "the farmers wood" because of its great use on American farms. It has thousands of uses, and more of this wood is consumed each year than any five other woods combined. Or, in other words, 39% of the total lumber production for 1914 was Southern Yellow Pine. Any wood to gain such large use and favor must have superior qualities. And this is true of Southern Yellow Pine—it proves its remarkable adaptability in many ways. It is the great all-purpose wood. Its all-embracing usefulness is not equalled by any other wood that grows. It has a striking figure and a beautiful texture. It is bright and attractive in color and its general beauty and utility is surpassed by no other wood, not even the most expensive hardwoods. It takes stains, varnishes, hard oil and paint perfectly. Characterized by the workability and moderate weight that give it rating as a softwood, it shoulders its way into the field of the hardwoods, and in many classes of construction where great strength, toughness and durability are essential, thrusts aside the oaks, hickories and ashes, and in their native territories. In the Government Bulletin, "Uses of Commercial Woods of the United States", it is said of Southern Yellow Pine:—"In a large part of the country it is so universally used that there are few places of importance it does not fill."

The service qualities of Southern Yellow Pine, combined with its low cost, availability and easy working nature, make it the ideal general purpose wood for the farmer and amateur mechanic in the home. For farm building and repairs it is readily procurable everywhere in standard grades, and is perfectly adapted to the construction of barns, silos, granaries, garages, cribs, ice houses, feed racks, tanks, troughs, poultry houses, sheds, gates, fences, well tops and implement repairs—all of the many building tasks, large and small, that the farmer finds need to turn his hand to.

Knowing and using the material best suited to your needs, great and small, means maximum service at minimum cost. It will pay you to get acquainted with Southern Yellow Pine if you are not already using it, for it meets every farm building need from a small kitchen shelf to the largest barn. It is "the wood of service." W. J. F.

WILT DISEASE OF WATERMELON

The watermelon crop of Missouri brings in a great many thousands of dollars every year and in some parts of the state it is the leading industry. From Scott, Mississippi and other Southeast Missouri counties watermelons are shipped by car loads and train loads and the crop brings a lot of money to the farmers of those counties.

A disease known as the wilt has for many years been prevalent in some of the Southern States and is now getting a start in many other states, including Missouri.

According to the U. S. Department of Agriculture watermelon wilt is caused by a fungus which lives in the soil and enters the roots, plugging up the water-carrying vessels and preventing the rise of moisture, thus causing the wilting and death of the plant. The leaves of affected plants first droop, then rapidly wilt and soon die, the runner dying with them. Upon cutting the main tap root across near the surface of the ground it will be found to present a yellow color in the wood, making a distinct contrast with the white color of the healthy plant. This yellowing, together with the wilted appearance of the vine, makes the identification of the disease possible, and the further fact that a field once infected shows the same trouble in succeeding years in the same or an extended area is an additional recognition mark. All commercial varieties of melons appear to be very susceptible to the disease.

The disease is spread in a number of different ways. (1) By particles of earth carrying spores of the fungus, which are easily scattered by the wind, by implements used in cultivating, and by the feet of men and work animals or stray stock passing from one field to another. (2) By infected stable manure. The fungus lives in the dead vines and the practice of cutting hay from watermelon fields results in some watermelon vines being harvested with the hay and this leads to the presence of the causal fungus in the stable. When the fungus once gains entrance to the barnyard, or compost heap, it remains there for years and all the manure taken from such a yard is likely to be infected. (3) By drainage water, flowing from infected to uninfected fields.

There is nothing that can be done to save a field of melons when once attacked by the wilt, but the disease may be avoided by the following precautions:

1. In infected districts, watermelons should never be planted on land where watermelons have been grown within ten or twelve years, more or less, depending on soil conditions, as experiments have shown that the fungus causing the disease is able to live a long period in the ground. As a matter of practical experience, it is usually possible to secure enough fresh land, so that an adequate supply of watermelons can be grown in any large district without need of recourse to old fields.

2. Stable manure which has become infected by the use of melon hay or refuse containing melon vines should never be applied to the watermelon crop, or to land where it is desired to plant watermelons later.

3. Fields which have received the drainage water from infected fields must be considered and treated as if infected. This means that the farmer having two fields, one of which is on higher ground than the other, should plant the lower field first.

4. As far as possible live stock should be prevented from passing from infected to uninfected fields.

5. Breeding resistant varieties. It has been demonstrated by the Department of Agriculture that varieties of watermelons resistant to wilt can be bred. The strains thus far produced are not recommended for general planting, but it will be worth while for interested localities to have wilt-resistant varieties adapted to their conditions bred.

We would like to get some good letters from our poultry readers on their success in handling turkeys, ducks, geese and chickens. Write and tell us how you handle them, feed and house them.

Billy Sunday's Kansas City Revival

Will Begin in April and Last Eight Weeks

His sermons in full, and every detail of his tabernacle meetings, the greatest evangelist of the world in action, all fully illustrated, true to life, as real as if you were there to see and hear it all, will be printed in

The Weekly Kansas City Star

The greatest farm paper—Best market reports—Farm questions answered by experts—the news of the world condensed.

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Build Your WORN OUT SOIL **SWEET CLOVER**

The great crop for soil fertility and animal feed. Exceptionally rich in nitrogen and humus. Higher protein content than alfalfa. Sow in spring, summer or winter. Write for prices.
Bokhara Seed Co., Box F, Falmouth, Ky.

HOW MUCH DO YOU EARN?

We offer you an opportunity to make $40 to $135 weekly accepting orders for our household necessities. Big Sellers. We teach you how. Pleasant, permanent employment. Free booklet and sample to earnest men and women. Secure your territory quick! FORD MF'G CO., Boxe 9011. Columbia, Mo.

Reg. Shropshire rams, yr's and twos. Square built, rugged, hardy bucks with weight, bone and heavy fleece. Quick shipping facilities & priced cheap. 412 head. Above Kansas City.
HOWARD CHANDLER, Chariton, Iowa.

Money to Loan on Farms

In Kansas and Missouri at current rates.
FARMERS LOAN & TRUST COMPANY
10th and Baltimore Ave., Kansas City, Mo.

Free Tuition Send us this adv. for a $10 certificate and free catalog.
Moberly Commercial College, Moberly, Mo.

Live Stock Notes

R. P. ROYCE, Fieldman

East St. Louis Angus Sale

Our readers who are in the market for Angus cattle should keep in mind that on June 22 a very attractive lot of bulls, cows and heifers will be sold at East St. Louis by a number of leading breeders of Illinois, Ohio and Michigan. The sale will consist of 65 head, including 40 young bulls of servicable age and 25 young cows and heifers. This lot was gotten together under the supervision of Field Representative M. A. Judy of the Aberdeen-Angus Breeders Association, and Mr. Judy gives it as his opinion that this sale will afford a rare opportunity to select unusually strong herd bulls. A number of the bulls have been shown and have made good and others look very promising for fall shows. The female end of the offering is particularly attractive and breeders and farmers in search of cows to add to their herds will not be disappointed. Several of the cows will sell with calves at foot and all of breeding age have been bred.

Breeders from all sections report a heavy trade and many of them are completely sold out; it would therefore seem advisable for our readers who are planning to purchase to attend this sale.

For catalog and further information write M. A. Judy, Sale Manager, 817 Exchange Ave., Chicago. Mention this paper when writing and you will confer a favor on both the advertiser and the publisher.

FIRST ANNUAL NATIONAL SWINE SHOW

The organization of the National Swine Growers' Association in December, 1914, brought up for consideration a number of matters of importance to swine growers of this country.

One of the first things to claim attention was a national swine show. This proposition from the first appeared to have the almost unanimous approval of swine breeders representing all breeds of swine, and the cordial support of the record associations.

At the second annual meeting of the National Swine Growers' Association a committee was appointed to make arrangements for and have charge of a national swine show. After considerable investigation, Omaha, Neb., was decided upon as the most suitable place for holding the first national swine show. The dates for this show are October 2 to 7, 1916. The show will be held in the horse sale barn of the South Omaha market. The building is admirably suited for holding an exhibition of this nature, and exhibitors and visitors can be certain of accommodations that will be in every way satisfactory.

The premium fund amounts to $11,000. In addition to this, there will be a number of special prizes, cups and trophies. Five breeds will have a cash prize fund of $2,000 each. These are the Berkshires, Hampshires, Poland Chinas, Duroc Jerseys and Chester Whites. The Spotted Polands will have a cash prize fund of $1,000.

The premium fund of $11,000 is contributed, 60 per cent by the record associations representing the various breeds, 40 per cent by the commercial interests of Omaha. It has been agreed that the cash for this premium fund will be paid into the treasury of the National Swine Growers' Association on Thursday of the national swine show, so that the entire fund will be available for paying each exhibitor in full on Friday, October 6, the closing day of the show.

Selection of judges has been made for each breed by the record associations, and the names will be announced in this premium list.

Eevry effort will be made to have this initial show everything that it should be, as representing the swine industry of the greatest hog growing country in the world. The committee appreciates the substantial and enthusiastic support rendered the proposition by the various swine record associations. It is certain, too, that the city of Omaha will do everything possible to insure the success of a national swine showe.

It is hoped and expected that there will be gathered together the greatest show of high-class swine thoroughly representative of the entire hog growing country that has ever been brought together, and that this will make it possible for the national swine show to become an annual event.

Should the national swine show grow and expand as the importance of the swine industry demands, it will undoubtedly come to be one of the greatest show events of America.

W. M. McFadden,
E. C. Stone,
L. E. Frost,
Committee.

RULES GOVERNING THE NATIONAL SWINE SHOW

1. All exhibitors will be required to purchase an exhibitor's ticket at the price of $1. Helpers to care for the exhibit will be furnished free tickets by the general superintendent.

2. Charges for pens will be as follows: All pens 5x9, $1; pens 10x9, $2. All applications for pens and space must be made to E. Z. Russell, general superintendent, 103 Bee Building, Omaha, Neb. Fees for pens must be paid at the time application is made. Pens may be secured at any time upon application to the general superintendent.

3. Entries shall be made with the secretary, and must be addressed to James J. Doty, secretary, Bee Building, Omaha, Neb.

4. Entries close Wednesday, September 20. No entry accepted unless mailed on or before closing date.

5. An entry will not be accepted for any animal for which the exhibitor does not furnish a certificate of registry at the time of sending the entry. The certificate of registry for each animal must be sent with the entries, so as to have the necessary information from which to print the official catalog of the show.

6. In case an animal entered dies or is injured so that it cannot be exhibited, another may be substituted by a proper showing.

7. No person will be allowed to see the entries or have access to the entry books until after the entries have closed. No entries are necessary for championships.

8. Competition open to the world except that no institution will be permitted to compete that is supported wholly or in part by state aid or taxation.

9. All animals shown must have been the property of the exhibitor thirty days prior to the opening of the show. Firms or copartnerships entering animals for exhibition must have been in existence at least thirty days prior to the opening of the show, and in all cases must be bona fide as shown by the certificates of registration. If it be ascertained that any exhibitor has made or caused to be made any false statement in regard to any animal exhibited or the ownership of the same, or if any exhibitor shall attempt to interfere with the judge in the performance of his duty in any manner or shall refuse to accept the awards made, he shall be disqualified from further competition and shall forfeit any premiums already awarded.

10. Animals on exhibition must remain in the space assigned them on the grounds until the close of the show, except by permission of the president of the association upon the recommendation of the general superintendent.

11. All possible diligence and care will be used to prevent the loss or injury to animals on exhibition, but it is hereby expressly stipulated that the National Swine Growers' Association or anyone of the management of the show, will in no wise be re responsible for a loss or injury of any kind to any animal.

12. All hogs for exhibition must be in place by 10 a. m. Monday, October 2, 1916, ready to be driven into the show ring at 1:30 p. m. Monday, if called.

13. An exhibitor will be permitted to show three animals in each class, but cannot be awarded more than two prizes in any class.

14. Sows two years old or over to be eligible to show must have produced living pigs within twelve months preceding September 1, 1916, and all boars of like age must have sired pigs farrowed within the same time.

15. All swine exhibited at the national swine show must be accompanied by the certificate of a qualified veterinarian, stating that they have been immunized, or the sworn statement of the owner may be sent instead of the veterinarian's certificate, saying the animals have been immunized by either the double or single method. If by the double method, it must have been done more than twenty-one days prior to date of shipment; if the single method was used, it must have been less than twenty-one days prior to date of shipment.

16. In case of dispute as to the age of an animal, its certificate of registry will be evidence of the age and the owner will be required to file with the general superintendent an affidavit that it is the identical animal therein described.

17. Protests designed to affect the awards must be made by an interested party. This protest must be in the form of a written statement, verified by affidavit, setting forth the reasons for protesting, and must be filed with the secretary of the National Swine Growers' Association on the day the

Eight Choice High Grade Holstein Cows

To reduce my herd I offer eight high grade, high producing Holstein cows. All are sired by a son of Missouri Chief Josephine and are bred to Campus Josephine Lad, a son of Pontiac Gerben De Kol. Guaranteed free from tuberculosis and contagious abortion. Price reasonable.

D. D. MOSS & SON, - - - COLUMBIA, MO.

POLAND CHINAS

Smooth Columbus
THE BOAR THAT PUT MISSOURI ON THE MAP. HEADS OUR HERD

SMOOTH COLUMBUS BLOOD has held the record in Missouri for two years—it will do it again next year. Fall pigs, either sex, by this great boar, now offered for sale.

BENNETT BROS. R. 5, LEE'S SUMMIT, MO.

Spring Boars by the Grand Champion

A desirable lot of early spring boars by The Giant, acknowledged to be one of the greatest young Poland China boars of the breed. Prices within reach of all.

WILL G. LOCKRIDGE - - - - - - - Fayette, Mo.

Poland Chinas & Shorthorns

Bred sows and gilts. The real big kind with bone and quality. A few serviceable boars. Several extra good young bulls and heifers. Satisfaction guaranteed.

H. S. Williamson, Route 6 Centralia, Mo.

BAKER'S REAL BIG-TYPE POLANDS

We have a number of extra good spring boars sired by Big Look that we are offering worth the money. Need the room and must sell.

W. A. BAKER & SONS, BUTLER, MO.

Linhardt's Polands

I have a choice lot of extra good fall gilts sired by outstanding boars. Customers in 26 states. GIANT MAMMOTH 68375 and CHIEF BIG BONE 75856 in service. Priced for farm trade.

H. O. LINHARDT, LOHMAN, MO.

DOOLEY'S SPOTTED POLANDS

Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pair and trios no relation. Also registry furnished. Send check with first letter.

EDGAR DOOLEY, - Ettervile, Mo.

DUROC JERSEYS

Durocs With Size and Bone

I am offering a choice lot of early spring pigs with unusual size, bone and quality. Bred right and priced right. Visitors welcome.

A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

BIG EARLY DUROC SPRING PIGS

Pigs with size, lots of bone and quality sired by our big prize-winning boars, Col. Wonder II., Merry Chief, and Rexall Col., and out of big prolific sows. None from litters of less than 11. Spring pigs are cheapest to buy, costs practically nothing to ship them, and they can be grown cheaply.

R. L. (BOB) HILL ADENHILL FARM, - - COLUMBIA, MO.

Classified Advertising

BARRED PLYMOUTH ROCK EGGS—From A. No. 1 stock. The large, deep barred, yellow-legged kind. Price $5.00 per 100. T. J. Dunn, R-2. Moberly, Mo. t.f.

WANTED QUICK.—Name and address of reliable single man having enough ability to manage large farm or ranch successfully. Rddress A. W. Ward, Box 366, Valley, Nebr.

FOR SALE. — Reg. Jersey bull, old enough for service. Cheap. Geo. Aid, Gallatin, Mo. 6-1-2t

WANTED—To hear from owner of good farm for sale. Send description and cash price. R. G. List, Minneapolis, Minn.

WANTED—To hear from owner of good farm for sale. State cash price and description. D. F. Bush, Minneapolis, Minn.

AGENTS—In every community. Men and women sell Washclean Magic Washday Wonder. Only steam bubble cleaning process known. Blows out grit and dirt. Saves clothes and labor. No more rubbing, toiling, sweating. Relief for millions of women. $20 to $100 cleared weekly, according to spare or whole time. Lifetime business. Sample, particulars free. Ford Mf'g Co., Box 9012 Columbia, Mo.

DUROC HERD BOAR!!

We offer for sale our herd boar sired by Weller's Example and out of a Whiskey & Faith sow. Also a few September boars. Booking orders for spring pigs.

J. C. Garrard & Son, McBaine, Mo.

Hazelwood Durocs

Seventy choice spring boars and gilts sired by HAZELWOOD CHIEF, by CRIMSON COL., and out of OHIO CHIEF bred sows. Get our prices.

E. P. POWELL & SON, Maryville, Mo.

80 O. I. C. Spring Pigs

Guarantee and pedigree accompanies each sale. This herd has been exhibited at World's Fairs and State Fairs for years. You are sure to get prizewinning blood from us. Prices reasonable. Write us today. Address

S. D. & B. H. FROST, Kingston, Mo.

HAMPSHIRES

BROOKVIEW HAMPSHIRES

Herd headed by GEN. TIPTON and SIR BROOKVIEW, both grand champions. Spring boars and gilts of choice breeding and individuality. Prices reasonable.

ISOM J. MARTIN, - Kahoka, Mo.

RED POLLED

RED POLLED CATTLE

Herd established 16 Years

Young stock for sale. Young bulls sired by LOGAN 13500; Calves sired by KNOCKER 28791. Bred for milk and beef. Also offer spotted Poland China hogs and Rieds Yellow Dent seed corn.

M. L. SNYDER. - - POLO, MO.

AUCTIONEERS

P. M. GROSS
Live Stock Auctioneer
"Twelve Years on the Block"
Pure bred Sales a Specialty
Sales Made Anywhere
MACON, - MISSOURI

awarding is made, with a forfeit deposit of $10 in case the protest is not maintained, provided that protest will be entered any time before Friday, October 6, at 6 p. m., if the protesting party will state under oath that the facts upon which the protest is made were not in his possession at the time the award was made. The show committee of the National Swine Growers' Association shall determine all protests.

18. Awards of premiums will be made by one expert judge, who may have a consulting judge, the decision of the regular judge, however, must be final.

JERSEY CATTLE

JERSEY CATTLE

Bulls ready for service. They are sired by the Owl's Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

JERSEY BULL CALVES

I have three extra fine ones for sale. Sired by Stockwells Champion. He has won 29 first and Champion ribbons at the leading State Fairs. Calves are out of very high producing cows. For breeding, etc., writ.

J. B. SMITH Platte City, Mo.

SUNSET CORRECT TYPE JERSEYS

To keep our herd within 100 head we will offer at private sale fifty Jerseys, consisting of cows, bred and open heifers, young bulls, heifer and bull calves. Can fit out small herds for beginners. 125 head to select from. The famous Blue Belle-Golden Rosebays. Send for special circular before buying elsewhere. Bargains. Mention your wants.

THE ENNIS STOCK & DAIRY FARM, Horine, Mo. (Just south of St. Louis.)

HOLSTEIN CATTLE

Dutchland Sir Hengerveld Rag Apple 99771

A few choice bull valves out of heay producing dams sired by the above famous bull for sale.

BLACK AND WHITE FARM
Baden Station, Mo.
Tel. Colfax 1812 R. R. 30

IN MISSOURI

Eight Bulls, 2 to 8 months, $100 to $175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.

S. W. COOKE & SON, MAYSVILLE, MO.

HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndye Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

M. E. MOORE & CO., Cameron, Mo.

ANGUS CATTLE

ANGUS CATTLE

Herd founded 1904

Young stock sired by Dean's Eric 139686. Also offer splendid herd bull for sale. Every one the right kind and priced to sell.

V. E. LAWRENCE, SALISBURY, MO.

Aberdeen-Angus

I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.

J. D. Blackwell - Fayette, Mo.

Good Roan Shorthorn Bull For Sale

Year old and of good family.

W. H. HAMILTON,
R. F. D. No. 1. GUTHRIE, MO.

THRIFTY HOGS

Are the money makers. They can not be thrifty and have worms. The worm preventative recommended by the College of Agriculture sells for only 3c per pound.

JESSE J CULP, - Warrensburg, Mo.

19. Pigs farrowed the property of the exhibitor may be shown as bred by exhibitor.

20. The general superintendent shall have authority to require each attendant showing animals to dress neatly and in a manner that shall meet with his approval. The general superintendent shall have authority to prevent any attendant who does not comply with his orders from exhibiting an animal.

21. Exhibitors may have their mail addressed in care of the secrtarv of the National Swine Growers' Association, Omaha, Neb.

22. Moneys paid for pens will be refunded by the general superintendent if application is made for such refund by September 1, 1916.

23. Carload shipments for exhibition should be consigned to the owner at the national swine show, Union Stock Yards, South Omaha, Neb.

24. Animals for exhibition sent by express must have express prepaid and consigned to care National Swine Show, New Horse Barns, Union Stock Yards, South Omaha, Neb.

25. The right is reserved by the National Swine Show Committee appointed by the National Swine Growers' Association to revise, correct, add to or interpret these rules as the interests of the national swine show may require, and all entries are to be understood as being made or exhibited only upon this basis.

Definition of Ages

Aged animals must have been farrowed before September 1, 1914.

Senior yearlings must have been farrowed on or after September 1, 1914, and before March 1, 1915.

Junior yearlings must have been farrowed on or after March 1, 1915, and before September 1, 1915.

Senior pigs must have been farrowed on or after August 1, 1915, and before February 1, 1916.

Junior pigs must have been farrowed on or after February 1, 1916.

Old herd must consist of boar and three sows farrowed before September 1, 1915.

Young herd must consist of boar and three sows farrowed on or after August 1, 1915.

Herd bred by exhibitor must consist of boar and three sows of uniform age. That is, all farrowed previous to September 1, 1915, or all farrowed on or after August 1, 1915, and before February 1, 1916, or all farrowed on or after February 1, 1916.

Get of sire must consist of four animals, any age, sired by one boar, and owned by exhibitor.

Produce of dam must consist of four animals, any age, farrowed by one sow, but not necessarily of one litter, and owned by exhibitor.

Senior champion boar or sow must have been farrowed before September 1, 1915.

Junior champion boar or sow must have been farrowed on or after September 1, 1915.

THE MODERN HORSE

In more than 100 great factory buildings in the middle west are stabled great herds of modern horses. These things of burden differ from the original animals in many particulars, and resemble them in few. The modern horse eats only while it works; the one of flesh and blood eats alike when it labors and when it rests. The modern horse is made of steel and iron; the original of the same elements from which man was created. The modern horse consumes gasoline, or kerosene, with a desert of lubricating oils and tonics of electric sparks; the original horse is fed hay, oats, corn and green stuff from the fields. The modern horse is given life from cylinders, the original from a single heart. The modern horse has a draft power of many tons; the original but one. Like the original horse the modern one requires but a single person to control. Both have pedigrees; both are greatly responsible for the development of our great agricultural resources.

The modern horse is known as the farm tractor. It is the offspring of the automobile, but is bred for performing burdensome tasks, rather than for speed and pleasure. The tractor is the Percheron of the mobile class; the auto the carriage and saddle types. The tractor has been brought to its present stage of developement by the inventive genius of myriads of men in many localities.

The modern horse, or tractor, as it stands on the floor of the factory; in the place of business of the seller; or under the protecting roof of the user, is an inert, inanimate thing of many parts, assembled by skilled mechanics for a purpose. A touch of a small lever, and it responds to the wishes of the driver to do things which have in the past been put upon the willing shoulders of man's most faithful friend—the horse. The farm tractor represents the most modern ideas in the application of power to the service of mankind, with special adaptation to the needs of agriculture, in the plowing of the fields, the cultivation of the soil, harvesting the crops, and transporting them to market.

By a shifting of a gear the modern horse loses the use of its legs—if the wheels which propel it may be called such. Now it relieves the horse of its labors in the tread mill to operate the threshing machine, the huller, ensilage cutter, feed grinder, or for operating any machine which requires the application of power by the belt.

The predominating idea in the modern horse is the elimination of the need of surplus horses as animal work, upon the farm and the substitution of the internal combustion engine, using gasoline or kerosene power in farm work.

Comparing the farm tractor of today to a horse is not a fanciful idea. It is in reality, and in its many adaptabilities, a mechanical horse. It has the power of many horses and the facilities of one. It may be hitched to anything that is to be drawn and operated economically and with efficiency impossible with the use of animal power. If the farmer wishes to plow his fields he hitches two, three or four plows behind his tractor, instead to his plow behind two horses, and the tractor will pull them over the level land, up hill and down, plowing deep or shallow, wide or narrow, as the farmer desires. If the farmer decides that time is short in which to complete his work, he will place behind the plows the harrows which chop up and pulverize the soil. Then behind the harrows he may attach his seeding machine so that the land is plowed, harrowed and planted all at the same time. To do this by horse power would be impossible except in unit teams, and then at the expense of operating ten or more horses at the same time.

The farmer may attach a mower to the tractor to cut his hay, or a harvester to harvest his wheat. He can hitch a corn harvester behind his horse of steel and in a few hours the corn is cut, bundled, tied, and stacked without man assistance. When his crops are ready for market he will hitch a train of wagons or trucks to his tractor and haul them to market. When his corn is ready to shread, or his silo to fill, he slips a belt on to the pulley and the tractor performs its work without attention. He can pump water if he chooses, draw hay or provide fodder for his cattle and do everything which he can do with horses at less expense and much less trouble. The modern farm tractor is a one man outfit for every farming operation.

These wonderful modern horses of steel and iron, fed with gasoline or kerosene and the spark of life provided with small electric magnetos furnishing the exhilarative power, will be shown to the farmers of the great Mississippi Valley during the National Tractor Farming Demonstration in St. Louis on July 31 to August 4 inclusive. Not only one tractor but more than 50 tractors of different makes will demonstrate their abilities to do everything needed on a farm on these dates. This demonstration will be a campaign of education to acquaint the farmers with the new order of things and show them collectively in a few days what they cannot see individually in as many years.

Frank E. Goodwin.

Most Profitable Cattle Ration

Shelled corn, alfalfa hay, and cottonseed meal gave the fastest gains and greatest profit of any of the six rations fed in the recent cattle feeding experiment at the Nebraska Agricultural Experiment Station at Lincoln. The other rations fed the different lots in the experiment were: Shelled corn and alfalfa;; ground corn and alfalfa; shelled corn, alfalfa, and silage; shelled corn, alfalfa, silage the first four weeks, and Tarkio molasses feed the last fourteen weeks; and shelled corn, alfalfa, and cottonseed meal the last six weeks.

The 60 head of two-year old steers used in the experiment were bought for $6.75 and were sold at prices ranging from $9.50 to $9.75; or at a net profit of over $1,100. The cattle were tied in an open lot and under conditions similar to those found on the average corn belt farm.

Get Rid of WORMS and INDIGESTION

Do you know that ninety per cent of all live stock losses are caused by Worms and Indigestion and both these conditions are preventable? Get rid of the blood-sucking worms and you will remove the chief cause of losses. Wormy animals can't thrive; the food they eat is largely wasted; they run down in condition — become easy victims to diseases. Worms eat up your high cost feed — bring on indigestion — cause heavy loss. Get rid of the worms with—

The Great Worm Destroyer **SAL-VET** The Great Live Stock Conditioner

The medicated salt without Antimony. Give your animals free access to it; they'll rid themselves of worms. Costs only 1-12 of a cent a day for each sheep or hog and only 1-3 of a cent a day for each horse or head of cattle. SAL-VET will do the work; I'll prove it or no pay.

DON'T SEND MONEY—JUST THE COUPON

Fill in the coupon below — tell me how many head of stock you have; I'll supply you enough SAL-VET to last your animals 60 days. You pay the freight when it arrives; feed as directed, make a specific report at the end of 60 days. If SAL-VET does not do what I claim it will cost you nothing.

Sidney R. Feil, Pres.
The Feil Mfg. Co.,
Chemists
Dept. 82
Cleveland, Ohio

PRICES

40 lb. pkg. -	$ 2.25
100 lb. pkg. -	5.00
200 lb. pkg. -	9.00
300 lb. pkg. -	13.00
500 lbs. - -	21.12

Extra discount in larger quantities.

Not less than 40 lbs. sent on this 60-day offer. 60 days' trial are based on 1 lb. of Sal-Vet for each sheep or hog and 4 lbs. for each horse or head of cattle. Dealers sell Sal-Vet at above prices but in the far West and South the prices are a little higher on account of the extra freight charges.

(257)

THE FEIL MFG. CO., Chemists
Dept. 82-6-15-16 Cleveland, Ohio

Supply me enough SAL-VET to last my stock sixty days. I agree to pay the freight, feed it as directed, and will then pay for it if it does what you claim. If it fails and I so report specifically in sixty days you are to cancel the charge and I will owe you nothing.

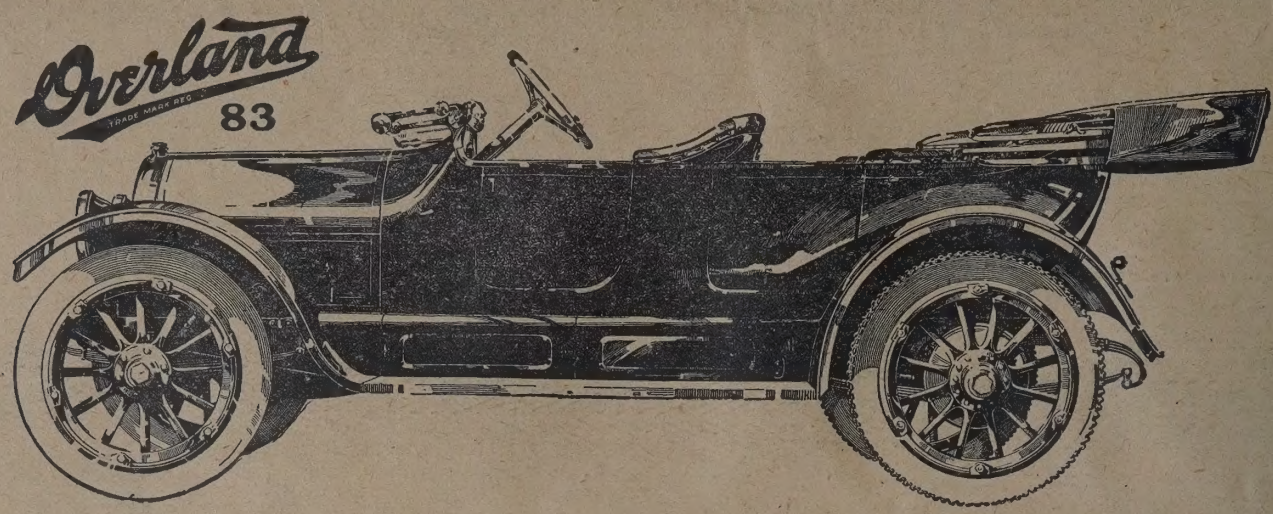
I have.....hogs.....sheep.....horses.....cattle

Name .....

P. O. .....

Shipping Sta.....State.....

THIS BEAUTIFUL CAR FREE!



Don't You Want To Win This Car?

IN ORDER to increase its subscription list, **The Missouri Farmer** has concluded to give away this beautiful five passenger **Overland** automobile under conditions which place it within easy reach of any bright young farmer girl or young farmer in the state. Everybody almost wants to own an automobile and the wish is an entirely normal one. In the first place, the automobile wipes out distance. If an emergency of any kind arises, the automobile "goes there and back" in the length of time that it takes to hitch up and get started with a team which is frequently tired out from work in the fields.

The Pleasure of Owning a Splendid Car

BUT WHAT normal human being doesn't want to own a beautiful automobile because of the pleasure it gives and who is entitled to this pleasure more than those who live upon the farm? Just think of how gladly you will look forward to Sunday with this splendid car standing ready to glide away at the touch of a button! You can pile in the whole family and go to church on Sunday morning. Then, when dinner is over, you can take a 40 or 50 mile spin into some neighboring county and get back again by supper time. Think of the exhiliration out in the fresh air, the pleasure of seeing growing crops upon every hand and the visits you can pay to relatives and friends!—**and all this accompanied by a riding luxury not excelled by a Pullman Palace car!** Again, during week days when the days work is over you can pile in the "whole bunch" and take in a picture show in town. **Truly, is it any wonder that everybody wants to own an automobile?**

You Can Win It if You Try!

AND THIS beautiful car is within easy reach, as we said above, of any bright farmer girl or young farmer in Missouri. All that is required to win it is first, the **desire**—and then the willingness to do a few weeks **hustling!** Get a bunch of sample copies of **The Missouri Farmer** together with a subscription pad and then "hit the trail." We give three years subscription for one dollar and when you show your neighbors what a splendid paper **The Missouri Farmer** is—when you tell them that it is leading the fight for Farm Club organization throughout Missouri—**and that you want them to help you win this beautiful car!**—hardly a single one of them will turn you down. The renewal of old subscriptions will count the same as new—and should you fail to win the car we will nevertheless give you a **substantial commission on every subscription you send in—so in any case you will make a lot of money!**

Send Us Your Name Today

NOW WE WANT every farmer girl or young farmer who reads this advertisement and who would like to win this magnificent car to send us their name and address today. **Don't be afraid of not winning!** "Faint heart never won fair lady." Again, you don't know how **easy** our plan is for a real hustler. There may be some reason why it would be particularly easy **in your community!** We intend to help everybody who gets into this fight. We will tell you just how to conduct your campaign from start to finish. If there are a bunch of old subscribers in your neighborhood which need renewing we will send you their names. You will have little difficulty in getting **practically every one of them!** You owe it to yourself to find out all about our plan—**and your failure to write us may deprive you of this beautiful car!** If, after you understand our plan fully you do not care to go into the fight you will merely be out a postage stamp. **Isn't such an offer worth at least an investigation?**

THE PEOPLE WHO WIN

THE PEOPLE who win in this World are those who have faith in themselves and who are not afraid to hustle. Somebody who has this kind of will power and ambition is going to win this splendid five passenger OVERLAND. It might as well be you as somebody else. It is for you to say. It costs $695. Why not let THE MISSOURI FARMER buy it for you? And remember that in any event we will pay you handsomely for every subscription.

THE MISSOURI FARMER
COLUMBIA, MISSOURI

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The Missuuri Farmer, Columbia, Mo.:
Please explain your free Automobile offer to me fully by return mail.

Name .....

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R. F. D. ..... Age.....

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE MISSOURI FARMER

COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE AND THE MISSOURI EXPERIMENTAL STATION

For The Flag

As this issue of The Farmer goes to press, war with Mexico seems inevitable. As a matter of fact, the open declaration from Congress is hourly expected—and until the job is finished, every good citizen, irrespective of party, will stand behind the President. Whether the Mexican situation could have been handled more successfully in some manner other than that adopted by the administration is now a matter of unavailing discussion. At last we are confronted by a definite crisis and we must choose between the continued murdering of innocent American men and women or, by force of arms, put an end for all time to this intolerable situation. In such an hour every good citizen will take his place beside the flag as we have done upon other occasions when its honor was trampled in the dust.

If we have erred in our attitude toward the people of Mexico, it is that we have been too patient and long suffering. Possibly if, during the last two years, we had taught them a greater respect for the prowess and certain vengeance of American arms, such a conflict as is now in prospect might have been avoided. And yet even this conclusion is without warrant. In any event it is useless to discuss the past at this late day. Rather must we do our duty clearly and fully by the future.

In the meantime, for Mexico it means certain disaster—for however ill prepared we may be for the task upon which we are about to enter, in the end it means the certain crushing of the tattered and half starved legions which follow the standards of Carranza and Obregon. By this I don't mean to say that it won't cost many American lives before, the struggle has ended—but cost what it may, certain defeat is in store for the Mexicans who present one of the most pitiful spectacles ever recorded in history. Hopelessly ignorant as a people, they have been the victims of unscrupulous leaders who drive them like so many cattle in whatever direction they please. Yesterday they followed the leadership of Madero and shouted for "Constitutional Liberty"—a phrase which less than 5% of the motley aggregation of 15,000,000 souls understood. Today they cry with equal ardor for the blood of the "gringo"—the only Nation which has tried to honestly befriend them. Driven to bay by rival leaders, Carranza hopes to restore himself to popular favor by provoking a war with the United States—a course which is as mad for him as it is for the future of his people.

As a matter of fact, such a course gravely menaces the future integrity of the Southern Republic—for who knows whether, once the flag is run up over the Palace in Mexico City it will ever come down again? I know that at this hour we have no designs upon Mexican territory—but suppose we lose thousands of splendid American lives in the struggle upon which we are about to enter, saying nothing about hundreds of millions of dollars—and suppose that after we have done this, chaos still prevails? And suppose that in view of our insistence upon the Monroe Doctrine, European Nations demand that we stand responsible for the future conduct of the Mexican people? Truly Carranza is playing with dynamite and if there were a half dozen big, patriotic statesmen in all Mexico their voices would ring out above the clamor of the mob against the folly of the things which are now transpiring. We said we didn't want new territory when we entered upon the Spanish-American war—but by the time the cannons had ceased roaring we changed our minds. Who can say now what our attitude will be toward Mexican territory in a year from now?

In the meantime, our lack of preparedness for the coming conflict is a matter of National humiliation. If we were prepared to cross the border with 200,000 well equipped, well trained, seasoned soldiers the struggle would be over in short order. As it is, we will sacrifice as many lives to a lack of preparation as those who will fall through the stern exigencies of normal warfare. And such a state of preparation would be the highest humanitarianism not only for us but for the Mexicans who are headed for the shambles of certain defeat. I want our Country to continue to be the greatest advocate of peace in the World—and yet I don't want us to pursue a policy of unpreparedness from this time forward which actually invites attack and therefore leads to the very opposite of that for which we are striving.

—By the Author of After-Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VIII JULY 1, 1916 NO. 13

WILLIAM HIRTH
PUBLISHER

THERE IS DAIRY ROOM IN MISSOURI

A few weeks ago a committee was sent from Ft. Scott, Kansas to Wisconsin, to buy a few loads of dairy cows. One of the committee sent happened to be an editor and while the rest of the members were buying cows the editor was taking notes on what he saw and here is what he wrote when he got home: "Eight miles over the lofty hills north of this rich little city in Wisconsin, nestled in a deep valley and in a comparatively sparsely settled country, the delegation of cow buyers today was entertained in a modern stucco house, lighted by electricity, heated throughout by steam, with its delightful library, sleeping porches, with hot and cold water at high pressure in every room, the kitchen and bathroom, and surrounded by an elaborate set of barns, outbuildings, and silos.

"In the cow barn were 51 head of pure bred Holstein cows, and not a grade was kept on the place. The land throughout this entire neighborhood would be considered in Kansas far too rolling for plowing, yet none of it can be bought for less than $110 an acre, and prices ranged from that minimum up to a $300 maximum nearer town.

"Only fifteen years ago the owner moved onto the farm, which was then considered almost worn out and valueless. He engaged in dairying and has always sold his milk to cheese factories at a maximum of 11½ cents a gallon. He has built up the farm and made the improvements and has $20,000 worth of personal property on it today. We counted four gas engines in different buildings, one busy generating electric current and storing it for a week's lighting and water pressure.

"This farmer is satisfied with an average annual production of $100 a year by each of his pure breds.

"A community cheese factory, a quarter of a mile from his place, is the market for his milk, and it operates throughout the winter months. He employs but one hand and has a 16-year-old daughter and 12-year-old son, who are given practically every social and educational advantage enjoyed by Fort Scott boys and girls."

"It is a common sight in Wisconsin dairy barns to see a young man in his twenties—the son of a dairyman who has acquired a competency, sold his farm to the boy and moved to the village—measuring out grain feed to the cows according to their milking capacity, measuring out skim-milk to the calves according to their age, weighing each cow's milk morning and evening, judging his cows by the score card and keeping a herd of say thirty head with not more than ten acres of pasture on the place by feeding alfalfa and ensilage throughout the summer as well as winter.

"This young man gets up about 5:30 to 6 o'clock and doesn't work any harder than the average Kansas farmer. From thirteen cows we saw one boy selling about $6 worth of milk a day to a creamery and getting his skim-milk back, pasteurized. He had sold $1,600 worth of cows and calves from his pure-bred and grade herd from Nov. 1, 1914, to Nov. 1, 1915. He had an automobile, a furnace-heated house, both hot and cold water, water in every cow's stall and an attractive bride of four weeks, who knew as much about cows and 'short courses' as he and was as much interested in them. He had a 100-acre farm and was selling corn and alfalfa because he had too much feed. Only a few acres of waste land on the place were in red clover and blue grass pasture. He hired one hand.

"This is a fair specimen of a dairy-bred man, which is possibly, as essential in successful dairying as dairy-bred cows."

Here in Missouri we have a better climate and just as good markets and why is it we cannot have thousands of just such farm homes paid for and supported by good dairy cows?

How can a farmer with the help of only a daughter, a 12-year-old son and only one hired man manage to milk and care for, for 51 cows and do the other farm work? The answer is by using labor saving machinery. You will note that there are four gasoline engines on the farm. The milking machine run by electricity solves the problem of getting help to do the milking.

There is a fine opportunity for the development of a great many dairy farms in Missouri equipped like this Wisconsin farm and which would pay as well here as there with the same kind of management. The trouble with too much of our Missouri dairying is that it has been done in a half-way sort of fashion and with poor equipment and poor cows there has been a lot of extra hard work about it and little profit. But for those who make dairying a business as this man has done and who will use good cows and labor-saving machinery there is both profit and pleasure in the business.

SILO FILLING POWER COSTS LESS NOW

ED. H. WITTE

Read These New Engine Prices:

2 H-P, $29.95; 4 H-P, $64.75; 3 H-P, $47.85; 6 H-P, $89.90; 8 H-P, $129.80.

Write for Prices on 12, 16 and 22 H-P,

YOU are sure my prices are LOWER. I am sure my engines are BETTER. Don't you think it would be good business to at least write me before buying any engine at any price?—Ed. H. Witte.

YOU need **dependable** power for silo filling. You need an engine that can be **depended** upon to stand up during the hard pulls. You need an engine that is guaranteed to use not more than one-tenth of a gallon of fuel per H-P. per hour.

That's why you need a WITTE engine.

WITTE engines are built in all styles; Stationary, Hand Portable, Portable and Saw-Rigs, and to operate on Kerosene. Gasoline, Naphtha, Distillate, Gas etc.

Built by experts and sold direct. You have 90 days in which to try one. Cash or easy payments. Established 1870. Largest exclusive engine factory in America.

WITTE ENGINE WORKS,

1849 Oakland Avenue, Kansas City, Mo.
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Make the Boy a Business Farmer

Give him the benefit of the special course in Farm Accounting at Gem City Business College Quincy, Ill. *Est. 1870*

America's Greatest Commercial College. Then he will help *you* make the farm *pay* better. Complete business and stenography courses also. Civil service preparatory, private secretaryship—commercial teaching courses.

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For Greatest Satisfaction Use

DOUBLE SERVICE Automobile Tires

Guaranteed 7,000 Miles Service

Absolutely Punctureproof

Double Service Tires are made double the thickness of the best standard make tires.

This 100% greater wearing surface naturally gives that much more mileage and service. The average of 12 miles of tough fabric and one inch surface tread rubber makes these tires *absolutely punctureproof.*

These tires excel all others for use in the country over rough and rugged roads as well as on hard pavements. They are as easy riding and resilient as any other pneumatic tire—the air space and pressure being the same.

They are the *most economical* and "care free" tires made and are used where tires must be depended on and tire troubles cannot be tolerated. Many *Double Service* style tires are in use in the U. S. government and European War service.

Our output is limited to a certain amount, but for a short time we offer the following reduced special prices as an Introductory Offer:

PRICES

	Tires	Tubes		Tires	Tubes
30x3 in.	$ 8.60	$2.30	36x4 in.	$17.45	$4.65
30x3½ in.	10.85	3.10	35x4½ in.	21.20	5.60
32x3½ in.	12.75	3.20	36x4½ in.	22.50	5.75
33x4 in.	15.75	4.20	37x4½ in.	23.60	6.20
34x4 in.	16.70	4.35	37x5 in.	26.30	6.60

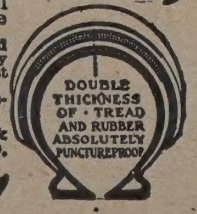
All other sizes not included in above list also furnished. Non-skids at 10% additional.

Terms: Payment with order at above special prices, a 10% discount allowed on orders for two or more tires. All personal checks must be certified.

Try these tires now and be convinced of their very high qualities. Sold direct to the consumer only.

Descriptive folder upon request. Write for it.

Double Service Tire & Rubber Co., Akron, O. Dept. M T



TO GET RID OF WILD ONIONS

The wild onion or wild garlic is a very troublesome weed to get rid of when once well established on a farm and every farmer should if possible fight it from the start when, because of its small area most drastic means are possible. Aside from its injury by crowding out grains and grasses it causes loss to dairymen because of the very objectional flavors it gives to the milk, cream and butter.

The Department of Agriculture gives this method for getting rid of this very bad weed: The wild onion ripens in June or July and produces on the top of the stem, 1½ to 3½ feet high, a cluster or clusters of aerial bulblets, sometimes erroneously called seeds. The underground portion contains from two to six newly formed bulbs located at the base of a plant. The aerial bulblets have soft shells and germinate in the fall. Some of the underground bulbs have soft shells and germinate in the fall, while others have hard shells and remain dormant through the winter months, germinating the following spring.

In Cultivated Fields

To rid a cultivated field of wild onions the work must be started in the fall. The object of this work is to destroy the plants from the soft-shell bulbs before they have advanced far enough to produce new bulbs. As soon as the new plants are 12 to 15 inches high, or during October and November in the South and November and December in the North, the owner should plow his land fairly deep, being careful to turn under all the onion tops. A plow with a jointer attached to the beam will be found convenient for this operation. Disking the land before it is plowed also helps to bury the tops. This method will get rid of the plants which have grown from the soft-shell bulbs.

It now remains to get rid of the next crop that may be expected from the slower germinating, hard-shell bulbs during the coming spring and summer. Next spring, therefore, the field should be planted in a cultivated crop, corn in check rows being best. Another shallow plowing may be necessary in the spring, but ordinarily a disking or two previous to planting will suffice. From the time the farmer is able to go on his land in the spring he should make every effort to keep the garlic from making top growth. The best way to do this is to cut off the tops with a cultivator of the sweep type.

There still may be a few plants carried over by hard-shell bulbs which have been very slow in germinating. The farmer, therefore, should be prepared to repeat the deep plowing late in the fall and to use a cleanly cultivated crop the second spring. This treatment, which can be carried out with little extra labor and expense, has proved in practice an almost certain method of eradicating wild onions in two years.

Late Plowing for Small Grains

Experience has shown that in the case of small grains on infested fields if plowing is delayed until a late date in the fall and the land is then planted to small grain, only a few onion plants will ripen their early bulblets by harvest time the following summer. Since the plowing to be effective against the onion must be done at such a late date as to interfere with the best development of fall-sown grains, spring grains should be planted where it is possible. If fall grain must be sown the farmer should bear in mind that the delayed planting probably will reduce the yield.

Grain raisers in wild-onion districts should be particularly careful to keep their seed free from the bulblets. This can be accomplished by thorough drying before cleaning, as the bulbs when dry are lighter than the grain and can be winnowed out. The safest way, however, is to obtain seed from an outside source where no onion exists or to produce seed grain on a separate patch kept absolutely free from the onion.

Lawns and Pastures

In lawns the aerial bulblets are seldom produced because the tops are kept cut back with the lawn mower, but the plant propagates by producing underground bulbs and is most often found growing in clusters. To eradicate from lawns where the onions are not too plentiful, a good plan is to dig out the entire cluster with the mattock when the soil is soft. The hole thus made should be filled with soil and planted to grass seed. Another successful method for killing onions in lawns is by the use of chemical plant poisons, as coal-tar creosote oil or carbon bisulphide. A small amount of the poison should be applied directly to each cluster. This can best be done by using a small spring-bottom oil can. After the onions are dead the bare spot left should be seeded to grass.

In pastures where there are only a few clusters, the same treatment recommended for lawns is the most advisable. Where the pastures are badly infested, however, and cultivation is practical, it is often more satisfactory to plow and cultivate as recommended for cultivated fields. Pasturing with sheep sometimes proves effective.

Engine "WHY?" Book

One of the cleverest little books on engines that has ever been published, has just been printed by Mr. Ed. H. Witte, a Kansas City engine expert. He says that while the supply of books lasts, he will be glad to send anyone who is interested a copy of this book, which is called "Why?" Just write "Why" with your name and address on a postal or scrap of paper and address Mr. Witte, 184 S. Oakland Ave., Kansas City, Mo.

It sometimes pays the farmer to hold his grain for a higher price, but he does not want to get too greedy. We know a number of men who have wheat in the bin that they were offered $1.50 a bushel for but held for more. That price would look good to them now.

The Missouri Farmer

VOLUME VIII JULY 1, 1916 NUMBER 13

The Story of a Farmer Who Makes Farming Pay

BY W. L. NELSON

A big man—big of body and big of vision—is H. G. Windsor, champion Missouri corn grower and meat maker.

First of all, inheriting from his father 250 acres of choice farming land, which in that day and place was a fair fortune, Mr. Windsor did not allow his wealth to act as a weight or to prevent him from proving his real worth. This may seem a queer statement, but it is a fact that about the worst thing that could be left some folks, naturally contented and self-centered, would be a fortune. To many folk, such a gift would only guarantee failure.

Not so with this man Windsor, who while familiar with a costly eight-cylinder car—a 1916 model bought some time ago, but not paid for with a 1916 note—is alike familiar with his cattle, so much so that he "knows each steer by his first name."

In other words, this eight-cylinder farmer is a farmer in fact. Were this not true he would not have increased his land holdings from 250 to 650 acres and increased the value of each acre in much greater proportion; would not have erected a commodious farm residence with modern heat, lighting and water systems; would not have built good barns, machine sheds and other outbuildings, and would not have been able to "walk away" with the first premium on country-cured hams and the sweepstakes awards on yellow corn at the Farmers' Week state meat and corn shows held at the Missouri College of Agriculture in January of this year.

A good many years ago Mr. Windsor made up his mind that he and his family were entitled to more comforts than were then possible in his part of the county, in his own home or those of his neighbors. Did he sell or rent his farm, "pull up" and go to town, leaving the home community a little poorer for his going? No, instead of going to town to get the things he wanted, he proceeded to bring them to the country. Soon there was a farmers' mutual telephone line connecting with the county seat system, and with a telephone in the house there was less of isolation. Later came the R. F. D. mail route over which six days in the week the mail was delivered almost right at the Windsor door. In the mean time there had been erected a modern farm house with all "city conveniences." With all these improvements naturally came a demand for better roads, so a special road district was organized with Mr. Windsor as president, and the roads improved. With this 365-day road, which brought school, church and town within easy reach, there seemed but few things to be desired. But with the much that he had, Mr. Windsor wanted more—more knowledge as to how to farm well. True, he had gone often to the College of Agriculture for information, had seldom failed to register for the short course offered during Farmers' Week, and had been active in the State Corn Growers' Association and in other agricultural organizations. Still, he was not satisfied. He wanted a county agent or farm adviser for his county. He got him—that's the Windsor way. When three years ago, all the necessary funds were not available for employing this official Mr. Windsor was one of the leaders who pledged the money required. From that day to this there has never been a moment when he doubted the wisdom of his investment. He is enthusiastically for a better agriculture in his home county, and he makes his enthusiasm count. Nor is he narrow. His interests are state wide. For two years he has served as president of the Missouri Corn Growers' Association and under his leadership the work has prospered as never before.

"Yes," you say, "all this is very well, but is this big farmer in the farming game for pleasure or profit, is it a case of hobby or of have to? Of course he could afford all the things you've mentioned."

Yes, H. G. Windsor can afford these things. If not, he wouldn't have them. His system of farming is such as to make possible these improvements and still leave some profits. He likes a dollar just about as well as most folks and can make it go as far as the other fellow. He's no spendthrift. Few men study their business more carefully or keep more complete accounts of receipts and expenditures. He's a real farm management farmer.

First of all, Mr. Windsor is not a one-crop farmer; he has no hobbies. If his study of markets and of conditions tells him that sheep feeding is the thing, then he goes in strong for sheep. If he sees a keen future demand for cattle, he is not long in getting a good drove of steers on grass. If the market generally is "acting queerly" he dares pen his corn and wait; he's no man to purchase a pig in the poke. Gambling and guessing he would leave to the other fellow.

Of course every farmer has his preferences or specialties, and to this rule Mr. Windsor is no exception. He is strong for sheep. During the last ten years he has fed an average of 1,000 head per year. These have been western sheep purchased on the Kansas City market—and just here it may be said that he knows just how to handle these sometimes "finicky muttonheads." That's why he succeeds with sheep. He holds that while there is no kind of stock that will fatten as fast and so readily respond to good treatement, there is no stock that will so easily go to pieces under bad treatment. "Feed what you please," said he, "silage, clover hay, alfalfa, oats, corn, cotton seed meal or linseed meal, but don't feed too much at one time. Keep the feed and feed troughs fresh and clean. The water supply, too, should be ample and good. Fresh running water is best. And don't neglect salt. It is essential. Sheds are not necessary, but I always choose a southern exposure."

H. G. Windsor, a big farmer who makes farming pay big.

Bluegrass has always been a prime factor in the Windsor sheep feeding operations. During the last two or three years, though, cowpeas have played what is perhaps a more important part. This is due to the fact that lambs, rather than older sheep, have been fed. Last fall, Mr. Windsor purchased 1,200 head of Utah lambs on the Kansas City market and shipped them to his Cooper County farm, a distance of 150 miles. These lambs cost $6.80 per hundredweight and after making a gain of 12 pounds per head on cowpeas grown in corn, sold on the St. Louis market at 8½ cents per pound.

One reason why Mr. Windsor likes sheep is that they are constantly adding to the fertility of his farm. Next after sheep, and for the same reason, he prefers cattle. Except during the last two years, "when the cattle feeding game didn't look good," from 100 to 200 head of cattle have each year been fed on the Windsor farm. Generally these have been Pan-Handle yearlings bought on the Kansas City market after careful personal selection. For several years only yearlings have been handled, and always these are "fed out" on grass. In this way the largest and most economical gains are realized. The cattle are started on grass in the spring and are finished for the October market.

"I think too much of my corn, and it is too valuable by far to pour it into cattle without making every ear count. That's why I am an advocate of grass with grain," said the Big Farmer, who is something of a corn king.

Last year (1915) Mr. Windsor grew 70 acres of pure Reid's Yellow Dent corn, the kind he won on at the state show, that averaged almost 100 bushels to the acre. These figures sound big, but actual measurements made in three different parts of the field show yields of 112, 104, and 115 bushels to the acre. Of course it was good ground, made good by the constant feeding of sheep and cattle, coupled with right rotations. Forty per cent of this corn was good enough for seed and found ready sale at from $2.50 to $4.00 per bushel. Forty bushels at from $2.50 to $4.00 per bushel would mean returns of $100 to $160 per acre, with 60 bushels of corn for feed, worth, at market prices $42 per acre. In addition (as if this were not enough) soy beans drilled in with the corn made an estimated yield of five to six bushels to the acre, with a feeding value of $1.20 per bushel when consumed by hogs.

In another 30-acre field, on a distant part of the farm, there was grown Cob Pipe corn which yielded 75 bushels to the acre, and 1,000 bushels of this corn sold at $1.50 per bushel, for seed. The largest cob pipe factory in the world being within five miles of the Windsor farm, an offer of $30 per acre for the cobs alone has been refused.

Another field on the Windsor farm consisted of 100 acres and the yield of corn was 60 bushels per acre. All this corn will be fed to live stock, much of it to cattle on grass.

Hogs are not extensively fed, being principally confined to those that help harvest the corn crop in the fall or that "run after" cattle fed ear corn in open troughs.

The prize ham which Mr. Windsor exhibited in the 1916 State Ham and Bacon Show was from a 220-pound Duroc. This hog was a little past a year old when slaughtered, but had never been pushed except for just a few weeks at the end of the feeding period.

"We get the best of our living at home," said Mr. Windsor, and to look at this prosperous farmer is to be convinced that he lives well. "We enjoy life and have never felt that we had to move to town to get the best that life gives."

THAT "NEW BREED" OF WAGON HORSES

A number of our readers have recently written us in regard to the advertisement appearing in certain farm papers announcing that a new record association had been formed, the purpose of which was to develope a type of horse to be known as the "Wagon Horse." No doubt a great many readers have seen the same advertisement and we desire this opportunity to urge that our readers use caution before they take the matter seriously enough to send in the stipulated "registration fee."

At the outset we will admit that there is a fair demand for wagon horses, that on the leading horse markets buyers are looking for horses suitable for handling single delivery and express wagons and that they prefer a horse around 15:3 to 16:2, weighing 1200 lbs. to 1500 lbs., well made, showing good quality, particularly good, clean feet and legs and with fair snappy action—in other words a good, big, handy horse. So far, there has been little or no difficulty in filling this demand. Most of these horses have come from the middle western states and represent one or more crosses of draft blood on native mares carrying considerable light horse blood. In many cases the horses sold to this demand have been big, active horses carrying mostly the blood of the American Trotter. As a matter of fact, most of the wagon horses are "misfits," that is, they were too light for drafters and too heavy for the light horse trade. There has always been a sufficient number of horses of this type and we see no particular reason why we cannot reasonably expect the future to produce the usual quota. At best, the demand is not sufficient to warrant the establishment of a new breed. In noting the "requirements" for registration in this new association we find that mares 15:1 to 16 hands, weighing 1100 lbs. to 1400 lbs. with plenty of quality are eligible to registry regardless of ancestry. Imagine for a moment the vast number of native mares that are at once eligible —and then try to imagine the poly glot of breeding behind these mares.

It is proposed to mate these mares with registered Percheron stallions 15:2 to 16:2 hands, weighing 1400 lbs. to 1700 lbs. and the result of such a mating will be the wagon horse. The absurdity of such a plan is at once apparent to any one who will give the matter any thought at all. Breeding is not such an exact science as the above plan would indicate. Even with the oldest established breeds there is considerable variation of type after years and years of careful selection and to imagine that a new breed can at once be established by such methods is a falacy beside which the dreams of Don Quixote were profound facts. As long as we cannot expect larger or smaller stallions to breed true to type what reason is there to expect horses of the above mentioned heights and weights to breed them? None. The young stuff produced within an association founded on the filmy plan of the one proposed, will show the widest of variation. Some will develope into ton horses, others will be little undersized chunks, yet all will be "registered wagon horses" and be privileged to have a registry number. Again, suppose that most of the foundation mares carry one or two top cross of Percheron blood—they are grade Percherons and when mated to Percheron stallions the offspring will be a higher grade and in the course of a few generations the wagon horse will be a very high grade Percheron.

The whole plan is fundamentally wrong and is simply a case of "taking the longest way home." The outcome, provided this scheme of breeding is carried on for a number of generations will end in the production of something we already have. It is proposed to start with Percheron sires and end with nearly pure bred Percherons. Why not save a lot of time by simply insisting that the mares be very high grade Percherons? Or simplier still, providing there was a real need for such a type, why not select light weight pure bred Percherons.

A further fact to consider, every record association of standing has been developed after the type had become fairly fixed and was started for the sole purpose of restricting the future development of the breed to certain limits. In other words the breed came first and then the record. To build anything of permanence the start must be made at the foundation and built up. Viewing the proposed plan in the light of past experience we feel constrained to warn our readers to investigate before they send in the registry fee to an association founded on the whim of a single man and based on no more firm foundation than height and weight with the preference given to mares with a star and one white fott.

R. P. Royce.

MAKING THE 1917 WHEAT CROP

Wheat was grown in China several thousand years before the Christian era but there has been a great improvement in the quality, yield and the methods of growing it. Wheat is the world's great bread crop and one year's failure of the crop would cause thousands to starve and millions to go on scant daily rations. The farmer who grows wheat successfully not only has the profits from the crop but has the sentimental reason that he is helping to feed the world.

For the last three years the average wheat crop of the world has been approximately four billion bushels. The difference between the highest and lowest crops in the three years has been only about 16 per cent. Nature has given the people a great protection against famine in the great diversity of soils and climates of the different countries and so even with a failure in any single country it is always possible to get enough to tide them over temporary deficiencies.

During the last three years the United States has grown a total crop amounting to 763,380,000 bushels in 1913, and 871,017,000 bushels in 1914, and the largest crop in our history 1,011,505 bushels last year. This large yield helped to keep the price of flour down and has been of great relief to the millions in the war stricken countries of Europe.

But I am not going to write about the history of wheat growing or try to analyze wheat statistics as interesting as they might be made. I have in mind the 80,000 farmers who annually sow from a few acres to a few hundred acres which make up the wheat crop of Missouri. Fewer than one-third of all Missouri farmers grow any wheat at all and there are many farms where wheat is seldom if ever grown, but in more than half the counties of the state it is an important crop and a failure is seriously felt not alone by farmers who raise wheat but by all others.

There have been few years when there was greater damage to the wheat crop by winter-killing than there has been this year and for the cause or at least a large part of it we must go back to time of seeding last fall. On account of wet weather last year there was a very rank growth of summer grasses and weeds and this was turned under too late to decay last fall and too late to get a firm seed bed worked down. The result was that the large cavities in the plowed land furnished storage room for a lot of water and when this froze after the snow was off it lifted the soil up and the wheat was killed. Once in many years it may work all right to plow the ground late and sow the seed immediately but the rule should be to plow early and work into a fine and firm seed bed before sowing.

In plowing stubble land for wheat, if the land can be plowed in July or early in August we would plow pretty deep but later plowing should be more shallow. The reason for this is that the early plowing has time to settle down and the working and the rain together will firm and pulverize the soil particles to the bottom of the furrow. On good land 7 or 8 inches is not too deep for early plowing but for September or October plowing about one-half that depth will prove better for the average year.

While the turning under of a heavy growth of weeds and grass is a good thing for the land at any season it is not the best thing for the next wheat crop to turn under this vegetation so late in the season that it has no time to decay. A better plan where it can be followed and where the plowing is delayed is to pasture the field closely with sheep. We have seen this practice followed in Western Indiana where a large acreage of wheat was sown and it proved successful. Farmers who owned no sheep would borrow a large flock from some sheep owner and turn them on a field when in a few days the field was eaten bare. It is better to do this than try to pasture the weeds off with a small flock. After the weeds are eaten off in this way the ground will plow much better because the weeds are not drawing the water out of the soil and it will also take less work to get the seed bed in condition.

But whatever plan is used every wheat raiser should endeaver if possible to have all his wheat ground plowed by August 15 and as much sooner as it is possible.

It is not necessary in this article to discuss the methods of working down the seed bed more than to say that if there are frequent rains after the ground is plowed it will only be necessary to cultivate the surface enough to keep down any growth of weeds. With a reasonably dry year it will be best to use some implement like the weighted disk to fine the soil to the bottom of the furrow. If no disk is on the farm a good cultivating with a corn cultivator with the long narrow shovels is a very good substitute for the disk.

In the selection of seed it is usually best to take one of the standard varieties which has proven itself in the neighborhood. The Missouri Experiment Station recommends the two old

(Continued on page 12)

ATTENTION FARM CLUBS!

From the records on file in our office we estimate that there are nearly 500 Farm Clubs in existence in Missouri at this time—and the most of them are the direct result of the great fight which The Missouri Farmer has made for farm organization. As soon as the rush of corn plowing and harvest is over we believe that the Farm Clubs in the different counties should plan a big two days, county-wide farmers' mass meeting. On the first day splendid speakers can no doubt be obtained from the Agricultural College and from the State Board of Agriculture. On the second day I will try to be present at as many meetings as possible to discuss the subject of Farm Organization and on that day a powerful County Farmers' Ass'n should be formed and the work of perfecting school district Farm Clubs pushed with renewed vigor until the farmers of the entire county have been banded together.

In other words, this two days' mass meeting should be made the greatest farmers' "Love Feast" and picnic that has ever met in the history of your county. The discussion of partisan politics by candidates for political office should be barred. In other words, the entire time of the two days' meeting should be devoted to the discussion of Agricultural problems and Farm Organization. In order that the various speakers may address three or four such county mass meetings per week, the various dates will have to be arranged on the "circuit" plan in the same section of the state. In the meantime, a powerful committee of farmers should be appointed reaching into every township in your county. If the matter is handled in the right way it will "set your county afire" for this great movement upon which depends the future of our farm homes. I trust this matter may be taken up immediately by every Farm Club in the state and I will gladly help in every way possible.

William Hirth, Publisher,
THE MISSOURI FARMER, Columbia, Mo.

Co-operation That Works

By J. W. SHORTHILL,
Secretary Nebraska Farmers' Co-operative Grain and Live Stock State Association, in an address before the Kansas Board of Agriculture.

Co-operation is an idea that is ancient in its origin and vast in its scope. Some seem to think it is a name for something new. Nothing could be farther from the truth. Co-operation is as old as society. It is as old as the human race itself. It is co-operation that has brought society to its present high development. The civilization of a race or a people is accurately measuerd by the co-operation found among them.

It is vast in its scope. It touches every phase of our social and business life. It enters into the most commonplace of our activities and the most simple of our relations to those about us. Imagine a man living in any community and not co-operating with the people of that community. Imagine the impossible proposition of a man trying to be a member of society and refusing to co-operate with the other members of society about him. Imagine a man trying to conduct any kind of a business enterprise without co-operating with any of his fellows in business.

Must Co-operate in Neighborhood Work

What would you think of a farmer who lived seven miles from town and who refused to co-operate with the other farmers who lived along the way in keeping up the road to town, or who would not assist in keeping up the public schools and churches or other public institutions of the community, or who would not assist with enterprises for the benefit of the community in any way? You would think of him exactly as the city man is thought of who shirks his duty in assisting in support the institutions for the upbuilding of the city.

And suppose that some bright morning this good farmer living seven miles from town should find that his good neighbors had all left him in the night; that he could not find a single one of them working in their pleasant fields or hear them as they went whistling about their well-stocked barnyards. What a change would come over him when he found that he had no neighbors left, none with whom he could co-operate and none to assist him in building up the community! How it would be brought home to him that after all we live very largely for each other!

And how could this same good farmer maintain the roads, support the schools and successfully conduct them with the vital interest in their work that comes from the association of the children of his neighbors with his own, and how could he hold up his church and social ife where the real foundation had been the very presence of his good neighbors? And what would be the effect on the value of his farm land, no matter how fertile its soil, how copious the rains or how lifegiving the sunshine? How such an event would take the real life out of his living!

Let me illustrate the vital nature of co-operation as it touches our social, political and business life. Suppose that I became dissatisfied with the service of the telephone system of which my telephone is a part. I decide to quit using the system. I decide to make one of my own. I purpose to control it all myself. I will invest all the capital and assume the entire management. I am going to have a system that I can use without interruption or interference; and as I find that the present interruption and interference come largely, if not entirely, from the other people who are using the system, I decide that I will not allow any one but myself to use my system. But I find that I can not talk over my system unless it connects with other telephones, unless they are on my line, unless I have the use of the connecting wires. I find that my ideal telephone system would be entirely useless, and I find that if I want to use a modern telephone system I must be willing to allow others to use it the same as I do. If I have my telephone on a workable system it must be connected up with the network of wires that cover the community and make rapid communication possible, and I must be content to adjust my use of the system to the needs of others who use the same system. My messages over my system without connecting wires will not go far, but they will go as far as the achievements of my social, political and business life will go if I take out of them the maze of threads of co-operation that connect my interests in the community with those of all my fellows.

Co-operative institutions can always succeed, because co-operation will always work. They may also fail, but only because their members fail to co-operate. With real co-operation there is no failure; it always works. But co-operation will not work in the sense of doing the work itself. It is only a means and not an end, and it is just as essential, yes, even more essential, that good judgment, modern business methods and live energy be the controlling elements in the operation of a co-operative business institution as in any other business institution.

Allow me to suggest that co-operative institutions must do three things if they succeed, and I will give some illustrations of actual conditions that they must remedy. The prime object of co-operation is to do business more directly and thereby more economically. It then appears that the ideal condition would exist when the producer deals directly with the consumer. Let us see what are the results of such attempts.

A renter moved to a new community. It was necessary for him to buy supplies. He needed corn. He went to his neighbor just across the road who had a big crib of corn and tried to buy. But the deal could not be made, and finally the renter went seven miles to the elevator, bought his corn and hauled it home, and later the neighbor shelled his corn and hauled it the same seven miles to the same elevator and sold it. The same thing has often happened with the feeder of live stock in a grain-growing community. Farmers of Missouri have wanted to buy hay from the farmers of Nebraska, but they did not get together, and the Nebraska farmers went to the central markets to sell their hay and the Missouri farmers went to the central markets to buy.

Co-operation Simplifies Business

Just why did not the renter and his neighbor get together directly? For two reasons: first, the neighbor did not want to open his crib for a single load and sacrifice the time it would take to do it; and second, he was not ready to sell his corn. The same things prevent feeders and farmers from getting together, and force the feeder to usually pay over the market price for his grain. The Missouri farmers did not get together on hay business with the Nebraska farmers, for two reasons, first, the Missouri farmer wanted to buy for less than he must pay in the central market, and the Nebraska farmer wanted to sell for more than he could get in the central market; second, the Nebraska farmer was not ready to sell just at the time when the Missouri farmer wanted to buy.

From these illustrations it may be plainly seen that the three things that a co-operative business institution must do for its members, in order to assist them in dealing as nearly direct as it is practical to do, are these: first, a supply that is fairly uniform must be maintained; second, a demand that is sufficiently uniform to care for the supply must be found, third, it must establish the price that the seller must take and the price that the buyer must pay. The three things might be summed up in two statements, as follows: the co-operative institution must render a service in getting the original seller and the final buyer together at the time that is suitable to the convenience of both of them, and it must set the margin between the price the one receives and the price the other pays.

All of which means that the co-operative institution must become nothing more nor nothing less than a middleman. It must collect a supply and find a demad to consume it, and it must retain a margin for performing that service that individuals can not perform for themselves. If the institution is truly co-operative in spirit and practice it will perform the service with the highest possible efficiency and establish a margin that is entirely just.

Co-operative institutions cannot successfully operate with the same objects in view that other business of a corporate nature has in view. Private corporations operate to make good markets. Individuals invest in private corporations for profit on the investment. They invest in co-operative corporations for the benefit of the members. In private corporations the prime idea is the dollar, the man is an incident; but in co-operative institutions the prime idea is the man, the dollar is an incident. In private corporations the profits are unlimited. In co-operative institutions they are limited.

Co-operative institutions must deprive their members of two things that the private corporations guarantee them. They must not allow unlimited profits and they must not allow money to vote. This does not mean that the investor in a co-operative institution must be deprived of profit on his investment. He must have it. The investment must be safe and the returns reasonable. The stock of a co-operative company that pays no dividends will go down in the market just as surely as the stock of any other company or corporation that pays no dividends. Co-operative institutions must pay interest on the investment, but the rate must be reasonable and must be positively limited. Since the prime idea of the co-operative company is the individual, it must be the individual that votes.

Co-operative institutions must take a margin for transacting business just the same as other business institutions. They must make a margin that will create a surplus corresponding to the profits of other institutions, and it is just as vital that they create such a surplus as it is that any other business institution make a profit. Co-operative concerns that close a year with a deficit will find the market value of their capital stock declining just as rapidly as will the market value of the stock of any business concern that loses money.

When a margin is accumulated by a co-operative company one of the vital elements in the success of the company depends on the method of the distribution of the accumulated surplus. The surplus should be used, first, to pay expenses; second, to pay depreciation; third, to pay interest on the investment; and lastly, the remainder should be returned to the members in proportion to their business transactions with the company.

Co-operation will work for any company that will use good judgment, good business methods and apply energy to the execution of the co-operative plan of doing business. No co-operative company can succeed in retaining all of the benefits of the operation of the company, both direct and indirect, for its members. The establishment of a co-operative company in any community will in an indirect way benefit every member of that community, but the direct benefits should go to the members of the company, otherwise it will be difficult to obtain and retain membership.

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MORE ALFALFA LESS TIMOTHY

The leading hay crop of the United States is timothy but in the light of our present knowledge of the feeding value of different kinds of hay we can not see how timothy can continue to hold first place much longer. Timothy and a mixture of timothy and clover constitute the bulk of Missouri's hay and timothy makes a most excellent roughage for horses and because of its adaption to nearly all our soils and because it is so easily made into hay it may continue to be an important hay crop for years to come but if farmers fully understood the advantages of alfalfa and clover particularly for dairy cows and all cattle as well as a part feed for horse and mules much more of it would be grown.

Any man who is milking surely knows that he can get more milk from feeding a ton of clover or alfalfa hay than he can get from the same amount of timothy. If he has had any experience in growing clover or alfalfa he knows that he can grow more hay to the acre with these crops than he can with timothy. A mixture of timothy and clover will produce a great deal more and better hay than timothy alone. When we add to the bigger yield and better quality that these crops will make over what timothy will do the value of alfalfa and clover to the land they grow on we are at a loss to know why any farmer will continue to grow straight timothy unless it is on land too sour to grow the legumes.

The average composition of alfalfa and timothy hay according to Henry is as follows:

	Timothy Hay	Alfalfa Hay
Water	13.2	8.4
Ash	4.4	7.4
Protein	5.9	14.3
Fiber	29.0	25.0
N. free Extract	45.0	42.7
Fat	2.5	2.2

It will be seen that unless something is fed to make up the deficiency when feeding timothy that there will be a shortage of milk because the solids not fat in the milk come from the protein. There is nearly twice as much ash or mineral matter in alfalfa as there is in timothy and hence its greater value for feeding growing animals which must have food for bone making.

When fed with corn silage either to milk cows or to young growing animals bright alfalfa or clover hay is worth a great deal more than timothy and the farmer who has this class of stock to feed or who has old land to build up had better study up on these two legumes.

WHY PEOPLE LEAVE THE FARMS

To The Missouri Farmer:

One reason why so many farm women do not like the farm and farm life is because the home is not provided with even the simplest conveniences and comforts. Many a young wife and some older ones has literally dragged her husband and family away from the farm to town where house work would be easier for her. The husband in most cases being skilled in farming and unskilled in other lines could make twice as much clear money on the farm with crops and live stock as he could working at a mechanic's trade or clerking in a store, but so many young people think to live in town is to be somebody while to live on the farm is simply to be common farmers. Men with muddy boots and women with calico dresses.

One of the most disquieting features of the social condition of our times is the rush of young men to the cities, resulting from this is the weakness and instability of the farming population as compared with the same class half a century ago. Many young people go to the cities to get positions at big pay but when they get there they find those places already taken and they take the first opening they can get that offers wages and most compaines keep them at the same wages as long as possible even though they are worth more.

As matters are, the cities are great destroyers of human life. A tour of the principal streets, halls and meeting places on Sunday evenings in any city will show how terribly true this is. Certainly, one-fourth the population of many of the cities has no real business there. These people are doing nothing that is effective for themselves or helpful to others.

Every farmer should take some good farm papers for his boys and girls to read for they cause them to think more about the farm and to see more pleasure in country life. Boys and girls should not be made to work too hard on the farm. All young people are pleasure loving and enjoy some kind of entertainment. Many boys and girls have been made to work on the farms in a way that has caused them to hate the farm and farm life and the first chance they get they go to the cities.

Many people move to town where they can send their children to high schools, this could be checked by having one well equipped school in each township. At present a very large percent of the business men are men who were reared on the farms and the indications are that a very large percent of the leaders of the future will come from the same source, therefore it is necessary that the children in the rural schools should receive better training than is being given them now.

Many of the ablest men of today have been hampered by lack of early training and nothing can ever make up for the lack of this training. If the state wants its citizens to be successful in the future it must no longer neglect the early training of those who are to bring about the conditions which will accomplish the desired results.

A good high school located in each township presents the opportunity. The school rooms should be thrown open for social functions, holiday celebrations, lectures, musicals and for all kinds of meetings of social or educational character.

At every school house there should be organized a farm club so the farmers could cooperate and enable them to sell their products at more profit and buy their goods cheaper.

Wilbur L. Siddens,
Albany, Mo.

SAM JORDAN'S SENSE AND NONSENSE

I saw where a fellow in Kansas City was arrested for trying to get a ticket agent at the Union Station to hurry a little in selling him a ticket that he might catch a train. Will say that that Kansas City town has a reputation for pretty good speed but it is not with reference to speed at the ticket office at their Union Station. I have been about a bit and I have never yet seen so aggravating a place as that ticket office. Many train connections are very close, and more than once I have had less than ten minutes to leave a train, get to the ticket office, buy a ticket and try to catch the train out which I have done a few times by making a run part of the distance.

Great crowds are at the few ticket windows that happen to be open, and it is surely disgusting as well as aggravating to watch those fellows selling tickets move. They rush (?) around fully as fast as snails. Of course they should be excused for their labors are no doubt very arduous, and back breaking, and nerve racking, and the patrons should be entirely willing to miss a train now and then rather than complain and get arrested. Any way, when people buy tickets it is not for the accommodation of the railway companies, but solely for the accommodation of the party buying the ticket, and rather than ask those over-tired agents to speed up a bit, the patron should be willing to miss a train or even get arrested. Great old speed boys in that ticket office.

* * *

Not long since a lady bought a ticket at the Union Station in St. Louis, and asked the agent when the first Wabash train was out to the west, and the agent made reply that his job was to sell tickets. For her to go to the place provided for information. That must have been a very imprudent lady. All ladies should be familiar with the rules and regulations, for there are only a few thousand of them. All ladies should also be supposed to know all about all train schedules, so as not to annoy these over burdened ticket agents, by asking any such foolish questions about train information.

* * *

Courtesy is the one most valuable asset in any kind of business. It is always the cheap employee that practices any thing else. The time was when it was a dangerous thing to ask a depot agent a question, and little less menacing to ask a question of a railway conductor. The business of the one was to sell tickets, and that of the other was to collect them, and it was presumptious for any one to ask for any information since it ought to be the duty of all who travel to know all train connections, and such, and not bother these distinguished gentlemen.

Such is not the case now very often, yet we older ones who have had it "slammed" into us so often in former years are yet shy on asking questions of railway employees. It is now commonly the case that the railway men have turned down these important gentlemen and put in their places men who know and practice the most courteous manners in their attitude toward their patrons.

* * *

Not long ago a man who had been stopping at a certain hotel more or less for eight years happened to be short of money to make the next town, and he had reached the town late in the night and had to make an early train so that he had no chance to get to a bank as he commonly did in that town. He asked the night clerk if he would cash a small check, and the clerk replied "We never cash checks." The customer said, "very well, it is the last chance this house will ever get from me." Had this little important hotel clerk had just fairly good sense, he might have said, "I am only a clerk, and am instructed not to cash any checks. I would be glad to help you if I dared do it," I am sure the guest would have taken no offense, but the clerk would have it appear that he himself was boss of the hotel, and to have admitted that he was a clerk would have been very humiliating. The guest did in no way blame the clerk for obeying rules, but he did blame him for a lack of common courtesy, and should the proprietor ask that guest to return he might make it conditional that the clerk be discharged or at least reprimanded. Business houses of all sorts at this age of civilization, are using great care in the selection of their hired help, to see that they have this one great asset, and business houses are often blamed for either carelessness or indifference in this matter. Many young folks have not yet found out that this is an all-important matter, until a dismissal or some such severe lesson has taught them.

* * *

I saw where some doctor guy said that Americans eat too much salt. That the cannibals of the South Sea Islands will not eat an American because of the salt flavor of the meat. It would seem to indicate that we are not treating these cannibals right.

* * *

One of the worst mistakes that one can make is to assume some authority he does not have.

* * *

It seems though, that a lot of us don't do much but growl, anyway.

WHEN TO CUT TIMOTHY

The value of timothy hay on the market will depend largely, as the farmers of the state well know, upon the degree of ripeness of the timothy when cut. The farmers of the corn belt generally follow the practice of cutting the hay July 1-15 when the timothy is nearly or quite ripe. This gives a large yield, the weather is rather settled, and the hay cures better in this mature stage and is regarded as better for horses. Moreover, this is a convenient season for haying from the standpoint of corn cultivation.

Investigations at the Missouri Agricultural Experiment Station show that with all the above mentioned advantages in this time for the haying season that this is not the time to obtain the best hay for all kinds of stock. The earlier that the timothy is cut the more digestible and also more palatable will be the hay produced. That is to say, by actual test the cattle not only prefer it to riper hay but they receive more nutrition for growth than from an equal weight of riper hay. Timothy cut from June 20 to July 1 or from the time when in blossom to the time when the bloom is shed will give a higher yield of digestible nutrients than if cut when the timothy is ripe.

Moreover, the records show that weather conditions on the average are as good for fair weather about June 20 as they are from July 1 to July 15. In five years of harvesting in the Station's experiments only one cutting of timothy made about June 20 was damaged by rain. There was also one cutting of the ripe hay made about July 15 which was so damaged in these same years.

It is well known that timothy cut about June 20 will have a bright green color and better aroma than the riper hay which usually has a faded yellow color and an odor of dried dead grass. To sum up, cut the timothy about June 20 for large yields of nutritious, palatable and high grade hay of good color and aroma.—L. D. Haigh, Missouri Agricultural Experiment Station.

SIZE AND EFFICIENCY OF TRACTORS AS RELATED TO NUMBER OF ACRES

The following data as to the relation between the size of the farm and the size and efficiency of a tractor are based on an analysis of reports on tractors from nearly 200 farms in Illinois which employ tractors of different sizes. These reports, which were collected by the department, have been carefully studied and the opinions and actual experience of individual users have been analyzed and condensed into tables and certain conclusions in Farmers' Bulletin 719, "An Economic Study of the Farm Tractor in the Corn Belt." The authors, after pointing out that every improved farm machine permits one man to accomplish more work, call attention to the obvious and well-known fact that a farm business must be of sufficient size to permit of the economic use of such a machine to justify investment. In consequence, many small farms either must use the old methods or must hire a modern outfit, as the amount of work to be done each year may not warrant owning a machine.

Among the more important facts disclosed by a study of the use of the tractor for farm work, are those relating to the increase in the acreage which can be farmed by one man, when a tractor is used in connection with horses, over that farmed with horses alone. Approximately 75 per cent of tractor owners in Illinois state that the tractor has proven a profitable investment to them. Of this number one-third, after the purchase of the outfit, increased the acerage which they were farming, the increase averaging about 120 acres per farm. On the other hand, of the men who found the tractor unprofitable, only one-twentieth increased their acreage after purchasing the tractor.

Minimum Acreage

The acreages given in the following table are the figures furnished by nearly 200 farmers in reply to the question, "What do you consider the minimum size of a farm on which a tractor the size of yours can be used profitably in your section?"

Size of tractor.	Minimum size of farm on which it is profitable (owners' estimate).
2-plow.....	140 Acres.
3-plow.....	200 Acres.
4-plow.....	250 Acres.
5-plow.....	320 Acres.

The average size of farms on which tractors of the different sizes are being used, however, are considerably above the minimum figures as given, the average size of farm employing a 2-plow tractor being 270 acres and a 5-plow tractor 420 acres. A few of the larger outfits are reported as being used, but the numbers are not large enough to furnish reliable figures. In many cases these larger tractors were bought principally for custom work, and had no relation to the size of the owner's farm.

One hundred and forty-six tractor owners in Illinois who had bought outfits of widely varying sizes, asked to recommend sizes of tractors best adapted to their size of farms, reported as follows:

Acres cropped.*	Average acres cropped.*	Total number of recommendations.	Percentage of different sized tractors recommended. 2-plow tractors.	3-plow tractors.
			Per ct.	Per ct.
200 or less.....	156	39	25	41
201 to 300.....	252	50	14	32
301 to 450.....	361	39	8	21
451 to 750.....	503	18	0	11
All recommendations....	...	146	13	29

Acres cropped.*	Perectages of different sized tractors recommended. 4-plow tractors.	5-plow tractors.	6-plow tractors.	8-plow tractors.	10-plow tractors.
	Per ct.	Per ct.	Per ct.	Per ct	Per ct.
200 or less	31	2	2	0	0
201 to 300	46	2	4	2	0
301 to 450	38	13	10	10	0
451 to 750	39	22	6	22	0
All recommendations...	39	8	5	6	0

*Includes only land actually tilled and planted to crops.

From this it will be seen that the 4-plow tractor is recommended by a larger perecentage of experienced owners than any other size, although many of these men at present own outfits either larger or smaller than this.

Sizes for Different Acreages

In deciding as to the size of outfit to purchase, careful consideration should be given to the various jobs for which the tractor will be used and care exercised to obtain one with ample power for the heaviest work which will be required of it. This may be either field or belt work; probably it will be the latter more often than the former. Quite frequently the work of a tractor in driving a grain separator or ensilage cutter requires more power than the plowing, and in such cases the tractor bought should be powerful enough to handle the belt work properly.

On the other hand, if the belt work which will be required of the tractor will not demand a great deal of power, while there may be considerable amount of plowing it will be desired to complete within a limited season, the tractor should be capable of pulling enough plows to enable the work to be performed within the time available.—Weekly News Letter.

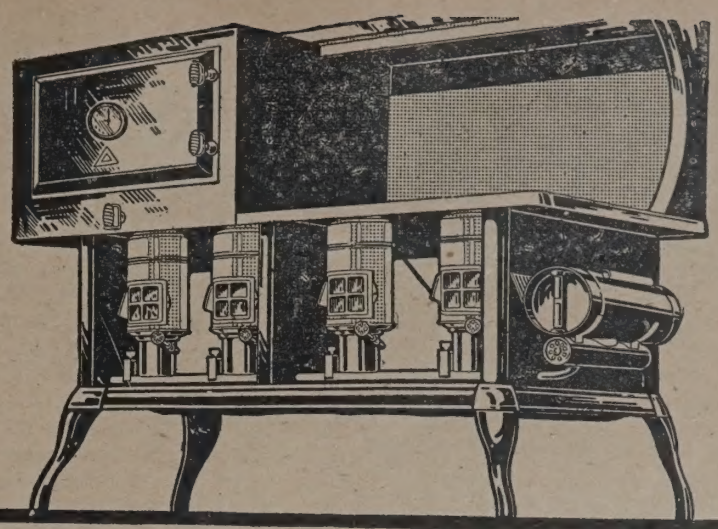
THE VALUE OF SWEET CLOVER

The chief value of sweet clover for Missouri conditions is as a green manuring crop. Being a legume, it has the power of gathering nitrogen out of the air and storing it in the soil by means of the bacteria which live upon its roots. Since it makes such a heavy growth and does well on thin lands, it makes a good crop to turn under to improve the soil.

The value of sweet clover as a pasture or hay crop is much disputed. Some farmers regard it as practically worthless and consider it a weed, while others apparently have had good success with feeding it. Its foliage has a bitter taste due to the cumarin it contains and its stems have a tendency to become woody as they mature. If not allowed to become too rank before pasturing, or if cut for hay before the first bloom buds appear, these two objectionable features may be avoided to a considerable extent and very good feed obtained. It has been found, too, that stock will learn to eat it, and after being fed or pastured on it do not object to the bitter taste as at first.. Since it is a biennial, sweet clover may take the place of red clover in the rotation on those lands where the latter does not thrive well, but on the best lands it cannot compete with either red clover or alfalfa for hay.

The fact that the bacteria in the nodules on its roots are capable of inoculating alfalfa has led to the idea that it is a valuable crop to occupy the land immediately before seeding alfalfa. This may sometimes be done, but usually lands that have never grown sweet clover need inoculation for it as well as for alfalfa. It has been found necessary to inoculate the soil on the Experiment Station field at Columbia for sweet clover, and even with this precaution, considerable difficulty has been experienced in getting a stand. It is evident, then, that it is frequently more difficult to obtain a good stand than one might expect from a general survey of the habits and characteristics of the plant.

C. B. Hutchison,
Missouri College of Agriculture.



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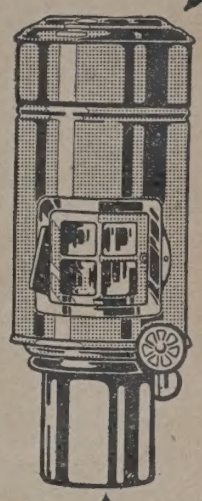

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THE AMERICAN HORSE THROUGH ENGLISH EYES

The following article which appeared in a recent issue of the London Livestock Journal will no doubt be read with interest by Missouri horsemen. It constitutes an unusually frank appreciation of the American horse. While no doubt a great deal of credit is due the Percheron we believe that considerable credit must be given the American Trotter, the American Saddle Horse and the Thoroughbred for the quality remarked by the English writer. Beyond doubt, the dams of a great number of the very horses in question carried considerable blood of the above breeds.

"Close observers of the heavy army horses that have been brought over to England from U. S. A. must surely have been struck with their tremendous bone and scale, blended with a quality, at times, that appears quite startling in such massive animals. We particularly refer to gun teams, big, wide, heavy, intelligent, docile horses, with the unmistakable stamp of quality marked on their contour, both over their tops and below the knee. Inquiry elicits the fact that the American preference for the Percheron and the cross of that breed is responsible for the big proportion of all the draft horses imported being of the stamp we speak of—a foreign and unfamiliar look about the heavy frame, but a thoroughbred, or, say, a bloodlike, appearance ever and anon peeping out of the horse at some point of its make-up. We now have it on the authority of a Chicago expert that this preference for the Percheron horse is largely due to the "freeness" of hair on the limbs. The American breeder, especially in his rainy season, cannot be bothered with a lot of hair, conducive to a great deal of trouble in the way of scratches or grease.

"Whence comes this 'breedy' look about the Percheron stock now in this country on war duty? The answer is quite easy. It emanates from a Thoroughbred stallion fatefully named Gallipoli, who, when crossed on the French draft mares of his day and generation, impressed himself to a remarkable degree on his progeny, and on that progeny the Percheron breed of horses was founded. After he had served his refining process the French breeders established the undoubted heavy weight that the Percheron now boasts of by continually selecting horses with weight to breed from. The premier Percheron stallions at the moment in U. S. A. weigh practically as much as the Shires and the Clydesdales over there, and their limbs are much more free from feather or hair.

"The cross of the Percheron stallions imported from France and bred in the U. S. A. on the native mares has undoubtedly produced a very useful general-purpose horse, which gives every satisfaction to the English government buyer where the animal has sufficient weight for heavy draft work. The medium-sized horse, weighing from 1,250 pounds to 1,500 pounds have been the most useful general-purpose horses. They are very tractable, active, and maintain themselves on less food than many other types or breeds of horses. This class of animal has supplied our Government with some of the best gunners they have had from any source. In short, quite 60 per cent of the gun teams that we possess today are bred on Percheron lines, and the Thoroughbred cross in the French breed has been wonderfully potent, and has produced a horse with very much the same breeding as the heavy gunner that at one time came from Ireland. The stallion Gallipoli, therefore, possesses the key to the secret which puzzled us not a little when we first saw a string of Royal Field Artillery horses marching through London, boasting weight, clean limbs and heels, the intelligent look-out, the well-set-on head and neck of the Thoroughbred, but the limbs of a Harold, a Premier or a Vulcan!"

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MOW THE WEEDS

We know of nothing much more unsightly about the farm than roadsides and fence rows overgrown with brush, biars and weeds, but in some neighborhoods, we are sorry to say, this is the rule and not the exception, as it should be.

There are plenty of reasons for keeping the weeds along the roadside cut down. These are economic, sanitary and esthetic but in some neighborhoods the reasons have not yet been found out. If weeds are cut twice a year it will prevent most of them from seeding and will prevent these weeds spreading all over the farm. It always did look to us like there was something wrong with the man who kept his fields well cultivated but permitted the weeds along the roads and in waste places to grow and yearly reseed the farm. Then if the weeds are kept down two or three years a stand of grass can be obtained that will furnish hay or pasture and bring a little return for keeping the roadside in order. It is a well known fact that rank growing vegetation allowed to grow and decay is contributory to miasmatic diseases, hay fever, etc., and they also furnish harboring places for reptiles, rodents, insects and other pests the farmer must fight against.

The esthetic value on any community of good fences and well kept roadsides is wonderful. We think a farmer will work just a little harder to clean up the waste places, and to keep his crops clean of weeds, and to keep his cattle and horses in good condition when he knows there is no screen of brush and weeds to keep out the view of the passer-by. He will not want the unsightly old straw pile, or manure heap to stand all summer, an eye-sore to the beauty of the farm, if he knows it is in plain view every time a neighbor passes.

There is yet another great advantage in keeping the roadsides clean and that is in the better work that can be done on the roads. How often we have traveled over roads ruined for the time being by having a lot of weeds dragged into the middle of the road and left in great irregular piles to obstruct the travel. We have seen roads thus destroyed that it would take six or eight months time before the weeds would decay so the road surface could be leveled down again. Then many times we have seen the roadside weeds fill the ditches, throw the water into the center of the road and the washing of one big rain would cause more damage to the road than it would have cost to cut the weeds for two or three years. Let us again remind you to cut the weeds along the roadside.

DRAG THE ROADS

The most useful road tool ever invented is the road drag but unfortunately it is not an automatic implement but it requires a good team and a boy or man with some judgment to use it. The striking difference between the enterprise and public spirit of the citizens of various neighborhoods is shown more clearly in the way the roads are dragged than in most any other way we know. D. Ward King, the Holt County farmer who is the father of the road drag idea when once asked how he would use the drag to fill a mud hole, replied, "I would use the drag before there was any mud hole." An ounce of prevention in road dragging is worth several pounds of cure. Where the drag is used often the little holes and little ruts are filled when it takes but little lose dirt and the tramping soon has these places solid and so when the next rain falls the water runs off the road quickly, and without water there can be no mud.

In a year like this the roads need dragging often to stop the little ruts before they deepen into ditches and the frequent dragging will cost less than it would to fill a bad ditch in the fall, besides when the dragging is kept up you have what you need—a smooth, dependable road every day when you want to use it.

It may be a little discouraging to farmers who live off the inter-county-seat highways to see their neighbors drawing $15 a mile from the state to pay them for dragging their roads while those who are unfortunate enough to live off such a political preference route must drag the road without pay but that does not alter the fact that the road drag is a good thing and will keep most any road in good repair if it is used after every rain .

The work done with the drag is cumulative and the longer time a road has been kept in order with the drag the harder the road will be, the smoother its surface and of course the easier it can be kept up. Then the dragging becomes a habit after a while and it is not hard to find the time to do it and traveling the smooth road becomes a facination that is good for the "blues."

POLITICS AND THE LAND BANK

There should never be any partisan politics injected into an important economic question like rural credits. Up to this time it appears that there has been very little effort made to mix political discussion and rural credits in Congress and possibly that is because both political parties are bound by their platforms to favor better credit facilities for farmers. But in our efforts to get a system of farm loans adapted to Missouri it has been a hard matter to keep the demagogue from dragging the question into what we might call personal politics.

Our readers know that we never permit the discussion of partisan questions in our columns but on the other hand we can not abandon any important economic question because politicians differ about it.

A reader of The Missouri Farmer has sent us a clipping from an editorial in one of the St. Louis papers and has asked us to reply to it. We are not seeking controversy with any one on this subject but have from time to time given reasons in favor of the adoption of the amendment to the state constitution which will authorize the establishment of a rural credit system in this state and most of our readers are no doubt familiar with these reasons.

But to show that those who are attacking the Missouri plan for rural credits are using assertion without argument we quote from the editorial of the St. Louis paper as follows:

"It is regretable that initiative petitions for the purpose of amending the constitution of Missouri so as to make void the establishment of a state land bank, along lines outlined by the last General Assembly, have been filed, necessitating a vote in November. Aside from the legal question as to whether such an amendment would be effective and aside from the merits or demerits of the measure itself, standing by itself, Congress in making the establishment of a land bank by Missouri entirely unnecessary. Whatever may be said in opposition to the national rural credit legislation, and it is open to attack in many places, no one questions the value of the securities that will be offered under it. There will be no hesitancy on the part of investors. It will require no great expense to sell the bonds, based on farm mortgages, issued under federal supervision. They should sell as readily as government bonds.

"All the expense of selling bonds based on farm mortgages must ultimately be paid by the borrowers. Should Missouri adopt a system of its own, its land bank bonds would have to compete with those issued under the national system. It would have the task of convincing the investors of the country that the securities of the Missouri system were as good, if not better, than those issued under the national system. This would require wide advertising and the services of expert salesmen, who would receive large salaries and incur large expense bills. This extra expense would have to be borne by the Missouri borrowers. It is even doubtful if investors could be made to take the Missouri bonds, in preference to those issued under the national system, at the same rate of interest. What possible inducement could Missouri offer?

"If there had been no prospect of action by Congress, the merits of the Missouri plan might be discussed. But the establishment of a national system makes the attempt of any one state to run a system of its own in competition a flagrant piece of folly. The voters should not be annoyed with such a frivolous proposal."

How "regretable" to be sure to those who are opposed to any form of relief for borrowing farmers to allow the people the privilege of voting on the question. It is pure subterfuge to contend that a measure passed by Congress will so completely supply the needs of farmers that action by the state is unnecessary. Why not say that with national banks that we have no need for banks and trust companies incorporated under state laws? Why does not the author of the above attack on the Missouri Land Bank go to work and have all banks and trust companies organized under state laws legislated out of business. These institutions are filling a valuable and necessary place in the financial world in spite of a splendid national banking system.

Then as to finding sale for the bonds issued under a state system why should there be any confusion because bonds are offered from both state and national institutions? Do we not now find sale for state, county and other bonds? Our state capitol bonds sold on the basis of about 4 per cent and the Missouri Land Bank bonds based on farm lands of double the value of the bonds ought to find as ready buyers as our little school district or road district bonds have found, thousands of dollars of which have been sold at no higher rate than that proposed for the Land Bank bonds. If bonds of the Federal Land Bank will sell as readily as government bonds then why not say that bonds issued under state supervision will sell as readily as state bonds? And that is just what the friends of the Missouri Land Bank are expecting and that is the "Why" of the opposition. It is not because they are afraid it will fail that they are opposing it but it is because they want it to fail—and to be sure of that they want it to fail of adoption.

All the opponents of the Missouri Land Bank use the same threadbare argument that there will be too much expense in making loans and too much expense in selling bonds and they work themselves into a hysterical love for the poor borrowers unequaled by any, save possibly the money lender (?) himself. No system can entirely dispense with the expense of making loans and selling bonds but a study of the Missouri Land Bank will show that it has reduced the expense to the minimum. For all expenses and for creating a reserve fund the Missouri law provides for not more than one-half of one per cent annual payment while the measure now before Congress provides for twice that amount.

Any one who will study the two plans together will easily see why the state law can be operated at less expense. The whole plan is more simple and there will be no high salaried officers to pay in the Missouri plan. Under a law very much like the proposed Missouri law. Australia has accumulated a reserve of more than half a million dollars on a charge of one-half of one per cent. Let no one deceive themselves by believing that the Missouri Land Bank is an impractical plan. We have the evidence furnished by the best countries of Europe to guide us in voting for the amendment at the next election.

We do not want any one to get alarmed about there being any possible confusion or conflict between the Missouri Land Bank and the national system which is reasonably certain to be authorized by Congress before adjournment. The states of New York and Wisconsin already have rural credit plans in operation and it is well enough to have more than one plan to furnish competition to insure more efficiency in the management.

THE WAGON HORSE

In another column in this issue, Mr. Royce the live stock representative of The Missouri Farmer has very clearly discussed the proposed plan for establishing a new breed of horses and in calling attention to what Mr. Royce has to say we want to emphasize the fact that all breeds of live stock have been gradually developed by the farmers beginning at the bottom. No kind of propaganda emanating from one man is a safe foundation to build on. Whether those responsible for the different representative farm breeds of horses have made mistakes in breeding too large or too small had better be left to the farmers themselves and if they find a change is needed they can soon bring it about by selection within the breed. By this method they have only one factor to control, that of size while by starting a new breed with foundation stock representing all kinds of miscellaneous breeding it will take many years to establish enough uniformity to merit the distinction of a new breed.

BARNYARD GOSSIP

Some of us have talked peace—some have favored war and today as I write this war seems inevitable. The fact is war is on now with Mexico but diplomats do not call it war but so far as you and I are concerned it is war when the soldiers of one country meet the soldiers of the other country on the battle field as they did at Carrizal and kill and wound and take prisoners. In this first real engagement the Mexicans fired the first shot and now our national honor has been assailed and whether we are "jingo" or "pacifist" we should first be patriots and if events culminate in war with Mexico the American people will respond to the call for arms just as quickly and patriotically as they did for Washington, Jackson, Lincoln and McKinley.

The other day we heard a big athletic looking American say "This is no fuss of mine. I did not help to make it, I never was asked anything about it and I am not going to help settle it. If I go they will take me by force—but I'm not going, I tell you." We like to see a man think more of his country than that. The United States is not the aggressor in this matter. For years our people who live along the border and in Mexico have had their property destroyed or stolen, the sacred rights of their homes have been violated and outraged and their lives endangered and many of them lost and we think this country has shown great forebearance to put up with these things so long as it has. A war against Mexico will not be for plunder nor for the domination of the rights of that country by this country, but it will be for the protection of the lives and property of American citizens now and in the future. I detest the "bully" and I have just as little use for the coward who is not willing to do his part whatever that may be to defend his own home, his family, his honor, his country and its glorious flag. A row starts on the street which threatens the peace and the lives of the citizens of the town and the policeman or the sheriff is not able to put down the riot and calls for aid, this man who says "it is not my fuss" and runs to cover while other men risk their lives or lose them, and order is maintained, the coward's home as well as those who fight for peace is protected and he enjoys the rights, privileges and protection of organized society. Shame on the coward, and disgrace for the traitor.

Missouri now has mobilized at the state encampment grounds at Nevada nearly 5,000 of her young men ready to do their duty. (Doubtless before the reader gets this paper most of the Missouri troops will be on the Mexican border.) These young men come from all classes, the rich and the poor alike, and they are leaving their various occupations, and endangering their lives to defend the honor and integrity of this country. That means they are ready to fight for my rights and the protection of my family just as much as that of their own. And so it is, my fellow citizen, that whether you are a so-called pacifist or a jingo this is your war, it is my war, and we are in duty bound to give the army which goes forth to defend the flag both our moral and if necessary our material support.

After this war is over the people of Mexico will understand the American people better than they do now and they will be our friends. We must remember that more than 80 per cent of the people of that country are illiterate. Most of them have been deprived of their lands, not by right, but by might, and it is their firesides they have been fighting for. In their ignorance it is very easy to inflame their minds against the people of this country and make them believe we want to take whatever they may have left. But when our armies conquer their armies as they are as certain to do as it is that the sun shines and when those ignorant but generally home loving, quiet people find that we are there for their good and our protection—that we are there to restore to the people justice—there is little doubt that they will respect the American flag and look upon us as friendly neighbors.

We who have been left at home must not forget our duty. Where men with dependent families have gone to the front it is the duty of the people who are left at home to care for the dependent ones.

THE RURAL CHURCH AND THE YOUNG MAN

Everybody seems to be more or less so consumed by the desire to do something for somebody in some way, that they forget at times the inevitable law, that an improvement in conditions is the result of an inner spirit and not of an outer form. Put in another way, the rural problem is to be worked out by the rural community. If in any rural community there develops a dissatisfaction with things as they are, and an almost resistless desire to transform them into things as they ought to be, the problem of that community is in a fair way of being solved.

In any event the real problem is the young man. If in some way he can be brought to feel that his surroundings furnish opportunities for worthy achievement, that honest toil will reap rewards not only in a monetary way, but also in reputation and standing; that his horizons are wide, his outlooks as uninterrupted as those of urban communities, the first step in advance will have been taken. Many young men in rural communities have a dissatisfaction with things as they are, but lack the eagerness to make them as they ought to be. This dissatisfaction then finds expression in the cityward movement.

The material with which we deal is the young man. The tools with which we are working at present are the school and the church. Thus far the results have been far from satisfactory. Perhaps some of the underlying conditions may be recognized, which should give direction to the activities of the rural church.

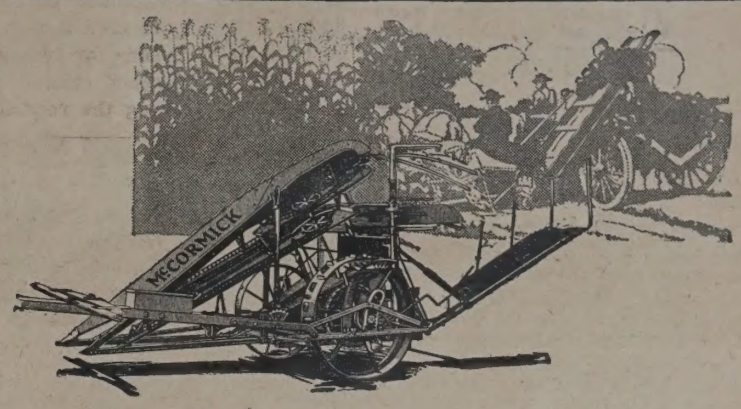
In the first place the church must realize that the young man is a "gregarious animal"—so that the problem becomes one of young men, instead of the young man; social instead of individual. Every club in the city, every gang in the slums, represents the struggle for the satisfaction of this instinct. Thus far the rural community has not adequately provided for this absolutely vital necessity. What the young men desire is the opportunity for self-expression and if they cannot find the possibility in the rural community they will leave it in the future as they have left it in the past. It is here that the rural church has an unrivalled opportunity to come into close and sympathetic touch with young men. Why should that church be closed save for four or five hours a week? Do you imagine that community life is influenced by such slight service? Can you wonder that such apparently scant activity makes but little appeal to young men who are anxious to see things in action?

In dealing with young men we must realize the fact that the physical is to them the supreme part of their nature, and certain it is that the church in the rural community has lost its grip upon young men because it has failed to reach after them through the physical body. Some provision for exercise indoors, as well as an outdoor athletic field are surely possible in our broad and spacious land. Think of the appeal that it would make to the young men of any community, that one church at least cared for their bodies. Still better, if in a community of two or three churches a common athletic plant could be kept up it would go far toward eliminating the annoyances which are inevitable where unoccupied young men gather. If the church reaches young men it must have a message for them appealing primarily to their physical and intellectual needs and suited to their developmental stage. Through conduct based on convictions we reach our theology and we fail of full success if we attempt to revise this order.

The young man is also a hero worshipper, he is an idealist, almost a sentimentalist. Here then is another means of laying hold of young men and giving them correct ideals. The moral of all biography is that what man has done, man can do. For this reason every rural church should have some kind of arrangements for a library. The books should be carefully selected, not merely because of their purpose, but almost equally because of their style and interest.

Young men are strong, and being strong they are eager to test their strength in the work of their day. Men grow into manliness and into fine characters more certainly and more swiftly under the load of responsibility than in any other way. However, today we treat them as if they were weak and are constantly devising methods to keep them from falling. It is the mission of the church to use the strength of the young men in its work for community uplift. The older members can safely content themselves with counsel and advice, trusting the leadership to them. These young men are in turn the natural leaders of the younger boys and unless they lead in clean paths and to worthy conduct the results are most disastrous, and the community quickly loses moral tone and fibre. Back of all this, however, handicapping every endeavor, stemming enthusiasm, and crushing hopes for the future is the great inertia of those who have reached or passed middle life. It will be necessary that they be continually dominated by high and pure ideals so that the work may not be retarded or defeated.

The rural church, then, has its opportunity with young men as it works with, rather than for them. If it does this it will lay hold in a directive and controlling way of the universal characteristics of youth. If the church has lost its grip it has done so because it has studied the problem rather than the young man. The young man is after all a singularly uncomplicated human being. His needs are fairly simple, indeed they are somewhat elemental, but if we direct him we must meet these needs. We must dignify his personal strength and aid him in its development in the best and wisest way; we must turn his hero worship into worthy directions; and we must recognize his strength and enthusiasm, his desire to do, and place upon him some of the burdens in the great task of uplifting community life and ideals—Stanley Coulter, Dean of the School of Science, Purdue University.



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David Dunne

A Romance of the Middle West

By BELLE KANARIS MANIATES

David had remained silent and constrained during this conversation, the lines of his young face setting like steel. Suddenly he left the house and paced up and down in the orchard, to wrestle once more with the old problem of his boyhood days. It was different now. Then it had been a question of how much he must stand from Jud for the sake of the benefits bestowed by the offender's father. Now it meant a sacrifice of principle. He had made his boyish boast that he would defend only those who were wrongfully accused. To take this case would be to bring his wagon down from the star. Then suddenly he found himself disposed to arraign himself for selfishly clinging to his ideals.

He went back into the house, where M'ri was still tearfully arguing and protesting. He came up to Barnabas.

"I will clear Jud, if you will trust the case to me, Uncle Barnabas."

Barnabas grasped his hand.

"Bless you, Dave, my boy," he said. "I wanted you to, but Jud has been—wal, I didn't like to ask you."

"David," said M'ri, when they were alone, "Martin said you wouldn't take a case where you were convinced of the guilt of the client."

"I shall take this case," was David's quiet reply.

"Really, David, Martin thinks it will be best for Jud—"

"I don't want to do what is best for Jud, Aunt M'ri, I want to do what is best for Uncle Barnabas. It's the first chance I ever had to do anything for him."

When Judge Thorne found that David was determined to defend Jud, he gave him some advice:

"You must get counter evidence, if you can, David. If you have any lingering idea that you can appeal to the jury on account of Barnabas being Jud's father, root out that idea. There's no chance of rural juries tempering justice with mercy. With them it's an eye for an eye, every time."

David had an infinitely harder task in clearing Jud than he had had in defending Miggs. The evidence was clear, the witnesses sure and wary, and the prisoner universally detested save by his evil-minded companions, but these obstacles brought out in full force all David's indomintable will and alertness. He tipped up and entrapped the prosecution's witnesses with lightning dexerity. One of them chanced to be a man whom David had befriended, and he aided him by replying shrewdly in Jud's favor.

But it was Jud himself who proved to be David's trump card. He was keen, crafty, and quick to seize his lawyer's most subtle suggestions. His memory was accurate, and with David's steering he avoided all traps set for him on cross examination. When David stood before the jury for the most stubborn fight he had yet made, his mother's last piece of advice—all she had to bequeath to him—permeated every effort. He put into his argument all the compelling force within him. There were no ornate sentences this time, but he concentrated his powers of logic and persuasiveness upon his task. The jury was out two hours, during which time Barnabas and Jud sat side by side, pale and anxious, but upheld by David's confident assurance of victory.

He kept his word. Jud was cleared.

"You're a smart lawyer, Dave," commented Uncle Larimy.

David looked at him whimsically.

"I had a smart client, Uncle Larimy."

"That's what you did, Dave, but he's gettin' too derned smart. You'd a done some of us a favor if you'd let him git sent up."

CHAPTER V

"Dave," said Barnabas on one memorable day, "the Jedge hez hed his innings trying to make you a lawyer. Now it's my turn."

"All right, Uncle Barnabas, I am ready."

"Hain't you hed enough of law, Dave? You've given it a good trial, and showed what you could do. It'll be a big help to you to know the law, and it'll allers be sumthin' to fall back on when things get slack, but ain't you pinin' fer somethin' a leetle spryer?"

"Yes, I am," was the frank admission. "I like the excitement attending a case, and the fight to win, but it's drudgery between times—like soldiering in time of peace."

"Wal, Dave, I've got a job fer you wuth hevin', and one that starts toward what you air a-goin' to be."

David's breath came quickly.

"What is it?"

"Thar's no reason at all why you can't go to legislatur' and make new laws instead of sett in' in the Jedge's office and larnin' to dodge old ones. I'm a-runing politics in these parts, and I'm a-goin' to git you nominated—so 't will be up the ladder and over the wall fer you, Dave."

So, David, to the astonishment of the Judge, put his foot on the first round of the political ladder as candidate for the legislature. At the same time Janey returned from the school in the East, where she had been "finished," and David's heart beat an inspiring tattoo every time he looked at her, but he was nominated by a speech-loving, speech-demanding district, and he had so many occasions for oratory that only snatches of her companionship were possible throughout the summer.

Joe came on to join in the excitement attending the campaign. It had been some time since his last visit, and he scarcely recognized David when he met him at the Lafferton station.

"Well, Dave," said the ranchman, "if you are as strong and sure as you look, you won't need my help in the campaign."

"I always need you, Joe. But you haven't changed in the least, unless you look more serious than ever, perhaps."

"It's the outdoor life does that. Take a field-bred lad, he always shies a bit at people."

"Your horse does, too, I notice. He arrived safely a week ago, and I put him up at the livery here in Lafferton. I was afraid he would demoralize all the horses at the farm."

"Good! I'll ride out this evening. I have a little business to attend to here in town, and I want to see the Judge and his wife, of course."

When the western sky line gleamed in crimson glory Joe came riding at a long lope up the lane. He sat his spirited horse easily, one leg thrown over the horn of his saddle. As he neared the house, a threshing machine started up. The desert-bred horse shied, and performed maneuvers terrifying to Janey, but Joe in the saddle was ever a part of the horse. Quietly and impassively he guided the frightened animal until the machine was passed. Then he slid from the horse and came up to Janey and David, who were awaiting his coming.

"This can never be little Janey!" he exclaimed, holding her hand reverently.

"I haven't changed as much as Davey has," she replied, dimpling.

"Oh, yes, you have! You are a woman. David is still a boy, in spite of his six feet."

"You don't know about Davey!" she said breathlessly. "He has won all kinds of law cases, and he is going to the legislature."

Joe laughed.

"I repeat, he is still a boy."

On the morrow David started forth on a round of speech making, canvassing the entire district. He returned at the wane of October's golden glow for the round-up, as Joe termed the finish of the campaign. The flaunting crimson of the maples, the more sedate tinge of the oaks, the vivid yellow of the birches, the squashes piled up on the farmhouse porches, and the fields filled with pyramidal stacks of cornstalks brought a vague sense of loneliness as he rode out from Lafferton to the farm. He left his horse at the barn and came up to the house through the old orchard as the long, slanting rays of sunlight were making afternoon shadows of all who crossed their path.

He found Janey sitting beneath their favorite tree. An open book lay beside her. She was gazing abstractedly into space, with a new look in her star-like eyes.

David's big, untouched heart gave a quick leap. He took up the book and with an exultant little laugh discovered that it was a book of poems! Janey, who could never abide fairy stories, reading poetry! Surprised and embarrassed, after a shy greeting she hurried toward the house, her cheeks flaming. Something very beautiful and breath-taking came into David's thoughts at that moment.

He was roused from his beatific state by the approach of Barnabas, so he was obliged to concentrate his attention on giving a resume of his tour. Then the Judge telephoned for him to come to his office, and he was unable to finish his business there until dusk. The night was clear and frost touched. He left his horse in the lane and walked up to the house. As he came on to the porch he looked in through the window. The bright fire on the hearth, the soft glow of the shaded lamp, and the fair-haired girl seated by the table, needlework in hand, gave him a hunger for a hearth of his own.

Suddenly the scene shifted. Joe came in from the next room. Janey rose to her feet, a look of love lighting her face as she went to the arms outstretched to receive her.

CHAPTER VI

David went back to Lafferton. The little maid informed him that the Judge and his wife were out for the evening; but there was always a room in readiness for him, so he sat alone by the window, staring into the lighted street, trying to comprehend that Janey was not for him.

It was late the next morning when he came downstairs.

"I am glad, David, you decided to stay here last night," said M'ri, whose eyes were full of a yearning solicitude.

She sat down at the table with him while he drank his coffee.

"David."

She spoke in a desperate tone, that caused him to glance keenly at her.

"If you have anything to tell," he said quietly, "it's a good plan to tell it at once."

"Since you have been away Joe and Janey have been together constantly. It seems to have been a case of mutual love. David, they are engaged."

"So," he said gravely, "I am to lose my little sister. Joe is a man in a thousand."

"But, David, I had set my heart on Janey's marrying you, from that first day when you went to school together and you carried her books. Do you remember?"

"Yes," he replied whimsically, "but even then Joe met us and took her away from me. But I must drive out and congratulate them."

M'ri gazed after him in perplexity as he left the house.

"I wonder," she mused, "if I ever quite understood David!"

Miss Rhody called to David as he was passing her house and bade him come in.

"You've hed a hard trip," she said, with a keen glance into his tired, boyish eyes.

"Very hard, Miss Rhody."

"You have heard about Janey—and Joe?"

"Aunt M'ri just told me," he said, wincing ever so slightly.

"They was all sot on your being her sweetheart, except me and her—and Joe."

"Why not you, Miss Rhody?"

"You ain't never been in love with Janey—not the way you'll love some day. When I was sick last fall Almiry Green come over to read to me and she brung a book of poems. I never keered much for po'try, and Almiry, she didn't nuther, but she hed jest ketched Widower Pankey, and so she thought it was proper to be readin' po'try. She read somethin' about fust love bein' a primrose, and a-fallin' to make way fer the real rose, and I thought to myself: 'That's David. His feelin' fer Janey is jest a primrose.'"

David's eyes were inscrutable, but she continued:

"I knowed she hed allers fancied Joe sence she was a little tot and he give her them beads. When Joe's name was spoke she was allers shy-like. She wuz never shy-like with you."

"No," admitted David wearily, "but I must go on to the farm now, Miss Rhody. I will come in again soon."

When he came into the sitting room of the farmhouse, where he found Joe and Janey, the rare smile that comes with the sweetness of renunciation was on his lips. After he had congrtulated them, he asked for Barnabas.

"He just started for the woods," said Joe. "I think he is on his way to Uncle Larimy's."

David hastened to overtake him, and soon caught sight of the bent figure walking slowly over the stubbled field.

"Uncle Barnabas!" he called.

Barnabas turned and waited.

"Did you see Janey and Joe?" he asked, looking keenly into the shadowed eyes.

"Yes; Aunt M'ri had told me."

"When?"

"This morning. Joe's a man after your own heart, Uncle Barnabas."

"It's you I wanted fer her," said the old man bluntly. "I never dreamt of its bein' enybody else. It's an orful disapp'intment to me, Dave. I'd ruther see you her man than to see you what I told you long ago I meant fer you to be."

"And I, too, Uncle Barnabas," said David, with slow earnestness, "would rather be your son than to be governor of this state!"

"You did care, then, David," said the old man sadly. "It don't seem to be much of a surprise to you."

"Uncle Barnabas, I will tell you something which I want no one else to know. I came back last evening and drove out here. I looked in the window, and saw her as she sat at work. It came into my heart to go in then and ask her to marry me, instead of waiting until after election as I had planned. Then Joe came in and she—went to him. I returned to Lafferton. It was daylight before I had it out with myself."

"Dave! I thought I knew you better than any of them. It's been a purty hard test, but you won't let it spile your life?"

"No, I won't, Uncle Barnabas. I owe it to you, if not to myself, to go straight ahead as you have mapped it out for me."

"Bless you, Dave! You're the right stuff!"

PART THREE

CHAPTER I

In January David took his seat in the House of Representatives, of which he was the youngest member. It was not intended by that august body that he should take any role but the one tacitly conceded to him of making silver-tongued oratory on the days when the public would crowd the galleries to hear an all-important measure, the "Griggs Bill," discussed. The committee were to give him the facts and the general ine of argument, and he was to dress it up in his fantastic way. They were entirely willing that he should have the applause from the public as well as the credit of the victory; all they cared for was the certainty of the passage of the bill.

David's cool, lawyer-like mind saw through all these manipulations and machinations even if he were only a political tenderfoot. As other minor measures came up he voted for or against them as his better judgment dictated, but all his leisure hours were devoted to the investigation and study of the one big bill which was to be rushed through at the end of the session. He pored over the status of the law, found out the policies and opinions of other states on the subject, and listened attentively to all arguments, but he never took part in the discussions and he was very guarded in giving an expression of his views, an attitude which pleased the promoters of the bill until it began to occur to them that his caution came from penetration into their designs and, perhaps, from intent to thwart them.

"He has ketched on," morunfullstated an old-timer from the third district. "I'm allers mistrustful of these young critters. They are sure to balk on the home stretch."

"Well, one good thing," grinned a city member, "it breaks their record, and they don't get another entry."

David had made a few short speeches on some of the bills, and those who had read in the papers of the wonderful powers of oratory of the young member of the eleventh flocked to hear him. They were disappointed. His speeches were brief, forceful, and logical, but entirely barren of rhetorical effect. The promoters of the Griggs Bill began to wonder, but concluded he was saving all his figures of speech to sugarcoat their obnoxious measure. It occurred to them, too, that if by chance he should oppose them his bare-handed way of dealing with subterfuges and his clear presentation of facts would work harm. They counted, however, on being able to convince him that his future status in the life political depended upon his cooperation with them in pushing this bill through.

Finally he was approached, and then the bomb was thrown. He quietly and emphatically told them he should fight the bill, single handed if necessary. Recriminations, arguments, threats, and inducements—all were of no avail.

"Let him hang himself if he wants to," growled one of the committee. "He hasn't influence enough to knock us out. We've got the majority."

The measure was one that would radically affect the future interests of the state, and was being watched and studied by the people, who had not, as yet, however, realized its significance or its far-recahing power. The intent of the promoters of the Griggs Bill was to leave the people unenlightened until it should have become a law.

"Dunne won't do us any harm," argued the father of the bill on the eventful day. "He's been saving all his skyrockets for this celebration. He'll get lots of applause from the women folks," looking up at the solidly packed gallery, "and his speech will be copied in all the papers, and that'll be the reward he's looking for."

When David arose to speak against the Griggs Bill he didn't look the youngster he had been pictured. His tall, lithe, compelling figure was drawn to its full height. His eyes darkened to intensity with the gravity of the task before him; the stern lines of his mouth bespoke a master of the situation and compelled confidence in his knowledge and ability.

The speech delivered in his masterful voice was not so much in opposition to the bill as it was an exposure of it. He bared it ruthlessly and thoroughly, but he didn't use his youthful hypnotic periods of persuasive eloquence that had been wont to sway juries and to creep into campaign speeches. His wits had been sharpened in the last few months, and his keen-edged thrusts, hurled rapier-like, brought a wince to even the most hardened of veteran members. It was a complete enlightenment in plain words to a plain people—a concise and convincing protest.

When he finished there was a tempest of arguments from the other side, but there was not a point he had not foreseen, and as attack only brought out the iniquities of the measure, they let the bill come to ballot. The measure was defeated, and for days the papers were headlined with David Dunne's name, and accounts of how the veterans had been routed by the "tenderfoot from the eleventh."

After his dip into political excitement legal duties became a little irksome to David, especially after the wedding of Joe and Janey had taken place. In the fall occurred the death of the United States senator from the western district of the state. A special session of the legislature was to be convened for the purpose of pushing through an important measure, and the election of a successor to fill the vacancy would take place at the same time. The usual "certain rich man," anxious for a career, aspired, and, as he was backed by the state machine as well as by the covert influence of two or three of the congressmen, his election seemed assured.

There was an opposing candidate, the choice of the people, however, who was gathering strength daily.

"We've got to head off this man Dunne some way," said the manager of the "certain rich man." "He can't beat us, but with him out of the way it would be easy sailing, and all opposition would come over to us on the second ballot."

"Isn't there a way to win him over?" asked a congressman who was present.

The introducer of the memorable measure of the last session shook his head negatively.

"He can't be persuaded, threatened, or bought."

"Then let's get him out of the way."

"Kidnap him?"

"Decoy him gently from your path. The consul of a little seaport in South America has resigned, and at a word from me to Senator Hollis, who would pass it on to the President, this appointment could be given to your young bucker, and he'd be out of your way for at least three years."

"That would be too good to be true, but he wouldn't bite at such bait. His aspirations are all in a state line. He's got the usual career mapped out,—state senator, secretary of state, governor—possibly President."

"You can never tell," replied the congressman sagaciously. "A presidential appointment, the alluring word 'consul,' a foreign residence, all sound very 'enticing and important to a young country man. The Dunne type likes to be the big frog in the puddle. This stripling you are all so afraid of hasn't cut all his wisdom teeth yet. It's worth a try. I'll tackle him."

The morning after this conversation, as David walked down to the Judge's office he felt very lonely—a part of no plan. It was a mood that made hime ripe for the purpose of the congressman whom he found awaiting him.

"I've been wanting to meet you for a long time, Mr. Dunne," said the congressman obsequiously, after the Judge had introduced him. "We've heard a great deal about you down in Washington since your defeat of the Griggs Bill, and we are looking for great things from you. Of course, we have to keep our eye on what is going on back here."

The Judge looked his surprise at this speech, and was still more mystified at receiving a knowing wink from David.

After some preliminary talk the congressman finally made known his errand, and tendered David the offer of a consulship in South America.

At this juncture the Judge was summoned to the telephone in another room. When he returned the congressman had taken his departure.

"Behold," grinned David, "the future consul of—I really can't pronounce it. I am going to look it up now in your atlas."

"Where is Gilbert?" asked the Judge.

"Gone to wire Hilliard before I can change my mind. You see, it's a scheme to get me out of the road and I—well I happen to be willing to get out of the road just now. I am not in a fighting mood."

"Consular service," remarked the Judge oracularly, "is generally considered a sort of clearing house for undesirable politicians. The consuls to those little ports are, as a rule, very poor."

"Then a good consul like your junior partner will loom up among so many poor ones."

Barnabas was inwardly disturbed by this move from David, but he philosophically argued that "the boy was young and it wouldn't harm him to salt down awhile."

"Dave," he counseled in farewell, "I hope you'll come to love some good gal. Every man orter hev a hearth of his own. This stretchin' yer feet afore other folks' firesides is unnatural and lonesome. Thar's no place so snug and safe fer a man as his own home, with a good wife to keep it. But I want you tew make me a promise, Dave. When I see the time's ripe fer pickin' in politics, will you come back?"

"I will, Uncle Barnabas," promised David solemnly.

The heartiest approval came from Joe.

"That's right, Dave, see all you can of the world instead of settling down in a pasture lot at Lafferton."

(To be continued.)

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LETTERS FROM BOYS AND GIRLS

Dear Mr. Editor:

I like the story you are giving us in The Missouri Farmer just splendid. When the paper comes and the work is all done for that day (you know farmer's work is never done) we gather in the living room, or if light enough on the front porch and one of us reads the story for all. By "us" I mean, mother, daddy, Janey, Jack and myself. You see we have a Janey, too, but she is not "sweet" on any one yet as Janey of the story is, but if she ever gets old enough to love a boy I hope it will be one as nice as David.

Mother usually does the reading, for daddy most always says he is too tired, and as she reads, any one is permitted to ask a question to refresh his or her memory on the story but we do not discuss anything in the chapter until the reading is finished. Then we talk about what has been done and make guesses on what the outcome is going to be. Often we find ourselves referring to something that is related in the story and it may lead to quite an argument.

Josie, Cass County.

Likes The Missouri Farmer

Fortuna, Mo., June 6, 1916.

The Missouri Farmer:

I like the story, "David Dunne" fine. I think it is one of the best stories that I ever read and I think David is the best character in the story.

We live on a farm of one hundred and sixty acres, southeast of Latham. I will be glad when the next paper comes. I wish it came once a week.

Elbert Dobson.

Admires Boys who Obey their Mothers

Marshall ,Mo.

To the Editor:

I am deeply interested in the story "David Dunne." I like all of the characters very much, especially David. I feel very sorry for Jud. He will learn a very dear lesson I fear. I didn't read the first of the story as I wasn't at home when the paper arrived. Some of my people consider story papers good fire starters. I read your last story and like it very much.

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I live on a farm five miles east of Marshall. I certainly enjoy the other letters, especially Ralph's. If all boys did nothing they were ashamed to have their mothers know, we would have a better world to live in. I will be twenty-one next October, but this letter doesn't sound like it, does it?

Best wishes to all. Bess.

He's Good To The Poor

Dear Editor:

I am a little girl of 9 years. My papa takes The Missouri Farmer. I read "David Dunne" and I like it fine, I like Davey the best and I also like Janey but I like David the best, because he is so good to the poor.

Lois Johnson.

Cowles, Nebr.

Mr. Editor:

I am carefully reading the story "David Dunne" and I like it very much, am interested in all the characters, though I am most interested in David Dunne and Janey.

Hope that a boys and girls page will be started soon.

I hope my letter will meet with your approval. Am watching for the next paper. Wilma Flemming.

We wonder where our boys and girls are who are reading "David Dunne." We have some nice letters this ime. Where is yours?

MAKING THE 1917 WHEAT CROP

(Continued from page 4)

varieties, Fultz and Poole as the best all round smooth wheats and I find both these are among the leading varieties recommended for Eastern Kansas by that station. If bearded wheat is desired the Fulcaster and Mediterranean are the standard. The Missouri Station has developed some superior strains of some of the standard wheats and for the last few years has been selling this improved seed to farmers and where this wheat can be obtained for seed we would advise our readers to buy it. We understand a small amount of seed will be available for purchase at the station this year.

No matter where the seed is obtained it is always advisable to screen the wheat before it is sown. Running through a good fanning mill takes but little time and will remove the dirt, straw, and cheat which will make the seed drill more evenly. There is no money in sowing dirt or cheat anyway and then the selection of only the heaviest, best seed is always advisable and the way to get it is to run the seed through the fanning mill with a good strong wind to blow out all light grains.

In a subsequent article we will take up other questions such as the use of commercial fertilizers, wheat in rotation and would specially like to have our readers give us their experiences in growing wheat, and what they think about it as a money crop on Missouri farms.

GROW BUCKWHEAT

Buckwheat is at present grown in this country almost wholly in the States east of the Mississippi River and north of the cotton belt. About seven-tenths of the crop is sown in the two States, New York and Pennsylvania, but it is important in several other States, principal among which are Michigan, West Virginia, Virginia, Wisconsin, and Ohio. In the more northern States buckwheat can be sown over practically the entire area without reference to elevation, but farther south it is confined to the uplands and mountainous sections.

Buckwheat should be sown on land prepared as for corn. It is an excellent crop to sow where corn has been planted but where a stand has not been secured. Best results are obtained where the land is plowed early and is well prepared, but fairly good results can be obtained by soming immediately after plowing and harrowing.

Buckwheat should generally be seeded at the rate of 3 or 4 pecks per acre. If the soil is fertile and a drill is used and the seed is of good vitality, as little as 2 pecks may be sufficient. As much as 5 pecks are sometimes sown. It is best to use a grain drill, but this is not essential, as the seed can be broadcasted and harrowed in with satisfactory results. It should be sown from one-fifth of an inch to 2 inches deep, depending on the condition of the soil.

Best Crop for Poor Land

There is probably no other crop that will produce better on infertile, poorly tilled lands than will buckwheat. It is well suited to light well-drained soils, such as sandy loams, and to the silt loam soils. It needs but little lime, growing well in acid soils without lime, where alfalfa and red clover would not succeed. When the soil is poor, it is profitable to use fertilizer, but where good wheat or corn crops can be produced without fertilizer, it is unnecessary for the buckwheat crop. On the poorest hill land a small application of nitrogen and phosphorous is advisable, but generally nitrogen is not needed. The plant responds very readily to applications of phosphates, however. Low-grade fertilizers containing phosphorous and a small amount of potassium can be used to advantage on the crop where the land is poor.

Three varieties of buckwheat are commonly grown in the United States, Japanese, Silver Hull, and Common Grey, the first two being most generally used. Japanese has a large dark-colored seed, while the Silver Hull has a smaller seed, glossy or silvery in appearance. These two varieties are of about equal value, when yields are considered.

A Cool-Weather Crop

Buckwheat is very sensitive to cold and is killed by the first heavy frost. It fills best in cool weather, however, and so the sowings are deferred to allow only time for the crop to mature before frost occurs. Under the most favorable conditions a buckwheat crop will mature in 10 weeks, but the average time is about 12 weeks. When seeded the last week in June or first week in July in New York and Pennsylvania and about a week earlier in Michigan and Wisconsin it is most likely to escape injury from hot weather, which, with drying winds and hot nights, causes the flowers to blast and fail to produce seed. The seeding time for any locality is determined fairly accurately by allowing it a period of 12 weeks for growth before the first killing frost is expected.

The farmer does not need expensive machinery for harvesting the buckwheat crop. An old-fashioned cradle, although it requires hard labor, does the harvesting well. The drop reaper, however, is one of the most satisfactory machines for harvesting. Many farmers use the ordinary binder, which practice is advisable where it can be followed. Cutting is begun as soon as the first lot of blossoms have disappeared, or often just before the first frost is expected. Buckwheat will mature its seed in a few days, if, after cutting, the crop is left in loose bundles where they are dropped from the cradle or reaper. It should then be set up in small shocks and tied near the top with some strands of the staw bent upward from the sides of the shock. The cut buckwheat is usually left in the field in the shocks until threshing time, when it is drawn in and threshed either with the flail or by machinery.

The farmer need generally have no fear of this crop being damaged by either insect enemies or fungous diseases, as the buckwheat plant is but little affected by either of these. It is an excellent crop for destroying weeds and for renovating and putting the soil in fine mellow condition.—Weekly News Letter.

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RED ANT KILLER

Did you ever hear of a household that didn't have an ant remedy? How many of these same households are not looking for a remedy that will really work? L. Haseman of the Missouri Agricultural Experiment Station has been giving special attention to the little red ant that usually causes more trouble than any other and has been able to kill it with the syrup made from half a pound of sugar and a fortieth of an ounce of sodium arsenite. The syrup should be made in a double boiler because if it is scorched the ants will not eat it and the poison must be carefully weighed by the druggist and no more than this must be added for two reasons. (1) It is a deadly poison and will be more likely to be dangerous to animals or persons who get it by mistake if less diluted. (2) If any more of it is used, the ants detect the taste and will not eat it.

Professor Haseman says that the ant has a very keen sense of taste and is a most contrary creature refusing to eat many of the things usually used in trying to get rid of him. In fact he finds that the little red nuisance eats this arsenic syrup better if it is put on sponges, rags, or blotting paper so it is seemingly harder to get than if in an open dish. If the soaked sponges or rags are put into tin cans or glass jars closed up except for a little crack as though put over to avoid the ants they seem to make special search for it and pass by open dishes of it in favor of the closed vessel.

Professor Hasseman recommends this poison especially for the little red ants and says that the real way to get rid of any kind of ants whose nests can be found is to destroy the entire colony with boiling water or by pouring on carbon bisulphide which will choke or suffocate them if placed so that its poison gas can settle down into the nest.

THE DOG AS A CARRIER OF DISEASE

Few persons ever stop to consider what it means to handle a dog or cat, for these animals may be the means of conveying diseases into homes and among children, that would not otherwise gain entrance.

It is not the purpose of this article to destroy the usefulness of these animals, but to call attention to the dissemination of infectious material by them. These animals are most useful in many ways, but should be managed in such a manner as not to convey diseases.

The dog in the country is a useful and pleasant helper for the farmer if he is properly controlled and cared for, but when neglected, may readily become a carrier of disease to stock, in addition to gaining opportunity to kill sheep and destroy gardens and other property. Dog ordinances, as a general rule, have been intended chiefly to curb the dog's power of doing harm by attacking, biting, killing or running sheep or stock. The part that he plays as a carrier of diseases to animals only recently has been recognized according to the zoologists of the Department of Agriculture, who believe that when this is better understood, rural ordinances and laws which lessen this danger will gain the support of the community.

Of the diseases carried to stock by dogs, the foot-and-mouth disease is probably of the greatest interest at this time. In this case the dog acts as a mechanical carrier of infection. The dog which runs across an infected farm easily may carry in the dirt on his feet the virus of this most contagious of animal diseases to other farms and thus spread the disease to the neighborboring herds. In infected localities it is absolutely essential, essential, therefore, to keep all dogs chained and never to allow them off the farm except when in the company of the owner.

It should be remembered and noted, however, in this connection that there are certain classes of healers who are spreading a false and dangerous doctrine among the people to the extent that all diseases are caused by displacements of certain bones of the spinal column, and that diseases are not caused by germs. Men who have spent their whole lives in the study of the causation of diseases have sought to give to an intelligent public the important truths that diseases are caused by germs, and with the destruction and elimination of these germs, the diseases caused by them will disappear; hence, the cure lies in the prevention of the creation of all disease germs, and not in the treatment of the spinal column.

Besides the foot-and-mouth disease, there are, however, many other maladies in the spread of which the dog takes an active part. In Bulletin No. 260 of the United States Department of Agriculture, "The Dog as a Carier of Parasites and Diseases," it is pointed out that rabies, hydatid, ringworms, favus, double-pored tapeworm, roundworm, and tongueworm are often conveyed to human beings in this manner. It occasionally happens also that the dog helps fleas and ticks in transmitting bubonic plague or the deadly spotted fever.

The writer, after visiting on a farm for a short time recently, had these impressions come to him from observation, that prevenetion on the farm, as well as in cities and towns, consists in so restraining the dog that he cannot get a carrion or raw viscera. Viscera should be boiled before being fed to dogs and should never be thrown on the fields, in lots, streets or alleys. If not cooked and fed, viscera and carcasses should be burned, buried with lime, or so disposed of as to be inaccessible to dogs. Proper feeding of the dog is essential, and the owner who does not feed his dog properly, has no right to keep one.

Among the external parasites which dogs may carry to animals, fleas and the various kinds of ticks are both troublesome and dangerous. The ownermust keep his dog clean, not merely for the comfort and happiness of the dog, but to prevent the dog from becoming a carrier of disagreeable and dangerous vermin.

These reasonable measures, important to the stock on the farm, have a direct connection with the health of the family. Where ringworm or other skin diseases break out among the children, or the worm parasites develop, it is well to determine whethera dirty or uncared-for dog may not be carrying infection on his skin or hair, or be conveying disease from carrion directly to the food and persons of his friends. Even if no one is infected with disease, the folly of allowing a dog, or even a cat, to remain dirty and have the freedom of a home where personal cleanliness and hygiene are respected, is apparent.—G. H. S., Iowa State Board of Health.

AN OFFER TO FARMER BOYS

After thinking over the matter for some time we have concluded to make the farmer boys who belong to our "Big Family" the following proposition: For $50.00 worth of subscriptions to The Missouri Farmer we will ship to every boy who procures them for us, a bred gilt, selected from one of the best pure bred Poland China, Duroc, Chester White, Hampshire or Berkshire herds in the state. There won't be any "contest" about it. Farmers receive The Missouri Farmer three years for one dollar—and 50 such subscriptions will win this fine bred gilt. That is all there is to it. All your neighbors will be glad to give you a dollar for three years' subscription to a paper like The Missouri Farmer. They will do it first, because the paper is more than worth the money and because it is fighting their battles. Secondly, they will be glad to help you win this splendid prize.

If you will take good care of the gilt and her litter it will start you in the pure bred hog business and if you will go in "halvers" with your Father you are sure to make some money. We are making this offer not only because we are trying to place The Missouri Farmer in every good farm home in the state but because we want to get our boy friends genuinely interested in the farm. In order to do this we want to help you earn some money. Now we can make this offer to only one farmer boy in each community—so there is no time to lose. You have all summer in which to work—and should you finally fail to get the required number of subscriptions, we will nevertheless pay you a substantial commission on all you do get. So you can't lose. Why not make this gilt and her litter the beginning of a fund which in a few years will pay your way through the Agricultural College or through some other good educational institution? The boys who take advantage of this fine offer will be among the "big farmers" of the futre.

William Hirth, Publisher,
THE MISSOURI FARMER, Columbia, Mo.

Poultry and Pet Stock Show

There will be held in St. Louis during Thanksgiving week on November 24 to 30 inclusive, what the officers hope to make the best poultry show of the season. Henry Steinmesch, president and Jas. J. Long, secretary.

By Old Jim Riley

Its pretty tough for a feller to have to git shot up by a "greaser" and a whole lot tougher when you think that he does it with American made bullets. But it's alright I guess. Anyway I am in for cleanin' 'em out just as quick as possible and when its all over I want old Carranzy's whiskers to look like they'd been in a cyclone.

SOME BUSINESS ABOUT MISSOURI

Missouri has more farm homes owned and unincumbered than has Iowa, Illinois, or Kansas.

Missouri is a state of home owners. She has fewer rented farms that Illinoise, Iowa, Nebraska, Kansas, or Oklahoma.

In number of hogs Missouri, with 4,505,000 head, ranks second among all the states. The Missouri hog is not a "hazel splitter," but an "institution," with hams and history.

During the last census decade the value of Missouri lands doubled, and correspondingly increased more than those of any state to her west, or any state bordering her on the north or south.

Missouri is a great corn state. According to the last census, the leading states in the production of corn were Illinois, Iowa, Indiana, and Missouri. These four states together reported more than two-fifths of the total production of the United States.

Missouri is truly a center state. Here is the heart of the great corn belt. Here is the center of farm values, and also the center of improved acreage. The statement is also made that in Missouri is the cattle center, the hog center, the horse and mule center, and the center of farm production for the United States.

Missouri live stock is remarkably free from disease. Texas fever, sheep scabies, and glanders are practically unknown. During the foot-and-mouth outbreak there was not one case in Missouri. The result of the work of providing a pure milk supply for Missouri cities, and of keeping healthy the herds of the state, is a striking story of progress and efficiency.

Missouri has a splendid system of public schools. Ours is not an illiterate state. Taking her population as a whole, Missouri is not as illiterate as New Hampshire, Massachusetts, Rhode Island, Connecticut, or New York. Furthermore, in some of these states illiteracy is decreasing but little, or is actually increasing, while in Missouri our limited illiteracy is rapidly decreasing.

For the average farmer to invest nothing in live stock in order that he might have more to expend for buildings would represent poor business judgment. It does not follow, that because the average Missouri farmer chooses to invest $1,031 in live stock and only $975 in buildings, that he is less efficient than the Massachusetts farmer, who puts $2,401 in buildings and only $562 in live stock.

Missouri is a great fruit state. In 1915 we were excelled in apple production by but one state, and in peach production by but four states. In combined apple and peach production Missouri was second among the states. In blackberries and dewberries Missouri ranks first among the states. At the Panama-Pacific Exposition Missouri was awarded more medals on apples than were awarded any other state or country.

Missouri is a leader in live stock. In number of registered cattle of the four beef breeds, Missouri is outranked by no state. In Angus, Missouri is second; in Herefords, third; in Galloways, third; in Shorthorns, fourth. Ours is a state of great breeders and of long established herds. Missouri has recently established records in the sale, both of Hereford and Shorthorn cattle, Herefords averaging $1,246 and Sharthorns, $1,083.

The statement has been made that Missouri ranks forty-first among the states in average acre production of all farm crops. Suffice it is to say that at the head of the column cited to prove the inefficiency of the Missouri farmer stand Massachusetts, Rhode Island and Connecticut. Who is so foolish as to say that these little states, with their abandoned farms, are greater agricultural states than Nebraska, Oklahoma, or Kansas, ranked, respectively, forty-fifth, forty-sixth and forty-seventh?—W. L. Nelson, Missouri State Board of Agriculture.

DESPURRING MALE BIRDS

Nature has seen fit to provide animals with some means of defense—dogs bite, cats scratch, mules kick, cows use their horns, and male birds use their spurs. It is a common practice among cattle breeders to dehorn their cattle so they cannot injure each other. It is just as imporant but not so extensively practiced, to remove the spurs from the male birds if two or more are to be kept together.

Those who have made a study of the actions of a male bird while fighting, tell us that the male does not strike his enemy bird with his wings intending for the stroke from them to affect any injury upon the enemy, but that the bird strikes simultaneously with the feet and wings and that the bird strikes the enemy on both sides at the same time, and the wings strike on the outside of each leg, which drives the spurs into the enemy. Therefore, the best way to control the fighting among male birds is to remove the spurs.

A group of male birds in their summer quarters. Each one has had his spurs removed. Both birds and spurs are shown in the picture.

There is no quarreling or fighting and each one seems to be contented.

Their spurs were removed and the birds placed in these quarters on "Swat the Rooster Day," May 20th.

Another danger is that the male birds with spurs tear the skin on the backs and sides of the females. While part of this is done with the nail on the hind toe of the male, yet if the spur is removed, this danger is lessened.

The spur of a bird is made in very much the same manner as the cow's horn, having a hard, bony shell around a more porous bony structure and the same principles may be observed in despurring fowls as are observed in dehorning cattle. One of the principal points to be observed is to take off all the spur, cutting close to the shank. If the spur is not cut off close to the shank, the injury does not heal so readily and is not generally satisfactory as cutting close.

The spur is much easier to remove from a young bird than from an old one. The spurs may be taken off with a fine saw, a knife, or a pair of pruning shears.

On "Swat the Rooster Day" at the Experiment Station, fifty-eight male birds which were to be kept for next year's breeding pens, were despurred and placed in a pen together. Of this number, only one bird was lost from either fighting, handling, or despurring.

Many valuable birds, both males and females, will be saved if the despurring of male birds is more generally practiced.

A number of males placed in a pen together without females seldom fight.

HOW MUCH PROFIT

is there in a pig? That depends on the man, on the feed, and on the pig. But how do you know when the combination is right to produce best results? **Keep a Farm Account Book and let it be**

THE PRACTICAL FARM ACCOUNT AND RECORD BOOK

Complete Account of Hogs . . . . , 19 14

Date	Person, Firm, or Account	Item, Description, Price	Cash Received	Cash Paid	Labor Hours Man	Labor Hours Horse	Labor Hours Tractor	Amount Charged	Amount Credited
Nov. 1	Corn Account	100 bus. corn @ 60 ¢						60 00	
Dec. 10	"	80 bus. corn @ 64 ¢						51 20	

Charge the pigs with the corn they eat and then—

THE PRACTICAL FARM ACCOUNT AND RECORD BOOK is a splendid 176 page book, well bound and ruled on extra quality ledger paper. It is designed to contain the accounts of the average farm for five years. This is especially desirable for the purpose of comparison. The book also contains forms for crop, stock, employment, and insurance records.

THE PRACTICAL FARM ACCOUNT AND RECORD BOOK

Complete Account of Corn Crop , 19 14

Date	Person, Firm, or Account	Item, Description, Price	Cash Received	Cash Paid	Labor Hours Man	Labor Hours Horse	Labor Hours Tractor	Amount Charged	Amount Credited
Nov. 1	Hog Account	100 bus. corn @ 60¢							60 00
Dec. 10	" "	80 bus. corn @ 64¢							51 20

Give the corn crop credit and that transaction is closed. Remember that in farm bookkeeping perhaps the greatest number of transactions will be between accounts on your farm.

We will give **The Missouri Farmer** for 3 years, either renewal or new subscription and a copy of **The Practical Farm Account and Record Book** for $2.25.

The Missouri Farmer, Columbia, Mo.

Caponizing Young Roosters

Farmers know the value of desexing the young males of cattle, hogs, sheep and other animals but there seems to be very little knowledge of the profits on young roosters. The caponized fowls make better fowls for eating and are much quieter to handle and more easily fattened. A rooster caponized when it will weigh two or three pounds will grow to be two or three pounds heavier than one that is let run. The capon is worth two or three times as much per pound as the rooster in any market where the capon is well known. The operation is not difficult to learn and the information about how to do it may be had by addressing the State Poultry Plant at either Mountain Grove or Columbia.

Ridding Hens and Chicks of Lice and Fleas

Lice live and breed on poultry and can be exterminated by greasing each fowl with 33 per cent mercurial ointment which can be bought at a drug store. The grease is placed on the flesh below the vent, covering a space not larger than a 25-cent piece with a small amount of the ointment. This ointment poisons the lice and it is necessary to apply it only once a month.

Sitting hens can be greased before the commencement of the hatch and when the chicks are dry. If the latter peep and stand with their eyes closed, examine the head minutely, and you will probably find one or more large head lice. Anoint the head and the part under the beak with carbolized vaseline, or one part of the 33 percent mercurial ointment and four parts of grease.

Fleas.—Fleas attach themselves to the side of the face and under the beak of the fowls and chicks. They are brown in color and can be removed with one greasing of 33 percent mercurial ointment. They breed in the sand where the chickens are accustomed to gather, and to rid the premises of fleas it is necessary to saturate their breeding places with a solution of one part of cresol (or similar disinfectant) and 20 parts of water.—Press Bulletin.

THE WOMEN ARE ORGANIZING

The Missouri Farmer:

Must tell you how nicely our Farmers' Club is getting along. We meet regularly every two weeks, the club is interested.

We have organized two other districts. One (Coleman), has over 30 live members, have others on the way, last Wednesday we ladies organized a ladies Farm Club, had a splendid meeting, everyone very enthusiastic. It takes time and hard work to get people out of their old ruts especially those who are well to do We have your paper and think it is the very best farm paper printed. We feel like we have a true friend in The Missouri Farmer. I was elected President of the Ladies Farm Club. Can you send me some literature that will help us along? Topics for discussion, etc., anything that will help me to push the good work along. Any suggestions you can make me will certainly be appreciated. If you have an outline of the meetings, how to proceed, order of business, etc., would like to have a copy. Thanking you in advance for any favors,

I am, yours truly,
Mrs. E. A. Williams,
White Oak Farm, Greene Co.

Fine Farm for Sale

One mile from corporate limits of Columbia, Mo., 90 acres. Practically all tillable; 50 acres in bluegrass; 10 acres in clover, balance in oats. Good 8-room house, with basement; good barn 36x50; well fenced; 3 wells, 2 good springs. On gravel road. No trade; easy terms. This is within a half hours walk of the University of Missouri and will afford buyer an opportunity to send his children to this great school. Address Clark Robinson, Columbia, Mo.

For Sale or Exchange

Three first class carriages for sale cheap, or will trade for any kind of live stock. L. G. Courts, Columbia, Mo.

Live Stock Notes

R. P. ROYCE, Fieldman

CUURENT NEWS OF INTEREST TO LIVESTOCK MEN

In 1897 the top price for native steers sold in Kansas City was $5.40; the top price for hogs, $4.27½, and the top price for sheep, $5.10.

* * *

On June 5, a shipment of 32 head of 1,586-pound steers sold on the St. Louis market at 11 cents per pound. Yes, they were "from Missouri' —from Benton county.

* * *

A young farmer from Southwest Missouri made an early June sale of 59 head of 774-pound heifers at 10 cents per pound, on the Kansas City market. Not so many years ago the Ozark country produced but few finished cattle.

* * *

Reports made to the Missouri State Board of Agriculture tell of the loss of many cattle from clover bloat. White clover was never so plentiful as it is this season and it is causing most of the trouble.

* * *

In the Bellows Bros. sale of Shorthorns held at Maryville, Mo., June 14th, 42 head sold for an average of $1,083.45. Three cows brought $2,000 or more, one selling for $2,250, the top of the sale. Twenty-four females sold for $1,000 or better. Three bulls brought $1,000 each.

* * *

Prof. L. A. Weaver, of the College of Agriculture, recently purchase 60 Poland China spring gilts from H. S. Williamson, Centralia, Mo. The gilts are to be used in an extensive experiment planned to determine the most satisfactory method for developing brood sows. Later, Prof. Weaver will select from this lot a number of sows to retain in the college herd.

* * *

An apparently insignificant bruise or collar sore may cause the death of a valuable horse or mule. A Cooper county farmer reports the loss of a young stallion from lockjaw (tetanus) caused by a bruise on the foot. A neighbor on an adjoining farm lost a $225 mule a few days later from the same cause, lockjaw being brought about by a slight collar sore.

* * *

The value of pure-bred sires—bred in Missouri—is more and more coming to be recognized. Bulls from Missouri are largely responsible for the high quality of cattle on the western ranges. Nobody knows this better than does the western cattle king himself. Proof of this is seen in the recent purchase of 30 head of young Hereford bulls, at a cost of $7,500, by a Rio Grande Valley stockman.

* * *

The officials of the International Live Stock Show have announced that they will offer a $1,000 classification for fat barrows of the various breeds provided that the breed associations will give one-half the prize money. Such a classification will insure the greatest fat barrow show ever held in this country and the various record associations will no doubt see that their particular breed is represented.

* * *

The International Live Stock Show will be held at the Union Stock Yards, Chicago, December 2 to 9. The show of breeding and fat cattle as planned for 1914, will be carried out. According to Secretary B. H. Heide the premium list will be ready for distribution about August 1. Owing to foot-and-mouth disease, the International has played in hard luck. It is hoped that nothing will interfere with putting on the present ambitious program.

* * *

Live Stock receipts at the Kansas City stock yards, during May, 1916, were as follows: Cattle, 128,199 head, a gain of 97,808 head as compared with May, 1915; calves, 5,696 head, a gain of 1,416; hogs. 274,151, a gain of 61,717; sheep, 173,996, a gain of 37,-898. Some top prices were: Steers, $10.80, as compared with $9.15 in May, 1915; stockers, $9.10, as against $8.60; feeders, $9.10, as compared with $8.40; cows, $8.75, as against $7.75; hogs, $10.05, instead of $7.80; sheep, $11.00, as compared with $9.80; spring lambs. $12.40, as against $11.35.

The Southwestern Dairy Show Association is planning for a great show in Convention Hall, Kansas City, September 18 to 23, 1916. The show will include dairy products and dairy machinery as well as dairy cattle of the leading breeds. The officials of the Southwestern Dairy Show Association are R. A. Long, Kansas City, president; C. W. Kent, Kansas City, vice president; P. P. Lewis, Crescent, Missouri, vice-president; W. E. Skinner, Chicago, vice-president; J. H. Tschudy, treasurer; J. G. Watson, until recently connected with the Extension Department of the Missouri College of Agriculture, secretary-manager. The executive committee is F. J. Bannister, C. F. Holmes, E. H. Witte, H. A. Kennedy, L. J. Chapman, E. E. Knoche.

* * *

Missouri stockmen not only breed the best but they also buy the best. "No animal too good to head a Missouri herd" seems to be the motto of more than one Missourian. At the C. A. Saunders sale of 50 Shorthorns, at Manila, Iowa, on June 1, the average was $1,046, and it was the Missouri firm of Bellows Brothers, of Maryville, that bought the highest priced bull. paying $2,600. Remember, too that this calf, a son of Cumberland's Type, will not be a year old until October 1. On the same date as this sale there was held a breeders' sale of Herefords in Kansas City, in which 61 head sold for $48,460, an average of $794.42. In this sale, too, Missourians bought the best bull, O. Harris and Sons, of Harris, paying $11,100 for the 3-year-old show bull Bonnie Brae 60th. No wonder that Missouri leads all other states in number and quality of registered cattle of the beef breeds.

* * *

One hundred and forty Holstein bulls, cows and heifers sold in the D troit sale June 8 and 9 for a total of $155,090, an average of $1,107.78 per head. King Champion Rag Apple, a seven-month-old bull calf sold for $20,000. The calf was bred by Oliver Cabana Jr., Elma Center, N. Y., and was purchased by A. W. Green, Middlefield, Ohio. However, far more important than the above sensational sale was the fact that, for the most part, the offering sold for fairly uniform prices. The sale was held in connection with the annual meeting of the Holstein Friesian Association of America, and will undoubtedly serve to place all Holstein values on a new high level.

SOUTHEAST MISSOURI CATTLE MEN MEET

"More and better catle for Southeast Missouri" was the spirit of the Cape Girardeau Beef Cattle Breeders' Association which met at Jackson recently.

Although organized less than a year ago this organization is making itself known by its stand for more and better cattle. Furthermore the trade of southeast Missouri appreciates its stand and is coming to Cape Girardeau County for more cattle than ever before. New as this Association is with its limited publicity, the demand for breeding stock has steadily grown. Not a member of the Association of which there are more than twenty, has a bull of breeding age for sale and the present supply of females is limited. It is gratifying to note that the majority of the surplus cattle sold have remained in Cape and nearby counties all of which will tend to develop the demand and draw future trade to home breeders. With this increased demand in view members of the Association plan to increase their herds in the near future and show a disposition to supply the present demand with their present herds.

The Association sees a great opportunity for beef producers in the Southeast Missouri country and propose to have a hand in starting the cattle men in the right direction by supplying their demands at reasonable prices.

S. T. Simpson of the Missouri College of Agriculture addressed the Association on "Herd Improvement." In part he said—"No breeder should expect every calf dropped to develope into an animal suitable for the breeding herd. Too many breeders insist on selling every male calf as a bull. The breeder who will ultimately produce the best cattle, command the highest prices and satisfy customers must keep his knife sharp and use it freely. We have too many scrub bulls in Missouri already and are not ready to have this number swelled by "scrub pure breds." We need more pure bred steers."

Following his address the Association voted to hold a sale of pure bred cattle at Jackson next October and discussed the exhibition of cattle and cattle classifications at southeast Missouri fairs.

Wash Miller of Oak Ridge, Missouri is secretary of this association.

CATTLE FEEDS WASTED

A vast quantity of feed available for cattle is now either wasted absolutely or put to some less profitable use, says a recent report which the Department of Agriculture has just published as Part IV of a comprehensive survey of the entire meat situation in the United States. Failure to utilize the full value of this material has increased unnecessarily the cost of producing meat, has diminished the profits from cattle feeding, and has discouraged many farmers from engaging in an industry essential to their permanent prosperity.

According to the report already mentioned, the loss in grain, straw

POLAND CHINAS

Smooth Columbus
THE BOAR THAT PUT MISSOURI ON THE MAP. HEADS OUR HERD

SMOOTH COLUMBUS BLOOD has held the record in Missouri for two years—it will do it again next year. Fall pigs, either sex, by this great boar, now offered for sale.

BENNETT BROS. R. 5, LEE'S SUMMIT, MO

Spring Boars by the Grand Champion.

A desirable lot of early spring boars by The Giant, acknowledged to be one of the greatest young Poland China boars of the breed. Prices within reach of all.

WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

Poland Chinas & Shorthorns

Bred sows and gilts. The real big kind with bone and quality. A few serviceable boars. Several extra good young bulls and heifers. Satisfaction guaranteed.

H. S. Williamson, Route 6 Centralia, Mo.

BAKER'S REAL BIG-TYPE POLANDS

We have a number of extra good spring boars sired by Big Look that we are offering worth the money. Need the room and must sell.

W. A. BAKER & SONS, BUTLER, MO.

Linhardt's Polands

I have a choice lot of extra good fall gilts sired by outstanding boars. Customers in 26 states. GIANT MAMMOTH 68375 and CHIEF BIG BONE 75856 in service. Priced for farm trade.

H. O. LINHARDT, LOHMAN, MO.

DOOLEY'S SPOTTED POLANDS

Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pair and trios no relation. Also registry furnished. Send check with first letter.

EDGAR DOOLEY, - Etterville, Mo.

DUROC JERSEYS

Durocs With Size and Bone

I am offering a choice lot of early spring pigs with unusual size, bone and quality. Bred right and priced right. Visitors welcome.

A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

BIG EARLY DUROC SPRING PIGS

Pigs with size, lots of bone and quality sired by our big prize-winning boars, Col. Wonder II., Merry Chief, and Rexall Col., and out of big prolific sows. None from litters of less than 11. Spring pigs are cheapest to buy, costs practically nothing to ship them, and they can be grown cheaply.

R. L. (BOB) HILL ADENHILL FARM, - - COLUMBIA, MO.

Classified Advertising

BARRED PLYMOUTH ROCK EGGS—From A. No. 1 stock. The large, deep barred, yellow-legged kind. Price $5.00 per 100. T. J. Dunn, R-2. Moberly, Mo. t.f.

WANTED—To hear from owner of good farm for sale. Send description and cash price. R. G. List, Minneapolis, Minn.

AGENTS—In every community. Men and women sell Washclean Magic Washday Wonder. Only steam bubble cleaning process known. Blows out grit and dirt. Saves clothes and labor. No more rubbing, toiling, sweating. Relief for millions of women. $20 to $100 cleared weekly, according to spare or whole time. Lifetime business. Sample, particulars free. Ford Mf'g Co., Box 9012 Columbia, Mo.

Terre Haute VETERINARY COLLEGE
U.S. ACCREDITED SCHOOL — SEND FOR ILLUSTRATED CATALOG · TERRE HAUTE, IND.

THRIFTY HOGS

Are the money makers. They can not be thrifty and have worms. The worm preventative recommended by the College of Agriculture sells for only 3c per pound.

JESSE J CULP, - Warrensburg, Mo.

DUROC HERD BOAR!!

We offer for sale our herd boar sired by Weller's Example and out of a Whiskey & Faith sow. Also a few September boars. Booking orders for spring pigs.

J. C. Garrard & Son, McBaine, Mo.

Hazelwood Durocs

Seventy choice spring boars and gilts sired by HAZELWOOD CHIEF, by CRIMSON COL., and out of OHIO CHIEF bred sows. Get our prices.

E. P. POWELL & SON, Maryville, Mo.

80 O. I. C. Spring Pigs

Guarantee and pedigree accompanies each sale. This herd has been exhibited at World's Fairs and State Fairs for years. You are sure to get prizewinning blood from us. Prices reasonable. Write us today. Address

S. D. & B. H. FROST, Kingston, Mo.

HAMPSHIRES

BROOKVIEW HAMPSHIRES

Herd headed by GEN. TIPTON and SIR BROOKVIEW, both grand champions. Spring boars and gilts of choice breeding and individuality. Prices reasonable.

ISOM J. MARTIN, - Kahoka, Mo.

RED POLLED

RED POLLED CATTLE

Herd established 16 Years

Young stock for sale. Young bulls sired by LOGAN 13500; Calves sired by KNOCKER 28791. Bred for milk and beef. Also offer spotted Poland China hogs and Bleds Yellow Dent seed corn.

M. L. SNYDER. - - POLO, MO.

ANGUS CATTLE

ANGUS CATTLE

Herd founded 1904

Young stock sired by Dean's Eric 139686. Also offer splendid herd bull for sale. Every one the right kind and priced to sell.

V. E. LAWRENCE, SALISBURY, MO.

Aberdeen-Angus

I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.

J. D. Blackwell - Fayette, Mo.

and corn stover amounts to more than $100,000,000 annually. Both of these products are disposed of most economically when fed to cattle in connection with some form of concentrated feed. Straw is especially valuable in carrying the breeding-herd through the winter, in wintering stockers, and as a supplementary roughage for fattening cattle. Stover, too, is an excellent feed for wintering cattle, especially mature breeding cows. Nevertheless, in many sections of the country where these products are abundant, little attempt is made to take advantage of their value for these purposes.

Of an annual straw crop of approximately 120,000,000 tons, it is estimated that only two-thirds is put to its best use—live stock production. Of the remainder a little more than one-half is sold or turned under and the rest—15 per cent of the total crop—is burned. Burning is practically an absolute waste and although plowing under does contribute something to soil fertility, the benefit to the land is less than that which would be derived from the use of the straw to produce manure. "Of all systems of obtaining permanent soil fertility," says the report, "none is so practical or as easily available as that of feeding live stock."

The average value of all kinds of straw is placed at about $5 a ton. In many sections, of course, no such price can be realized for it, and as a matter of fact only about 8 per cent of the crop actually is sold. The figure mentioned, however, may be taken as representing the value to the farmer of straw if he will use it properly in his farming operations as feed or bedding. In order to ilustrate how this may be done the report gives three sample rations for wintering a breeding herd of beef cattle on straw combined with silage, shock corn, and cotton seed or linseed meal. Any one of these rations, it is said, will prove economical. They are as follows:

Rations for Wintering Breeding Cows

	Pounds.
Ration 1.	
Straw	10
Silage	20
Cottonseed meal or linseed meal	1½
Ration 2.	
Straw	20
Cottonseed cake or oil cake	2
Ration 3.	
Straw	10
Shock corn	10
Cottonseed meal	1

In this connection it is pointed out also that feeding straw in the winter will insure under certain circumstances the full utilization of summer grass. In a number of western States it frequently happens that grass goes to waste because feeders are unwilling to pay the high prices asked for steers in the spring. With an abundance of straw on hand to lessen the cost of wintering, feeders can take advantage of the lower prices for stocker cattle in the fall to secure on reasonable terms at that time enough stock to pasture all the grass the following year.

The production of corn stover is about twice that of grain straw, amounting to approximately 245,000,000 tons a year. A larger percentage —81.5—of this is fed than of the straw but the waste is nevertheless astonishing. For this, poor methods of feeding are largely responsible. By far the most economical method of handling corn is by ensiling, but as a matter of fact onlf 8.1 per cent of the acreage was put in the silo in 1914, the year in which these investigations were made. About 11 per cent was cut for green feed and 81 per cent allowed to mature for grain. It is in last portion of the acreage that the greatest waste occurs. Stripping the leaves from the stalks which are subsequently burned, removing the stalk above the top ear only, leaving the stalks to stand in the field until the loss of leaves and leaching have removed much of their fertilizing value, are all unthrifty methods. Furthermore, almost four per cent of the stover is burned, as though, instead of being a potential source of revenue, it was merely a nuisance to be gotten rid of as a preliminary to plowing. In some States the percentage of stover that is thus thrown away is as high as 7 or 8 per cent and the total loss to the country from the practice is estimated at nearly $15,000,000 a year.

To obtain satisfactory results from the feeding of farm roughages such as straw and stover, they must be combined with some form of concentrated feed. At the present time large quantities of such feed, in the form of cottonseed meal and cake, corn, molasses, peanuts and beans are exported for the use of European feeders. If the straw and stover that are now wasted were employed to feed more cattle, these concentrates could be consumed at home. The result would be a tremendous saving not only in the cost of producing beef, but in the cost of enriching the soil as well. In 1914, for example, about 1,000,000 tons of cottonseed meal—half the total production—were applied directly to the soil as fertilizer. If this had been fed to cattle instead, three-quarters of the fertilizing value would have been returned to the soil as manure. The loss of the other fourth would have been far more than counterbalanced by the profit on the meat produced economically by the meal and the necessary roughages. Much the same thing is true of the other oil meals.

The value of these meals is far better appreciated in Europe than here. Denmark, for example, feeds annually 478 pounds of oil cake to each of her mature cattle. The United States approximately 24 pounds. Furthermore, the European feeder is aware of the fact that the high-protein meal, while more expensive to buy, is more economical to use. Meal of this quality is seldom sold on the domestic markets because the American farmer has not yet learned its value. Cottonseed and linseed are perhaps the best known of the oil meals but there are others the use of which as feed could be profitably extended. Both peanut and soy bean meal and cake, for instance, are in good demand in Europe.

$75,000 LOST BY GRADE SIRES' USE

Hundreds of farmers are wasting time, money, feed and labor by breeding to grade stallions each year. The difference in service fee between a good, purebred and a common grade sire is seldom more than $10 and often not more than $5. The difference in the value of the colt when three years old is from $25 to $100, though the cost of feed and care is about the same.

The average value of horses on Minnesota farms is $109.80 a head, which is not enough to pay for producing them. By the use of sound, purebred draft sires, the average farm mare can be made to produce a colt worth $200 at working age and the better farm mare will produce foals to make $250 or $350 horses.

There are 1,896 grade sires licensed for service in the state. Now, counting that the "get" of these sires will return a profit $25 less than the get of a purebred sire, which is a conservative estimate, the use of the common sires is costing the farmers of Minnesota from $40,000 to $75,000 a year.

That the farmers are realizing the value of the purebred stallion is shown by the fact that the number of such horses registered has increased more than 50 per cent since 1910 and that the number of grade stallions registered has decreased more than 14 per cent in the same time.

The Minnesota stallion law requires that every horse that stands for public service must be licensed. It further provides that every bill, poster or advertisement of the horse must contain an exact copy of his state license and that a copy of the license be posted on the door of every barn or building where the horse makes a stand. Misleading illustrations, pedigrees, and other untruthful matter are forbidden on the advertisements.

Any stallion owner who does not comply with the provisions of the stallion regulations has no legal right to collect service fees.—J. S. Montgomery, assistant secretary, Minnesota Stallion Registration Board.

Youthful Stockman's Future is Bright

The young chap who stands at the parting of the ways between boyhood and manhood is a surveyor. He surveys what he thinks he wants do do. Shall he enter a profession, engage in business, do this, that or the other, or be a farmer? At once he comes flatly up against the question of estimating the "future" which each occupation holds for him.

If he can then confer with men engaged in the various classes of the world's work he may conclude where opportunity lies thickest-spread. In this connection the following, from an address by the late Dr. Henry B. Favill (a native of Wisconsin) only a short time before his death, is enlightening:

"The future before the young breeder who has respect for his general agriculture, and is willing to protect it, and who wants good animals, and who will let the speculative part alone —the future of that man is the brightest future that I know of anywhere."

If a young man can see his way clear to stand firm on this advice then he has the word of the great doctor-farmer for it that there lies before him a bright future.—Wing.

PARTIAL LIST OF MISSOURI COUNTY FAIR DATES FOR 1916

County and Town	Name of Fair	Secretary	Date
Audrain, Mexico	The Mexico Fair	L. M. White	Aug. 8-11
Bates, Amsterdam	Amsterdam St. Fair Ass'n	J. D. Sage	Not Set
Bates, Butler	Bates Co. Fair Ass'n	Grover Gilbert	Sept. 5-8
Boone, Columbia	Boone Co. Fair	R. L. Hill	July 31-Aug. 4
Buchanan, Easton	Buchanan Co. Fair	C. S. Brown	Sept. 6-9
Cooper, Bunceton	Bunceton Fair Ass'n	Edgar Nelson	About Aug. 20
Callaway, New Bloomfield	Callaway County Fair	S. D. Waggoner	July 25-27
Chariton, Prairie Hill	Prairie Hill Fair	C. L. Sear	Aug. 31-Sept 2
Clay, Smithville	Smithville Horse Show & Fair Ass'n	E. P. Mitchell	July 18-21
Clark, Kahoka	Clark Co. Agr. & Mech Soc.	P. I. Wilsey	Aug. 29-Sept. 1
Daviess, Pattonsburg	Pattonsburg Fair Ass'n	R. E. Maupin	Aug. 29-Sept. 1
Dade, Lockwood	Dade Co. Agr. & Mech. Soc.	R. A. Frye	Sept. 19-22
DeKalb, Maysville	DeKalb Co. Agr. & Livestock Ex.	J. B. Mayse, Jr.	Not set
Dunklin, Kennett	Dunklin Co. Fair & Livestock Co.	L. R. Jones	Not set
Franklin, Sullivan	Sullivan Tri-Co. Fair Ass'n	J. T. Williams	Sept. 12-15
Franklin, Washington	Franklin Co. Fair	H. H. Thias	Sept. 8-9
Greene, Springfield	Springfield District Fair	J. McClain	Oct. 3-7
Harrison, New Hampton	New Hampton Harvest Home Festival	A. L. Clabaugh	Aug. 30-Sept. 2
Hickory, Hermitage	Hickory Co. Fair Ass'n	Ross Coon	Aug. 29-Sept. 1
Howard, Fayette	Howard Co. Fair Ass'n	J. Thompson	Aug. 9-11
Jasper, Carthage	Jasper County Fair	Emma R. Knell	Aug. 28-Sept. 1
Jackson, Independence	Independence Fair	W. H. Johnson	Aug. 22-25
Jefferson, DeSoto	DeSoto Agr. Hort. Livestock Ass'n	C. J. Davidson	Not set
Knox, Knox City	Knox City A. & M. Soc.	L. R. Westcott	Aug. 15-18
Knox, Newark	Newark Fair	H. W. McSorley	Not set
Lewis, Monticello	Lewis Co. A. & M. Fair Ass'n	J. A. West	Oct. 3-6
Lincoln, Elsberry	Elsberry Agr. Soc. & Stock Show	H. L. Humphrey	Aug. 10-12
Lincoln, Troy	Lincoln Co. Fair	O. D. Bradley	Aug. 29-Sept. 1
Marion, Palmyra	Marion County Fair	G. B. Thompson	Not set
Macon, Atlanta	Macon Co. Agr. & M. Soc.	V. D. Gordon	Sept. 5-8
Macon, New Cabria	New Cambria Fair Ass'n	G. A. Goodson, Jr.	Sept. 12-14
Macon, Callao	Callao Fair Ass'n	N. G. Jones	Sept. 19-21
Nodaway, Maryville	Nodaway Co. Agr. & Dom. Science Ass'n	E. E. Williams	Oct. 26-28
Osage, Linn	Osage County Fair	H. M. Lueckenhoff	Sept. 5-8
Pike Bowling Green	Pike Co. Fair Ass'n	H. M. Strother	Aug. 15-18
Polk, Bolivar	Polk County Fair	F. L. Templeton	Aug. 30-Sept. 2
Phelps, Rolla	Phelps Co. A. & M. Soc.	Lynwood Peatross	Not set
Randolph, Clark	Clark Fair Ass'n	R. R. Correll	Sept. 6-8
Randolph, Jacksonville	Randolph Co. A. & M. Soc.	G. W. Butler	Aug. 29-31
Shannon, Birch Tree	Shannon Co. A. & M. Soc.	Mrs. Whitaker	Not set
Shelby, Shelbina	Shelby Co. A. & M. Soc.	J. J. Dimmitt	Aug. 29-Sept. 1
Scotland, Memphis	Scotland Co. Fair Ass'n	J. R. Hudson	Sept. 5-8
Scott, Sikeston	Southeast Mo. District Fair	H. A. Smith	Sept. 20-23
Sullivan, Green City	Green City Fair Ass'n	A. E. Jones	Aug. 22-25
Vernon, Nevada	Vernon County Fair	S. A. Cubbin	Aug. 29-Sept. 1

JERSEY CATTLE

JERSEY CATTLE

Bulls ready for service. They are sired by the Owl's Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

JERSEY BULL CALVES

I have three extra fine ones for sale. Sired by Stockwells Champion. He has won 29 first and Champion ribbons at the leading State Fairs. Calves are out of very high producing cows. For breeding, etc., writ.

J. B. SMITH Platte City, Mo.

SUNSET CORRECT TYPE JERSEYS

To keep our herd within 100 head we will offer at private sale fifty Jerseys, consisting of cows, bred and open heifers, young bulls, heifer and bull calves. Can fit out small herds for beginners. 125 head to select from. The famous Blue Belle-Golden Rosebays. Send for special circular before buying elsewhere. Bargains. Mention your wants.

THE ENNIS STOCK & DAIRY FARM, Horine, Mo. (Just south of St. Louis.)

HOLSTEIN CATTLE

Dutchland Sir Hengerveld Rag Apple 99771

A few choice bull valves out of heay producing dams sired by the above famous bull for sale.

BLACK AND WHITE FARM
Baden Station, Mo.
Tel. Colfax 1812 R. R. 30

IN MISSOURI

Eight Bulls, 2 to 8 months, $100 to $175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.

S. W. COOKE & SON, MAYSVILLE, MO.

HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndye Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

M. E. MOORE & CO., Cameron, Mo.

Reg. Shropshire rams, yr's and twos. Square built, rugged hardy bucks with weight, bone and heavy fleece. Quick shipping facilities & priced cheap. 412 head. Above Kansas City.

HOWARD CHANDLER, Chariton, Iowa.

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"Twelve Years on the Block"
Pure bred Sales a Specialty
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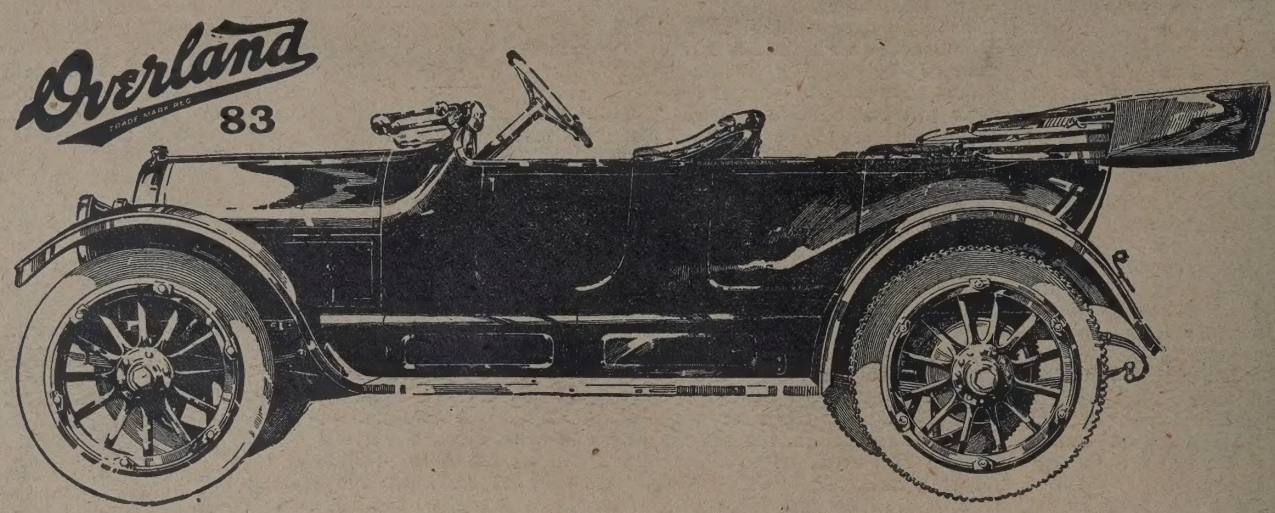
THIS BEAUTIFUL CAR FREE!



Don't You Want To Win This Car?

IN ORDER to increase its subscription list, **The Missouri Farmer** has concluded to give away this beautiful five passenger **Overland** automobile under conditions which place it within easy reach of any bright young farmer girl or young farmer in the state. Everybody almost wants to own an automobile and the wish is an entirely normal one. In the first place, the automobile wipes out distance. If an emergency of any kind arises, the automobile "goes there and back" in the length of time that it takes to hitch up and get started with a team which is frequently tired out from work in the fields.

The Pleasure of Owning a Splendid Car

BUT WHAT normal human being doesn't want to own a beautiful automobile because of the pleasure it gives and who is entitled to this pleasure more than those who live upon the farm? Just think of how gladly you will look forward to Sunday with this splendid car standing ready to glide away at the touch of a button! You can pile in the whole family and go to church on Sunday morning. Then, when dinner is over, you can take a 40 or 50 mile spin into some neighboring county and get back again by supper time. Think of the exhiliration out in the fresh air, the pleasure of seeing growing crops upon every hand and the visits you can pay to relatives and friends!—**and all this accompanied by a riding luxury not excelled by a Pullman Palace car!** Again, during week days when the days work is over you can pile in the "whole bunch" and take in a picture show in town. **Truly, is it any wonder that everybody wants to own an automobile?**

You Can Win It if You Try!

AND THIS beautiful car is within easy reach, as we said above, of any bright farmer girl or young farmer in Missouri. All that is required to win it is first, the **desire**—and then the willingness to do a few weeks **hustling!** Get a bunch of sample copies of **The Missouri Farmer** together with a subscription pad and then "hit the trail." We give three years subscription for one dollar and when you show your neighbors what a splendid paper **The Missouri Farmer** is—when you tell them that it is leading the fight for Farm Club organization throughout Missouri—**and that you want them to help you win this beautiful car!**—hardly a single one of them will turn you down. The renewal of old subscriptions will count the same as new—and should you fail to win the car we will nevertheless give you a **substantial commission on every subscription you send in—so in any case you will make a lot of money!**

Send Us Your Name Today

NOW WE WANT every farmer girl or young farmer who reads this advertisement and who would like to win this magnificent car to send us their name and address today. **Don't be afraid of not winning!** "Faint heart never won fair lady." Again, you don't know how **easy** our plan is for a real hustler. There may be some reason why it would be particularly easy **in your community!** We intend to help everybody who gets into this fight. We will tell you just how to conduct your campaign from start to finish. If there are a bunch of old subscribers in your neighborhood which need renewing we will send you their names. You will have little difficulty in getting **practically every one of them!** You owe it to yourself to find out all about our plan—**and your failure to write us may deprive you of this beautiful car!** If, after you understand our plan fully you do not care to go into the fight you will merely be out a postage stamp. **Isn't such an offer worth at least an investigation?**

THE PEOPLE WHO WIN

THE PEOPLE who win in this World are those who have faith in themselves and who are not afraid to hustle. Somebody who has this kind of will power and ambition is going to win this splendid five passenger OVERLAND. It might as well be you as somebody else. It is for you to say. It costs $695. Why not let THE MISSOURI FARMER buy it for you? And remember that in any event we will pay you handsomely for every subscription.

THE MISSOURI FARMER
COLUMBIA, MISSOURI

FILL OUT AND MAIL TO-DAY

The Missuuri Farmer, Columbia, Mo.:
Please explain your free Automobile offer to me fully by return mail.

Name .....

Address .....

R. F. D. ..... Age.....

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE MISSOURI FARMER

COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE AND THE MISSOURI EXPERIMENTAL STATION

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The Farmer

Every reader of this paper knows that we regard a "square deal" for the things produced by the toil and sweat of the farmer as the overwhelming economic issue of the hour. In taking this position we do not claim that the farmer as an individual is entitled to special privileges apart from the masses of other citizens who compose our mighty Nation. But the fact remains that Agriculture is the great fundamental industry upon which the well-being of all our other industries depends. There isn't a towering sky scraper, a great factory or a great bank in the land which does not owe its existence either directly or indirectly to the toil of the farmer. But for him the history of Wall Street with its good and its bad would never have been written. The farmer toils not merely that the teeming millions in our great cities may be fed and clothed but that he in turn may be able to buy generously the things produced by our great factories—and thus he not only feeds the Nation but is likewise the greatest and best customer of its varied industries. Endless columns have been written in recent months concerning our tremendous trade balance against Europe—a golden stream which has grown larger and larger and which promises to shift the future financial center of the World from London to New York. But analysis shows that it is the surplus Wheat, Beef, Pork, Cotton, Horses and Mules of the American farmer rather than war munitions which are responsible for this new conquest over Nations which find themselves in the midst of the most tragic struggle in all human history.

In view of these facts, the welfare of the farmer is the welfare of the Nation and the past and present power of great "Combines" to set an arbitrary price upon what the farmer produces is not only sapping the life blood out of American Agriculture and driving thousands of our brightest boys and girls to the already overcrowded cities but the same power which robs the farmer has likewise created a "high cost of living" which is absolutely false and which is fast driving both producer and consumer toward an abyss that is certain to end in National disaster. That the one and only remedy for this deplorable state of affairs is farmer organization such as the country never dreamed of before—this is a self-evident fact to all thinking men. Not only must the farmer work out his own salvation in these respects, but he is also the only one to whom the millions who toil in our great cities can look for deliverance from a living cost which is the creation of a group of conscienceless conspirators and which is compelling them to struggle as never before to keep body and soul together. Like a gigantic industrial devil-fish the Food Combines have fastened their tentacles upon the throats of the farmer and the consumer alike—and until their hold is broken this Country can never become wholesomely or dependably prosperous.

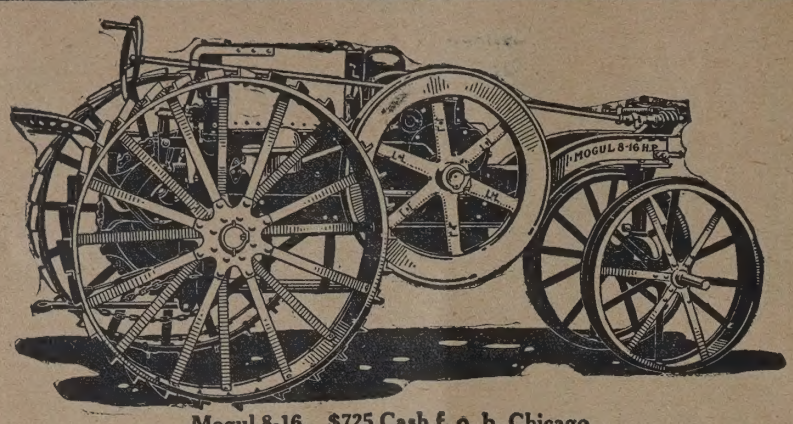
But there is still another reason why the American farmer must arouse himself and begin to take a real part in the affairs of Government. Through organizations whose power has become so great that they can strike paralysis into a number of the great vital industries of the Nation, certain aggregations of labor are permitting selfishness to more and more control their actions. Thus we are at this moment on the verge of a Nation-wide railroad strike—the possible consequences of which are beyond computation. Already among the best paid employees of the Country, the Railway trainmen are demanding a new wage increase which it is estimated will amount to $100,000,000, per year. We are not here assuming to pass upon the merits of this controversy. We concede the right of labor to organize and to demand fair wages—but if the increase is granted it is the American public and not the railway managers who will finally have to foot the bill and it is high time the farmer threw himself into the breach and demanded a "square deal" for the masses and put an end to the selfishness of the classes—whether that selfishness emanates from Wall Street or from the council room of a labor union which believes that "might makes right." The farmer alone has the voting power to do it. Upon him therefore depends not only the future of our farm homes but the future of the Republic.

William Hirth, Publisher, The Missouri Farmer

GEO. B. ELLIS
MANAGING EDITOR

VOL. VIII JULY 15, 1916 NO. 14

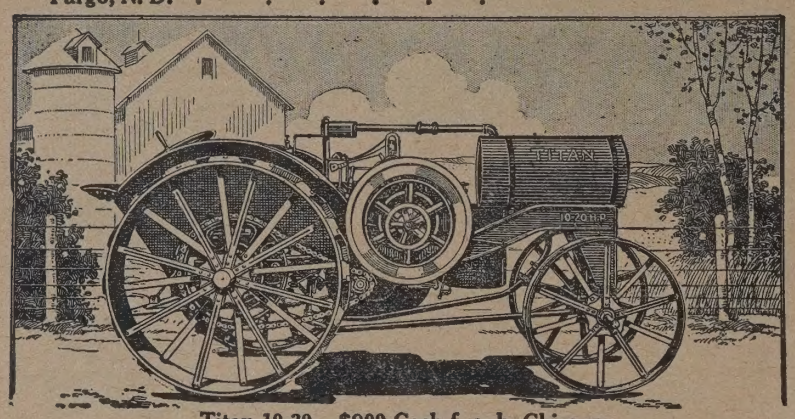
WILLIAM HIRTH
PUBLISHER



Mogul 8-16. $725 Cash f. o. b. Chicago

Tractor Demonstrations—1916

Dallas, Texas	July 18 to 21
Hutchinson, Kansas	" 25 " 28
St. Louis, Mo.	Aug. 1 " 4
Fremont, Nebr.	" 8 " 11
Cedar Rapids, Ia.	" 15 " 18
Bloomington, Ill.	" 22 " 25
Indianapolis, Ind.	" 29 " Sept. 1
Madison, Wis.	Sept. 5 " " 8
Aberdeen, S. D.	Dates not announced
Fargo, N. D.	" " "



Titan 10-20. $900 Cash f. o. b. Chicago

See the Real Kerosene Tractors

Of course you are going to attend one of the tractor demonstrations this year.

Before you go, get the local prices of gasoline and kerosene, so that you will have the difference clearly in mind, because, at any demonstration you will be shown two kinds of tractors—those that operate on gasoline and those that operate on kerosene.

The kerosene tractors can be divided into two classes. One class consists of engines originally designed for gasoline. To these, special attachments have been added, and, under favorable circumstances they will operate on kerosene, or gasoline mixed with kerosene, but they require so much kerosene that there is no economy over gasoline.

The other class are the real kerosene tractors. They are designed throughout to operate on kerosene without special attachments, and do operate on the cheaper fuel so successfully that they pay for themselves with the fuel they save.

Moguls and Titans Are Real Kerosene Tractors

Remember the difference in the prices of the two fuels. Remember that a tractor uses two or more gallons of fuel every hour it works. **See the kind of work Mogul and Titan tractors do on the cheaper fuel.** Compare their work with that of any tractor, either for quantity or quality. **Compare the amounts of fuel consumed in doing equal work.** Then decide which of all the tractors you see will give you the most value for your money.

In preparation for your visit to the demonstration, let us send you our horse and tractor book, "Farm Power." It contains almost a hundred pages of closely packed, verified information about power on the farm.

INTERNATIONAL HARVESTER COMPANY OF AMERICA
(INCORPORATED)
CHICAGO U S A

LYONS PRACTICAL FARM PAPERS

We have had more than our share of rain, as well as some hail and heavy wind. In our immediate section we have fared well so far as wind and hail are concerned, but it has been entirely too wet for farm crops to do well. Most of the corn has been cultivated once, all of our own having been harrowed once and cultivated once so we are in good shape.

Clover hay making will be in order June 20—July 1, with the best crop of clover in years, timothy meadows very poor, oats the same and few fields of wheat above 10 bushels per acre.

We used 100 pounds of 16 per cent acid phosphate per acre on one field of corn. Through the field from east to west, is a strip where a fence stood, 1845-1890, and in planting this strip we cut out the fertilizer for six rows each 50 rods long.

With two neighbors, I went to see this corn on June 18, and we all agreed that the corn plants on this strip were not half as large as those on the fertilized, thinner soil, on each side.

One of the neighbors said that it was an extra plain demonstration of the value of fertilizer, and suggested to me, that if I caught him planting corn without it next year, to take him to the probate judge, be appointed as his guardian, buy the fertilizer and make him use it.

In exactly forty years use of commercial fertilizers, there have been but few years when their use did not pay several times their cost, and no year that they did not pay it back twice.

I have a most striking example of the after effects of fertilizers in a two acre patch of rape sown by my son-in-law in a piece of land upon which he grew corn with fertilizer. Where the corn rows stood, 42 inches apart, the rape is three times as large as it is in the middle between the rows, the strip of large rape being about six inches wide. The fertilizer was a "12-2," 12 per cent phosphoric acid, 2 per cent potash, the land below medium fertility, the corn crop around 35 bushels per acre.

We sowed an acre of rape for hog pasture June 6, five pounds of rape seed, two pounds of Sudan grass seed and four or five pounds of cowpeas, and all are up fine. We put on a few pounds of soy beans left over from last year, 1913 seed, and not one germinated. The plot is 5x32 rods, we plan to fence it in two strips, 5x16 rods each, and pasture the strips alternately a week at a time with ten 100 to 150 pound hogs.

Last June we sowed an acre of rape and vetch, on a plot of rough land that we could not break very well, and the rape gave us an enormous amount of hog pasture, but the vetch was the winter type and did not do much. The plot is not in use this year, and I had not seen it for two months until some two weeks ago when I found it a mass of vetch vines and clover, and a pretty fair stand of tame grass in it.

After trying various methods of seeding sweet clover, without much success, we put a bushel of unhulled seed on three acres of oats this spring, broadcasting after the oats were harrowed in on disked corn stubble, and harrowing again. It is all there, as fine a stand as I ever saw, some six inches high, right on those clay points where Sam Jordan saw my foxtail corn last year. Sam and I found a nine foot stalk of yellow sweet clover last summer, and I have found quite a plot of this variety that grows much more upright than the average.

Our Fair Board met the 17th of June, and asked me to meet with them to revise the premium list on fruits, grains, vegetable, etc.

I put the 50 cent premiums up to $1, and in some cases to $3, cut out a lot of stuff that is of little interest or value, and, when we were through, the man who was figuring it up said that in a $250 list I had saved $28. It never seemed fair to me, to pay $4 in premiums on corn, and $35 in each of six breeds of sheep or $45 on each of four breeds of hogs, and when I presented this matter to the board, they agreed with me to a man.

We have 7,000 to 9,000 people at our Fair on Thursday and Friday, 25 cents admission and no racing. The fair is sixty-seven years old and one of the best in Ohio. C. D. Lyon.

MEAT PRODUCTION AND THE DEMAND

That meat production has not kept pace with the increase in population and that its failure to do so, combined with increased cost of production and diminished purchasing power of the money unit, has contributed to higher prices not only in the United States but all over the world is stated in Part I of the exhaustive report on the meat situation in the preparation of which specialists of the U. S. Department of Agriculture have been engaged for some time. This country, it is said, is participating in a world-wide movement and it is not expected that the situation will undergo any radical change in the immediate future. On the other hand, it is believed that there will be a gradual growth and expansion in the world's production of beef, mutton, and pork which may or may not equal the rate of increase of the meat-eating population.

In America this gradual expansion appears to have begun already. Between 1907 and 1913 there was a marked decline in the number of cattle in the country but in the last two years this has not only stopped but has given way to a perceptible increase. The estimated number on farms and ranges on January 1, 1916, 61,441,000, is, however, still much below the corresponding figure for 1907, 72,534,000. With the exception of temporary checks due to losses from hog cholera, there has been in recent years a persistent increase in the production of swine. On January 1, 1916, the number in the country was estimated at 68,000,000 as compared with 58,200,000 in April, 1910. On the other hand, the number of sheep declined during this period from 52,500,000 in 1910 to 49,200,000 in 1916. As the decrease, however, is not sufficient to offset the increase in cattle and swine it may be said that the total production of meat in the United States is increasing but that this increase is not yet proportionate to the growth in population.

The available supply of meat would be much greater if it were not for the enormous losses caused by disease and exposure. Since 1900 it is estimated that from 1,100,000 to 1,475,000 cattle have died each year from disease and from 600,000 to 1,500,000 from exposure. With sheep, the losses from disease have been about the same, but from exposure much larger.

With swine the relative prevalence of hog cholera is perhaps the determining factor in the annual loss. In 1894 this was as low as 2,200,000, but in 1914 it amounted to 7,000,000. If these 7,000,000 hogs had been saved, it is said, they would have produced enough meat to furnish every family in the United States with 40 pounds of pork.

Despite these facts the United States remains the greatest meat eating as well as the greatest meat producing nation in the world. Approximately twice as much meat is consumed in this country as in Germany before the war and the total normal consumption in Russia, Great Britain and France is less than in Germany. The per capita consumption is also far greater in this country than anywhere else with the exception of Australia and New Zealand.

Our own exports now consist largely of pork and pork products and these are derived to a great extent from corn. In the fiscal years 1914 and 1915 we imported more fresh, chilled and frozen beef and mutton than we exported, and more beef of all descriptions was imported in 1914, than was exported. In this limited respect we have joined the great majority. Practically the whole of the world's export trade in meat is maintained by nine countries—Argentina, Australia, Canada, Denmark, Mexico, under normal conditions, New Zealand, the United States and Uruguay.

Better arrange now to go to the St. Louis Tractor Demonstration July 31-Aug. 4 and sse the machines in operation.

The Missouri Farmer

VOLUME VIII JULY 15, 1916 NUMBER 14

The Coming of the Tractor

BY W. L. NELSON

It is a far cry from the methods of the pioneer period to those of the present—as far as from ox-cart to auto; from cow camp to crowded city; from trail to trolley; from "soddie" to silo; from lynch-pin to liomusine.

"The prairie schooner" it has been said, "has faded from the grassy seas and is at rest in the dim haven of lost ships." Men no longer skim the cream off of 160 acres of land and move to a new quarter-section. There is no more free land, no "Wild West" to be discovered. The farmer no longer fights savage Indians, or in the pursuit of his daily duties fears the attack of wild animals. The enemies which he must now meet are drouths and floods, the Hessian fly, the chinch bug, and blights and diseases which attack his fruit and grain crops. He must also safeguard the health of his herds.

The farming methods of today are not those of our forefathers. It is well that this is true. Virgin soil and cheap land, together with an abundance of cheap labor, perhaps amply justified the methods of the past. The wheat cradle was an efficient piece of farm machinery in its time, yet few farmers there are who would today value highly the most expensive cradle to be found on the market. The ox-cart served a useful purpose and in a large measure made possible the settlement and development of the central and western country, yet the ox-cart would today be looked upon as a very inefficient part of farm equipment. With the great advance in the price of land, the growing scarcity of farm labor, and the correspondingly increased necessity of time saving, the demand is for the two-row cultivator, the self binder, and other time-saving and labor-saving machinery.

Tractors Are Coming

Enter, then, the tractor. Many there are who believe that the tractor will be slow to find favor on the average farm. It should be remembered, though, that there are right here in the corn belt country, thousands of men who have cast only one vote for president, yet who can remember when the automobile was a curiosity to be viewed with interest and often with alarm. Even ten or a dozen years ago the automobile was looked upon as a rich man's luxury. Today it is serving a distinct and useful purpose, not only in the city, but on the farm. Whether or not this will be true of the tractor will depend in large part upon the efficiency which the tractor manufacturers are able to develop in their machinery. If they are able to make the same rapid progress that the automobile manufacturers have made, and will give to their product corresponding measure of publicity, there is every reason for believing that the tractor is very soon to occupy an important place in farm progress. Unlike Topsy, the successful tractor cannot "just grow." It must be made to fit the farm. It must meet every reasonable demand of the farm, and represent an all-the-year-round piece of farm machinery, capable of converting time into dollars. While it cannot, like the horse, "eat its head off," it can stand idle too many days in the year. The tractor also differs in growth from most machinery in that the problem has largely been to make it grow smaller rather than larger—in other words, to meet the demands of smaller farms rather than of the great wheat farms of the west and northwest only.

The St. Louis Demonstration

But these questions are all such as will be brought out in the tractor demonstrations scheduled for the present season. Eight such demonstrations are advertised to take place, the locations being Dallas, Texas; Hutchison, Kansas; St. Louis, Missouri; Fremont, Nebraska; Cedar Rapids Iowa; Bloomington, Illinois; Indianapolis, Indiana, and Madison, Wisconsin.

Of the tractor demonstrations referred to, Missourians naturally will be most interested in the great tractor show to be held in St. Louis, July 31 to August 4. This demonstration will really be a valuable week's course in power farming. In this connection it might be said that it seems most appropriate that such a contest should be held in Missouri, where demonstrations calculated to aid agriculture have long found favor. In 1869, for instance, in a field two and one half miles southeast of Sedalia, there was held a memorable reaper and mower trial under the management of the Pettis County Agricultural Society, with the encouragement of the Missouri State Board of Agriculture. In this contest an entrance fee of $60 for every machine or every combination, and $15 for each separate combination, was made. Forty machines were entered, and the trial in which the old Marsh binder did such "execution" was a most exciting one. Encouraged by the success of the trial of harvesting machinery, the Board of Agriculture at a meeting held on September 9, 1876, authorized a "field trial of ground stirring and seeding implements duly classified, to be held in St. Louis County as near the fair grounds as possible in the forenoon of each day during the time of the St. Louis fair, under the auspices of the Board of Agriculture." A few years later a plow trial was held at Columbia, and on April 6, 1882, a public sheep shearing took place at Sedalia. A trial of road graders was held at Mexico on September 15 to 17, 1891, and on December 7 and 8 of the same year a dehorning contest was conducted at Marshall in connection with the farmers' institute work. So it may be seen that the spirit of looking into things, of making personal inquiry, of first-hand study, is one that has long characterized the Missouri farmer.

Opportunity To Study Tractors

It is this same spirit that has made the automobile show at the Missouri State Fair, and similar shows in Kansas City an elsewhere decidedly popular. The average man is not satisfied with pictures or descriptions. He wants to go and see for himself. It is this spirit of inquiry, this desire to be shown, that insures the interest and attendance of the Missouri farmer at St. Louis on July 31 to August 4.

In the tractor demonstrations no spectacular stunts are scheduled. Instead, the visitors are to be given a really worth while demonstration as to the real worth of the machines. Durability and simplicity of construction, capacity and cost, will all be among the items considered. While the demonstrations in plowing will, perhaps, be the most interesting, it cannot be said with certainty that they will be the most valuable. The prospective purchaser will be quite as much interested in knowing the cost of operation, and also in acquainting himself with the general adaptability of the machine for other farm work as he will be in the plowing. Perhaps he will want a machine most capable of rendering direct assistance in such work as hauling a manure spreader, drawing a harrow over the fields, or a drag or grader on the roads. It may be that he will have in mind a tractor capable of furnishing power for sawing wood, pumping water or other farm labor where power is a consideration. Another item in which he will be interested is the amount and kind of fuel required to do a certain piece of work. This farmer will also figure on how many days he might possibly be able to keep the tractor busy, and also what the value of the work turned out would represent in man and horse wages. In this connection it may be said that the average farmer does not figure the cost of keeping a horse. The reason for this doubtless is that he raises his own feed instead of having to buy it. Consequently the cost of horse keep is seldom figured as it should be. If, as has been said by those who have carefully studied farm management problems, it costs from $6 to $8 per month to keep horses on the average farm, the saving possible from an efficient tractor must be considerable. On the other hand, it must be understood that it is just as easy for the farmer to get "skinned" in a tractor trade as in a horse trade. No doubt there are "gold brick" tractors on the market, and oily-tongued salesmen to dispose of them to the uninformed farmer. A great advantage, then, comes of a tractor demonstration, in that it gives a decided advantage to the tractor of real value, while disclosing the weakness of the inefficient competitor.

The size of the farm and the kind of work should determine the size of the tractor

A "Fit-the-farm Tractor" Needed

"A silo for every farm" is a catchy slogan, but it does not represent an ideal condition. It is not every farm that needs a silo. Just so may it be said that it is not every farm that needs a tractor. On many a farm "Old Dobbin"—or the Missouri mule—will continue to do duty and to do it at the saving of dollars. On the other hand, the addition of a fit-the-farm tractor will make more prosperous thousands of farm owners and operators. In deciding the question as to whether a tractor is best, the wise farmer will secure all possible information on the subject, then adapt it to meet his own conditions. He will not find fault with the tractor because it is new, nor will he for the same reason take to it without due thought. The tractor that will pay on one farm might prove a failure on another. For this reason it may be said that there is no one "best" tractor. So, then, a visit to a tractor demonstration is valuable in that it will help the man who is going to buy a tractor to select the right one for his farm. It will also help him to determine whether it will really pay him to buy a tractor. As we see it, there are but few farms where the tractor can entirely take the place of the horse. Yet there are

thousands of farms where the tractor can profitably be used to supplement the work of the horses.

With reference to tractors, as with all other farm machinery, it may be said that efficiency on the farm is marked not so much by the value and extent of implements and machinery as by the manner in which such implements and machinery are used and how cared for when not in use. No man can afford to keep a tractor just for the looks of the thing no more than he can afford to keep about him a lot of surplus work horses "simply for the sake of their society." On the other hand, no farmer can afford to do without a farm tractor if he really needs it and can make it make him money. This is the point that each prospective purchaser must decide for himself.

SOME ADVANTAGES IN STACKING SMALL GRAIN

By W. D. McKee, Ray County, Mo.

This is a subject upon which the writer has said much and written much, trying at all times to record his own experience, his observations and to reflect the cold calculating judgment of the most successful small grain growers.

Let it be said once for all that what will be said in regard to stacking small grain in this article will have to do largely with grain in the humid regions, and with the wheat crop in particular.

We know full well, that there are regions like the winter wheat belt of Oklahoma, Kansas and Nebraska and the spring wheat sections of Minnesota and the Dakotas where wheat is grown in such large areas and help is so scarce it is almost out of the question for these farmers to stack their grain. Yet the very reasons why these farmers should thresh out of the shock intensifies the arguments and the reasons why the corn belt wheat grower should stack their small grain. Out in the arid and semi-arid districts much of the small grain is dry enough to thresh just as it comes from the header and it is the common practice to thresh and haul from the machine to market. This throws all of these millions of bushels on the market immediately after harvest when the small grain in the humid regions should be tucked away in well built stacks going through the sweat, abiding its turn to come on the market when there is a brisk demand, the bulk of the western small grain having passed out into the great channels of trade. This is one of the arguments (and it is sound to the core) that all students of a better marketing system for the products of the farm have urged with a vengeance. **Avoid a glut,** should be penned to the front mass of every marketing carrier whether that carrier be of land or water, and is today the slogan of every marketing organization, county, state or government.

Small grain stacked in symetrically built stacks allows the grain to go through the sweat in the stack instead of the bin as when threshed out of the shock. Improves the berry, there-by improving the grade, and remember that all small grain is sold by grade. The higher the grade the higher the selling price. The higher the selling price the greater the profit and the greater the profit the greater the spending power of the farmer, which after all is the true standard or measuring power of the farmer to contribute to the cause of better schools, better church conditions and better roads, and all things whatsoever, that go to make up a well regulated community, a desireable place in which to live. These well built stacks also preserves the straw. Straw, as a feed is growing more and more in favor day by day. Many text book writers and sound articles in the agricultural papers are emphasizing the feeding value or straw. Its feeding value is greatly increased when fed in connection with silage, cow-pea, soy-bean or alfalfa hay.

Then why not stack this small grain secure this bright palatable straw and thus utilize one of the valuable by-products of the farms and eliminate waste and banish from your farm one of the most pernicious practices (burning strawstacks) of modern farming? It is estimated that six million dollars worth of straw was burned or allowed to go to waste in Missouri in 1914.

Much of this straw was burned because it was permitted to bleach and blacken in the shock before being threshed, for believe me it requires a well developed faculty of destructiveness, coupled with a spirit of daredevil recklessness to set fire to so precious a treasure, as a well cared for stack of bright straw.

The stacking of small grain enables the farmer to thresh, when owing to weather conditions, it would be impossible to thresh out of the shock. This grain can be stacked with the force usually at the command of the farmer, utilizing his own wagons and teams at a time when farm work is lax, thus avoiding an outlay of cash, which should always be done when possible. Stacking the small grain makes it possible to pasture the stubble before early plowing for a succeeding crop which is always helpful and some seasons indispensible. The practice of stacking small grain relieves the congestion at the time of threshing. The crew necessary is not so large as when threshing out of the shock and the women folks are not burdened with the rush and suffocating task of preparing meals and caring for multitudes when by a little good management much smaller numbers can and will suffice.

These are a few out of the many good and sufficient reasons why the farmers in the humid regions should stack their small grain.

You ask, if there are so many outstanding advantages in stacking small grain why is it not more universally practiced? While it is not practiced as much as it should be, yet, there are communities in Missouri where the small grain is not only stacked but the straw after being threshed is equally well stacked and just as well cared for as the grain itself. The bold fact that such communities exist answers some of the stock-in-trade arguments against stacking.

We are told that stacking is a lost art. Will we ever rediscover that art by threshing out of the shock? I have never been in a community yet, nor have you, but what there was some farmer that could stack small grain and do it well, and this same farmer could and would with great pleasure and much delight, teach the young men to do that, which their fathers did well, and upon which they justly prided themselves.

Here is an opportunity, yea, a Golden opportunity to put into practice that sound and wholesome doctrine that has caused the columns and pages of The Missouri Farmer at each and every issue, to bristle with the spirit of real, true, genuine, unalloyed community co-operation.

Separate and apart from the financial benefit, will be a start on the road to community betterment and working together. Get together and stack and thresh your small grain, and let the star of co-operation in your community shine with lustre and effulgence

THE STORY OF AN OLD FARM

By C. D. Lyon

(Editorial Note: We think 100 years continuous cultivation a pretty fair test of any system of farming and so when our regular contributor Mr. S. M. Jordan, after visiting the farm of C. D. Lyon in southern Ohio, about a year ago wrote The Missouri Farmer, "It was interesting to know that while his (Lyon's) farm has been in cultivation for over one-hundred years, there is no 'worn out land' on it. Yet the hills are so steep that I would not know how to go about it to farm them. That part of the country sure stands on edge. His system has and is producing gratifying results," we thought the story of how this farm has been maintained would make valuable reading for Missouri farmers. Mr. Lyon has promised to tell this story in three or four papers in The Missouri Farmer and if any of our readers are interested enough to discuss Mr. Lyon's methods as we progress or after he has finished we will be very glad to have them do so. If you have a question to ask to bring out anything not made clear to you do not hesitate to ask it.)

NUMBER I

A request comes from the editor of The Missouri Farmer, for a short series of papers, telling his readers how we have maintained, and even increased, the fertility of our farm, much of which has been under cultivation for more than 100 years.

In order to make the matter more plain to the general reader, I think it best to give a history of the farm, of the system of agriculture which has been practiced, of the crops grown, a desription of the lay of the land, and other things bearing upon the case.

The farm is part of a tract of 600 acres, and was bought in 1795 by my great grandfather, descending from him to his only son, and to my father, one of my grandfather's six children.

It was originally heavily timbered, waltnut, hickory, beech, hard maple, ash, basswood and buckeye being the chief forest trees, but there was a dozen or more varieties in lesser numbers.

About 70 acres of the farm is fairly level, rolling enough to drain well, and not so steep that the use of any improved farm implement, binder, sulky plow, riding cultivator is prohibited, and all are in general use.

On perhaps fifteen other acres of the farm, it is possible to use all these implements, by exercising extreme care, and the rest of the 103 acre tract is too steep to admit of the use of anything more modern than a two horse welking plow, a harrow, or a one horse five hoe cultivator.

I am told that the system under which the land was cleared, was to deaden the trees on eight or ten acres, and every second year to burn a "deadening" of this extent, and this timber destroying process was carried on until the level and more easily cultivated parts of the land was cleared leaving the timber which I remember back as far as 1860, on the steeper hillsides of the farm.

The pioneer farmer of the Ohio Valley grew but two crops as a business proposition, up to perhaps 1836, those two crops being corn and wheat, every bushel of these that could be spared being sold to flat boatmen to go "down the river," to feed, the slaves in the cotton and sugar growing districts.

The old Lyon farm was large enough to grow a small boat load each year, and after seeing to the growing of the crop, my great grandfather would load corn, flour, meat and perhaps a few barrels of whiskey on a flat boat, float through to New Orleans, sell boat and cargo, then walk back home a nice little trip of 1400 miles.

Older men have told me that no attention was paid to the matter of soil fertility, and, when after fifteen or twenty years constant cropping in corn and wheat, a field began to produce poor crops, the pioneer farmer said the land was "tired," and it was given a rest of a few years, then broken up again.

Some clover was sown, as a forage or hay crop, as early as 1830, but was very unpopular owing to clover bloat among cattle in the spring, and did not figure much as a field crop until ten years or more later.

Cattle and hogs were raised on the free range in the woods more than in the fenced fields, and as for horses the pioneers of the first period of thirty years, only kept enough to do the work of the farm.

I once asked a very old man who had spent nearly all of his life in this country about the use of manure in early days, and he said that few farmers paid any attention to manure making or its application excepting perhaps a load or two on a garden or truck patch, until after he was a grown man, and this was about 1825.

Thus it may be seen that one-third of a century elapsed before any attention was paid to keeping up soil fertility, and I may well say, that for at least twenty years longer or up to 1850, the system of agriculture here amounted to nothing but soil robbery.

If the readers of this will keep their papers until a series of three or four articles to follow are published, they will have some idea of the difference between the agriculture of today and that of the early times, as I want to give, in detail, an account of the way, our farm lands were depleted of fertility, and how it has been restored.

CO-OPERATIVE LIVESTOCK SHIPPING ASSOCIATIONS

By Geo. B. Ellis, Managing Editor

Co-operation expressed in its simplest terms means that a group of men are doing for themselves what other groups are allowing some one to do for them and incidentally we may say are paying a good price for having it done. The marketing of livestock is a pretty big business in Missouri. It is estimated that we produce yearly approximately 5,000,000 hogs and that about 1,000,000 are consumed on the farm thus leaving about 4,000,000 to be sent to market. Something like 1,000,000 sheep are sent to market yearly and approximately 500,000 cattle Then we might add the millions of pounds of poultry and dozens of eggs that may properly be classified with the livestock in the consideration of this subject.

Creating A Capital Fund

If all the livestock producers of the state were acting co-operatively and managing the selling of their own products a very small saving on each animal would soon create a large operating capital that could be used in the interest of the producers. Suppose a charge of twenty-five cents a head was made on every hog marketed, that would mean a million dollars in the capital fund each year. One dollar a head for cattle would add a half million dollars more and twenty-five cents for sheep, a quarter million which would give the farmers $1,750,000 every year that they could use for

the establishment of markets, obtaining information, prosecuting violations of the law in the state and Federal courts and maintaining a committee to constantly look after legislation.

The reason packers have accumulated so many millions is that they have used the profits on a large volume of business to get control of the marketing of nearly everything the farmer has to sell. If they controlled the marketing of meat only it would not be so bad, but they now have a large control of the marketing of cream and butter, of oleomargarine, of poultry and eggs, of fruit, of hides and leather, of cotton seed meal and cotton seed oil and various other products. Every dollar the packers add to their present holding of hundreds of millions of dollars increases their power over the farmers as well as over the consumers of this country.

Farmers Must Control the Marketing of Their Products

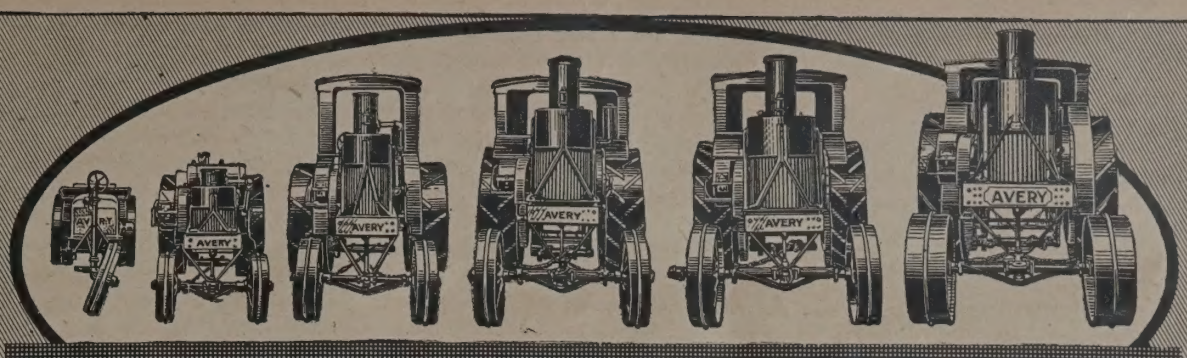
Does the manufacturer who makes farm machinery turn the selling over to some one else? Is it not a fact, Mr. Farmer, that the maker of practically every thing you can mention save farm products, looks after the selling of his products? Then why should the farmer be the only exception? They tell us that the farmer is not a trained business man and therefore should not attempt to control the business of selling his products. But how did the manufacturers become expert in selling their wares? Cannot farmers learn the business in the same way? We learn to do by doing and farmers are no exception to the rule. The reason they are nct expert in selling their products is because they have always let some one else do it for them. We do not mean by this that the man who produces corn or wheat or other products to sell should always follow his stuff to market but as a class farmers should be willing and ready to co-operate and by acting together they employ their own agents, direct them in their own interests and get a square deal in the bargain.

Are Missouri Farmers Ready for Co-operation

Why should the farmers of Missouri be different from the farmers of other states? If the farmers of Nebraska, Iowa, Minnesota, Wisconsin and other states can profit by co-operation why cannot the farmers of Missouri do likewise? They can, and we believe they are getting ready for this movement and The Missouri Farmer is ready to blaze the trail that can be followed to success.

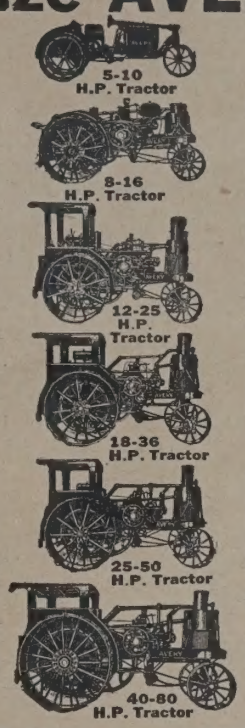
The people of Missouri have become proverbial in their conservatism but, after all, this "show me spirit" may be a good thing if we do not carry it too far. The time is ripe now for action and enough experimentation and pioneering has been done by the farmers of other states to furnish us a sure and safe basis for the operation of co-operative marketing of all our products, so now let us profit by what others have done and are doing and let us take our own business into our own hands and get a fair wage for our labor.

I started out in this article to tell our readers something about the co-operative marketing of livestock and as an example I will tell you something of the success and the plan of operating co-operative livestock marketing associations in Minnesota, where this business has been developed to large proportions during the last six or seven years.



Pick the Size AVERY Tractor to Fit Your Size Farm

THESE six sizes of Avery Tractors make Tractor Farming a success on any size farm—large, medium or small. Avery Tractors are built in sizes for pulling any number from two to ten plows. You can get an Avery Tractor in the size that exactly fits your size farm. The Avery line of Tractors in six sizes, Plows in six sizes and Separators in seven sizes, gives you the opportunity of selecting a complete Plowing or Threshing Outfit in a size to exactly fit your needs, from the most complete and up-to-date line of Power Farming and Threshing Machinery built.



THE five larger size Avery Tractors shown here have exactly the same design. Here are six special reasons for their success: Slow speed special opposed tractor motors; renewable inner cylinder walls; two-speed, double-drive transmissions; sliding frames which eliminate the intermediate gears; no pumps or fan; double carburetors for burning either kerosene or gasoline. Avery Plows are the original "Self-Lift." Avery Threshers have made the best proven grain saving records threshing on canvas ever made.

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AVERY

All six sizes of Avery Tractors will be shown at all eight of the National Tractor Demonstrations.
See them there and pick the size to fit your size farm. Stop at the Avery Bull Dog Tent

Why Co-operative Livestock Marketing

If livestock producers get all the profit they are justly entitled to have out of growing livestock they must find a way to market their stock at the lowest possible cost, and furthermore they must secure a reasonable amount of competition in the selling markets. If they fail in either of these their profits are cut down and in the past they have surely failed in both the cost of marketing and in fair and legitimate competitive selling. Only a very few farmers produce live stock in a large enough way to do their own shipping. This condition has given opportunity to the development of the country buyer and shipper. Often the local buyer is merely the agent of the commission firm at the big markets and for the last few years the big packers are trying to eliminate even this much competition by sending their own buyers out to the big feed lots to buy direct from the feeder. As a matter of course these direct buyers never deal with the small farmers who feed but a few hogs or cattle and as we have already stated these constitute the larger part of the livestock producers.

Two or more farmers may sometimes join and make up a car load or more and this is sometimes done to advantage but the trouble with this kind of co-operation is that the shipments are not made often enough for the men to know very much about the marketing end of the business. Then another disadvantage is that the local buyer who is shipping to a commission firm every week will certainly receive better attention than a farmer or a group of farmers who send in only a load or two once or twice in a year.

To overcome the above disadvantage the co-operative shipping association must be organized and then by its regular shipments the consignments will receive as much attention from the commission men as those of the local buyer will receive.

Little Capital Required

According to the plan recommended by the Experiment Station of Minnesota there is very little capital required for the successful operation of a livestock marketing association. The association does not buy any stock but acts merely as the agent for the farmers in getting the stock together and shipping the animals, and as the returns are made to the local bank there is no necessity for an elaborated system of bookkeeping in conducting the business.

A manager is necessary who looks after the details of the shipping just as a local buyer does but as it requires very little time he is not usually employed on salary. The managers of co-operative shipping associations in Minnesota get an average of $15 a car for their time in looking after the shipments of stock. As the association pays the same freight, the same commissions and other expenses at the stockyards as the local buyer must pay it is clear that the saving will be the difference between what the local buyer exacts for profit and the amount paid to the manager. In Minnesota this is estimated to amount to $50 or more per car. In discussing this subject, Mr. E. Dana Durand of the Minnesota Experiment Station says "The possible saving to farmers of co-operative livestock shipping associations is not, however, limited to reduction of local expenses. Such associations may be so conducted as to enable farmers to dispose of their livestock at more favorable times and at more favorable points than when acting individually. The manager of such an association should become an expert in judging the tendency of prices, and the relative advantages of the different markets. Such expert knowledge is out of the question for the majority of farmers. By advising members of the association when and where to sell, the manager should be able materially to increase the average price received."

Membership of Associations

It is important to have as large a membership as possible for the more business transacted the more expert should the manager become and then the more desirable will the business be for the commission men at the stockyards and very naturally a little better sales may be expected. In Minnesota the membership ranges from 22 members, the smallest reported up to a membership of 1,500. There are from three to seven associations organized in a county and the shipments from each association amount to from about 20 cars up to several hundred cars. The total amount of business done ranges from a few thousand dollars up to $200,000 and over.

Most of the associations create a re-

(Continued on page 12)

SENSE AND NONSENSE

By Sam Jordan

Many beautiful and true and touching things are now being said about the beautiful heroism of mothers when they bid their boys possibly a last good bye, and with breaking heart bid them God speed, sending them to the front to do and to die if need be for "Home and Native Land." The many things said are not too many, but have you seen the other side of the picture?

Your beautiful brave boy goes to the front to shoot down some other mothers' boy. Some mother loves him just as much as you love yours. Some mother bid him a last farewell with the same grief and aching heart as you did yours. Some mother bid him God speed, to do and die if need be for "Home and Native Land."

Some other mother whose boy your son went to kill, will sit and wait and long and look for her loved one who "went away" following the flag, the "highest duty of man."

That other mother will weep over her dead the same as will you over yours. That other boy was fighting for principle, the same as was your boy. Death is their portion, and wounded and broken hearts and bitter tears, and lonely hours are yours and hers. War! It's wrong, its wrong.

* * *

To make one's living is commonly his biggest job or ought to be. If you are a farmer, what did your country school teach you about the philosophy of farm matters? Don't all speak up at once. Your country school fitted you for the town school, and not more than one in ten went to the town school to learn things about the business and affairs of those who live in town. Some of the nine who did not go to town school, made good on the farms and stayed with them. Others possibly did not have enough capital to begin farming, so went to town while others failed or did not like the work on the farm, and they went to town. Some who failed on the farm or who did not like the farm, went to town that his wife could run a hotel, or he could run a dray or a soup house or for office. A lot of us work mighty hard trying to escape work.

* * *

The other day, I heard a man tell about what fine corn he grew by mixing an early, small ninety day corn, with a big late white corn. Do you believe his story? I did not.

He also condemned the silo and a good many other things in general, and incidentally told how much he had learned and how smart he was.

When he had passed on down the street I made inquiry as to his farming business, and was informed that he was a hired hand on a farm near town.

* * *

Isn't it funny how selfish we sometimes are? We often see some traveling man put his grip on a seat in the chair car, then go in the smoker to smoke, and remain there allowing his grips to "hold" the seat, that he does not need, preventing its use by some one who does need it. Some times he will turn one seat forward and use two, and how sour he looks if some one turns it back.. This selfishness is by no means confined to men. Women, if any difference are the worse. She will use one seat for herself, and three others for her bundles, grips, bandboxes, cloaks, and umbrellas, and the few other articles "too numerous to mention."

If some one comes in, removes the baggage from the seat and occupies it, and the owner of the baggage comes in he would make it appear that some one had "usurped" his seat, and watch him look sour. A grip no more holds a seat, when its owner is not in the seat, that a trunk in the baggage car would hold a seat in the coach.

Once in awhile a grip in the rack has caused its owner to be deluded with the notion that it held his seat while he stepped in the smoker to smoke.

* * *

Evidence of better farming that any man can see are, that fifteen years ago the average corn field was a cocklebur field as well. Now you will not find one bur in ten corn fields.

From careful observation it seems evident that there is not one farm implement left standing in the field taking all sorts of weather for every ten that might be seen ten years ago.

Crop rotation is a great factor in weed control as well as in soil betterment. Weeds are the biggest farm mortgage.

* * *

If I were asked what one piece of farm work in Missouri is most inefficient, I think I would say that the handling of pastures is the worst.

Once in a great while a good pasture scheme is found, but on an average the poorest returns per acre are from pastures in proportion to what their returns ought to be. I have seen many pastures that bring gratifying returns but these are too few.

A bulletin by the State Board of Agriculture is promised in the near future. Since there is something to do to the pasture at most all seasons of the year, a bulletin on this subject will be opportune at any time.

* * *

The man who keeps his soil fertile usually finds his pocket book getting thicker from year to year.

* * *

Not long ago, I spent the night and part of the morning at the farm of W. B. McKee, near Polo. It is splendidly managed farm, and speaking of pastures will say it is one of the best managed I have seen. No rag weed, iron weed, dock, sorrel, buckhorn, buckbrush, but blue grass, white and red clover. Of course, I have my own ideas as to where the credit should go, because I saw that young man of his taking hold a good deal like he might be largely bossing the job, then when one puts his feet under the table you can just make up your mind that Mrs. McKee is largely to "blame" for many of the things that are really classy about that farm. I think, tho, that Mc., is doing part to supply the raw material and later, incidentally, dispose of it.

* * *

Us boys make a lot of cheap sport about the girl's fashions and fads, but can you suggest a more silly, foolish, insane, end-of-the-limit, fad than the men's high, tight, hot, suffocating crazing collar?

Some guy objected the other day to the low, turn-down, cool, comfortable, soft, easy going collar, because he thought it looked "girlish." Now, wouldn't that give you thumps or something? If it is girlish to be comfortable, then I say, look girlish, it may not hurt much. I suspect that "fellah" smokes cigarettes, chews long green, gets full (of beans of course), wears whiskers, a high collar, and an overcoat in August just thinking it looks "manly."

Of course the girls who wore furs last August may have wanted to look "manly," but they did not stay with the fad long. I wear that eternally hot collar myself, I guess just because "other boys," mostly do. Then, I suspect we fear we might shock some lady unless we were as nearly covered up as possible.

* * *

I took a friend for a joyride the other morning just to show him our town. He lives in a remote part of the state, and he had a lot to say about so many poorly kept lawns, and so many weeds in so many places.

I tried to lie out of it for the folks, and counted myself lucky that I have no lawn to mow,—fortunate as the fellow who has no taxes to pay.

Patrick Henry Addressing the First Continental Congress, Philadelphia, 1774

One Nation; One People

WHEN Patrick Henry declared that oppression had effaced the boundaries of the several colonies, he voiced the spirit of the First Continental Congress.

In the crisis, the colonies were willing to unite for their common safety, but at that time the people could not immediately act as a whole because it took so long for news to travel from colony to colony.

The early handicaps of distance and delay were greatly reduced and direct communication was established between communities with the coming of the railroads and the telegraph. They connected places. The telephone connects persons irrespective of place. The telephone system has provided the means of individual communication which brings into one national family, so to speak, the whole people.

Country wide in its scope, the Bell system carries the spoken word from person to person anywhere, annihilating both time and distance.

The people have become so absolutely unified by means of the facilities for transportation and communication that in any crisis they can decide as a united people and act simultaneously, wherever the location of the seat of government.

In the early days, the capital was moved from place to place because of sectional rivalry, but today Independence Hall is a symbol of union, revered alike in Philadelphia and the most distant American city.

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CONCRETE WATER TANK

A good sanitary water supply is necessary on every farm. Where springs and running water are not present it is necessary to rely on wells and a tank big enough to hold 3 or 4-days' supply. Concrete is good material for such tanks. It is easy to handle, can be made in any shape or size, and is easily waterproofed. The sand and gravel necessary for constructing the tank are often found on the farm and if such is the case, the cost of constructing is materially reduced.

A good mixture for concrete tanks is one part cement, two parts sand, and four parts broken stone or gravel. If neither gravel nor broken stone can be obtained, a mixture of one part cement and three parts of coarse sand can be used. The cement and aggregate should be thoroughly mixed and the resulting mixture well tamped or shaded when placed in the forms. After removing the forms the sides of the tank may be flushed with a mixture of cement and water to smooth up any little irregularities.

Heavy woven wire fencing may be used to reinforce the tank. Lap the ends of the reinforcing at least six inches. The reinforcing for the walls should be placed near the outer side and well covered with concrete.

It is preferable to have the forms of green lumber. If seasoned lumber is used, it should be dampened with water before the concrete is poured into the forms. This will prevent the dry boards from absorbing the moisture from the concrete which, if permitted, would cause the walls of the tank to crack.

Make the bottom of the tank smaller than the top by sloping the inner walls. This will prevent ice from breaking the walls. The inner forms should be built so that they may be easily removed. A wedge can be used to advantage if the forms swell and are difficult to remove. Avoid heavy pounding and prying as green concrete is easily cracked.

While it is less difficult to build a

rectangular form for the tank, the round type is stronger and calls for less concrete.

A band saw is best for cutting out the ribs for the round form, although a hand saw will do very well. As it is a difficult task to cut them out in a circle, saw out a triangular piece removing as much material as possible. Finish the circle by cutting out the remaining material with a good sharp hand ax.

The material needed for the construction of a six-foot concrete tank which will hold 400 gallons of water includes: for outer form ribs, 3 pieces 2 inch by 10 inch by 14 feet; for inner form ribs, 9 pieces 2 inch by 8 inch by 12 feet; for outer form sides, 18 pieces 1 inch by 4 inch by 10 feet; for inner form sides, 14 pieces 1 inch by 4 inch by 12 feet; 10 sacks of cement; 20 cubic feet of sand; 40 cubic feet of gravel; and 36 feet of 30 inch heavy woven wire fencing.

M. A. R. Kelley,
Missouri College of Agriculture.

GETTING SOMETHING OUT OF IT

By W. L. Nelson

How often, after a county fair, a farmers' institute, an agricultural lecture course or other community managed movement, do we hear the remark, "I didn't get anything out of it." Usually, too, this statement is true insofar as it applies to the speaker. Always, regardless of the merits of the movement there are those who fail to "get anything out of it." This is due to the fact that they fail to put anything into it.

Generally speaking, the movements that are of the greatest benefit to a community are those that actively interest the largest number of people. It is also true that when the meeting is over the men and women who feel that they got the most out of it are the ones who worked hardest to insure its success.

It's the "we" that's the winner; the "our" that bespeaks optimism. Is it the county fair that is under discussion—or perhaps it is a local corn show, colt show or a big get-together meeting for farm folk,—and are you one who talks in terms of "they" and "their"? If so, you are not in the best way to get the most out of it.

The world needs workers—and there are as many little "worlds" as there are neighborhoods and communities. Perhaps unconsciously we fall, first, into the habit of letting other folks look after all community movements. Then, just as unconsciously, we may, because we feel that it is not our work, come to criticise. We don't mean to shirk or to find fault, but because we come in time to feel that we "are not getting anything out of it," we naturally conclude that either the movement is without merit or the management is in error.

Why not a determination that in things worth while we will be found in the "we" and "our" crowd instead of in the "they" and "their" group. It might seem a little awkward at first, but not for long. Then as we became interested we might feel that we were "getting something out of it," that, after all, there was more in the movement than we ever imagined.

One result would be more happiness for the individual worker. The great big result would be realized, though, in the new community ideas and ideals, in the awakening enthusiasm and work of a large number of people. Whenever the whole community is aroused success is assured—and it is no trouble to repeat a success. There is no one to say, "I didn't get anything out of it."

The man who fails to sow cannot hope to reap. No more should we expect large benefit from a community movement to which we have given little or nothing. Putting in our best, we may reasonably hope for satisfactory returns.

BEAUTIFYING THE FARM GROUNDS

Nature has been almost too bounteous in her gifts of beauty, so bounteous, in fact, that many of us do not realize the wealth of beauty which we may own but for the asking and for the trouble of bringing it into our dooryards. Home beautification is not a difficult nor an expensive task and even the most humble farm home can revel in the beauty of its surroundings with the aid of a few trees and shrubs.

Native species of plants are the best for the home beautifier. These thrive in the soil and climate of their natural habitat whereas foreign species are apt to be much less hardy and adaptable to their new environment. The selection of the materials to use in painting the landscape picture is fully half of the task and it is an easy matter for the amateur to make a poor selection from the galaxy of wonders which the nurseryman's book contains.

Of the native trees none is better adapted to home planting than is our American Elm. Best liked of all of our shade trees, it makes a rapid growth and pleasant shade from the heat of the summer sun. Next to the elm in popularity comes the sugar maple and this as well makes a most desirable tree for home beautification. The one precaution where this tree is planted is to keep the branches thinned. The sugar maple is a rank grower and unless thinned will grow up to a dense head filled with many dead branches and twigs.

Our old friend the tulip tree rivals even the elm and the sugar maple for a place in the hearts of our country folks and will always remain a favorite with the people of our countryside. With its thousands of tuliplike blossoms in the early spring and its rich, cooling shade through the heat of the summer, it is indeed a desirable tree for home planting. The maples, the American linden, the white ash, and the pin oaks are other trees worthy of a place on the farm lot and may be used to good advantage in the planting plan.

These trees may be used in groups or singly with good effect but the one main thing which must be remembered in planning the farm beautification is that the lawn is the canvas upon which the landscape gardener paints his picture. Nothing is more beautiful than is a broad open expanse of lawn framed in by a border of trees and shrubs and open sky.

Freaks are good examples of what not to plant, especially where the planting is to be rather limited in amount. What is more hideous than the little weeping mulberry which we see so commonly set out with its writhing agonies of a single species grafted upon the straight and upright stock of another sort. Some sorts of odd plants may, however, be used to good advantage along with other trees and shrubs to secure contrasts of texture and color. In this manner the gingko, the weeping willow, and other such oddities may be used to good advantage, whereas the same trees used alone would present a most woeful example of an unsuccessful attempt to imitate nature.

Shrubs may be used for connective purposes along the house foundations, as borders to walks and drives and to screen unsightly objects. In fact, there are but few places where shrubs cannot be used to good advantage. The spireas, the snowballs, and the old fashioned mock orange can all be used with good effect and many of the newer sorts as well may be used.

The barberries, the golden bell, and the hardy hydrangeas are all desirable shrubs and bear alike their loads of summer foliage and winter snows. In winter as well as in summer the grays and browns and reds of the bark will show up in pleasing contrast with the colors of the landscape.

Many plants may be dug up from the woods and the fence corners when it is not possible to buy these from the nursery. Where the home beautifier can afford the expense of a few dollars, however, it is much more advisable to purchase the plants needed from some reliable nurseryman. Nursery grown trees and shrubs will withstand the harsh treatment of transplanting much better than will plants grown by nature's plan. Plants produced by the nurseryman are grown in such a manner as to cause them to develop strong, compact root systems. Thus, in transplanting, the greater part of the root system is taken up along with the plant and when set out a vigorous development of new feeding roots will take place at once.

Home beautification is something which can be undertaken by even the most inexperienced, provided he is willing to take a little time and forethought in planning his planting. The main things to remember are that the best plan for developing the home planting is to follow nature as closely as is possible. Nature has never been found guilty of unharomnious contrasts or of rigid lines in her landscape work. Good choice of materials and the proper grouping of these about a broad expanse of open lawn are the two great fundamentals in the development of that simple art known by the rather long and sonorous term of landscape gardening. Applied to the farm the result is an attractive home, and attractive homes are a pretty good indication of contented occupants.—Purdue Agriculturalist, Indiana Experiment Station.

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ST. LOUIS TRACTOR DEMONSTRATION

We know of no other farm machine that has more quickly found favor than has the tractor. This would not be so if there were not a special need for mechanical power to take the place of animal power. Who is it who has not cut his task short on a hot summer day because of sympathy for his overworked and overheated horses. The writer has worked in the field many a day when because of the dry, hard soil and the excessive heat every step taken by the faithful old horses was a physical punishment to them and a mental torture to the driver.

What a difference it is to mount the mechanical horse, rest comfortably under the shade of a canvas top and to have no scruples about the old fellow getting tired or too hot.

Tractor manufacturers have learned what The Missouri Farmer tried to point out to them that tractors must be built to suit the needs of different size farms. As W. L. Nelson so aptly puts it in the leading article in this issue, "the addition of a fit-the-farm tractor will make more prosperous thousands of farm owners and operators."

The leading manufacturers are now making tractors to suit the needs of the average size farm as well as the big farms and that more than anything else is extending the usefulness of the tractor. We are not alarmed about the tractor displacing the horse as some seem to fear but whether it does or not, if the use of the tractor adds something to both pleasure and profit we need not worry over the loss of the horse.

Those who have a humane feeling for their horses should welcome the tractor because it will relieve the horse of much of the unmerciful overwork that horses must do under the old methods. But farmers have been skeptical about all these things because they have not had the opportunity to see the tractor at work. They have read about it in the farm papers but they have felt skeptical about the economy of the tractor because they believed that writers were usually telling the story in their own interest.

The leading makers of farm tractors knowing that the final test of the usefulness of their machines must be made in the fields under normal conditions and in the presence of prospective buyers have wisely decided to put on a number of practical tests in different states so that farmers may see for themselves just what kind of work a machine will do. The only demonstration within reach of Missouri farmers will be held in St. Louis, Missouri, lasting five days, from July 31 to August 4. A large tract of land has been secured and the leading manufacturers will be there with their various machines to demonstrate the quality and variety of work they will do. Any farmer who has found horse power expensive or unsatisfactory will find this demonstration his opportunity to get information that will help solve the problem. Many farmers find that it pays to make a trip to St. Louis every year for business as well as pleasure and we are sure no more opportune time can be chosen than the week of the tractor demonstration.

DO YOUR PATRIOTIC DUTY

Most every voter keeps in mind the coming of the first Tuesday in November when he will exercise the privilege of an American citizen and cast his vote for his choice for President, Congressman and other officers of lesser importance. But have our readers ever thought of the more important duty of attending the state primary election held in this state this year on August 1 for the purpose of choosing the candidates to represent the different political parties at the general election. Men sometimes get very much excited over the election of a Congressman and pay little or no attention to who is chosen for members of the county court, legislature and other offices which in fact are much closer to the average man's interests than the higher offices. We do not minimize the importance of trying to get good men for national offices but if we do fail in a place like Congressman, for instance, there are so many men in Congress that one very bad man can not have the effect on public policy that a miss-fit selection can have in our county court where but three men are to be chosen.

There are no more important offices than that of county court and county clerk because they handle by far more of our tax money than any higher officer does and yet many men often do not even try to find out who they are voting for to fill these places.

In any county with bad roads, poor bridges and old dilapidated infirmaries for the dependent you may charge the fault up to ignorance or avarice of the county court. We know the county judges are not very well paid for their services but when any man accepts such an office he ought to be willing to make some personal sacrifice for the good of his county.

The political press scavengers go to an extreme to ridicule and to villify members of the state legislature who do not do their biddings and it is for this reason that many a good man has refused to serve his state in that capacity. If we will only stop to think that the last General Assembly of Missouri appropriated some four or five million dollars more than the state revenues amounted to we will at once see that it is important to elect good, careful men to the Legislature.

Our state institutions and ambitious politicians are to blame for this condition of things but the people, you and I, dear reader will be to blame if we allow such a condition to continue. You may ask how are the state institutions to blame? The managers of every state institution are ambitious to make progress and to expand and that takes money. So they play politics when opportunity offers and they help to name candidates for the Legislature and for Governor, and when the committees are appointed they help to select men for the appropriation and other committees who will zealously support their favorite institution. When the Legislature is finally organized there is no one on guard for the state—all are representing a pet institution or project and so it is that millions of dollars are appropriated that never materialize.

The way to put a stop to all this is to elect successful farmers or business men to the Legislature and stop voting for third-rate lawyers and scheming politicians who care little for the state and much for themselves. We do not need orators in the Legislature as much as we need men of plain business sense. Three-fourths of the work of the Legislature is handling the finances of the state and even for law making we would rather depend upon patriotism than politics to get good, wholesome laws, anyway.

So whether you go to the general election or not, do not fail to inform yourself of every man to be voted for at the August primary and if every good citizen will do that it will make little difference who you vote for in November, for only good men will be on the various tickets.

ATTENTION FARMERS

We have just received word that the Farm Clubs of Lafayette County expect to hold a monster two days Farmers Picnic along from the 7th to the 12th of August and in order that the various speakers many not be compelled to make too long jumps, they are anxious that the farmers in some of the nearby counties plan big meetings at about the same time. At least two other close by counties ought to get busy at once and plan for a similar occasion during the same week in which the big Lafayette County Picnic is to be held and we trust that our friends in that part of the state will get to work on this project at once.

As was suggested in a recent issue of The Missouri Farmer, these meetings should mark the coming together of the greatest crowd of farmers that has ever assembled in the history of the respective counties. It should be a great two days "Farmers Love Feast" at which politics is absolutely barred and at which Farming and Farm Club organization—together with the perfection of a County Farmers Ass'n—should be the sole topic of discussion. Suitable speakers can be procurred without cost from the Agricultural College and from the State Board of Agriculture and on the second day I will be present at as many meetings as possible to discuss the question of Farm Club organization. Let's literally set Missouri "on fire" with this great movement before the snow flies. While I am anxious that several nearby counties should join hands with Lafayette, yet this is no reason why other counties should not begin to line up. I want to see Missouri lead this great fight upon which depends the future of our farm homes.

William Hirth, Publisher,
THE MISSOURI FARMER, Columbia, Mo.

THE WAUKEGAN IDEA

Have you ever heard of Waukegan? It must be an old Indian name but anyway it is the designation of a nice little city over in our sister state of Illinois. But it is not of the city we want to write but of an idea, the "Waukegan Idea" that Edward Amherst Ott has given to the world and then very kindly in his own interest had the "idea" copyrighted. Perhaps he has a copyright only on what he has to say about the idea but anyway we think the idea has some merit in it. The idea is to be named the "Universal Employment Service." The object is to get rid of the natural causes of unemployment and to stabalize labor and trade. In citing natural causes of unemployment Mr. Ott points out that "A canning factory needs a thousand employees for three months. It is important to all society that it secure the help it needs. It would make canned food prohibitive if that industry had to employ those thousand helpers the year, and yet they should be employed the entire year. * * * The harvest fields of Kansas present the same problems. Thousands of men are needed for a few weeks. The bread of the country demands this army but it should not be an army of tramps. Waiting for two weeks' work in the harvest fields does not suggest social sanity or individual thrift." But where is the remedy? It is in a mobile army of labor. Mr. Ott thinks that the stability of trade and the employment of labor can be met by recognizing the fact that the hazards of unemployment are natural instead of personal and should be born by the public and not by the individual as it is now. If we can stabilize credit by establishing a system of regional banks then why not stabilize employment by establishing a system of "Regional Camps of Surplus and Supply of Labor"? These camps should be organized in the different states by a national commission of industrial experts. In these camps, organized in a kind of military fashion, the unskilled labor could be efficiently trained but would be in such camps only when there was no demand for their work in the industrial world.

These regional camps as we understand the plan would be operated as a social service and not for charity, neither for profit, simply to stabilize labor by providing public work at a fair wage and only when the labor could not be utilized to advantage by private enterprizes. The improvement of our water ways, the irrigation of our desert lands, the reforestration of millions of acres of devastated hill sides, the building of good roads and other public enterprises could thus be carried on to the great advantage of the states and the Nation and at the same time get rid of the army of tramps and soup house patrons that curse our country annually and replete the ranks of the criminal classes and keep our prisons full.

In this scheme chronic vagrancy would be made a social crime and the habit of industry made a social necessity. Vagrancy is a serious evil that ought to be stamped out in this country.

We are spending according to the best estimates over six hundred million dollars in this country for criminal prosecution and protection. If

every man had to account for himself in some useful employment for twelve months in the year most of this crime would disappear and most of the six hundred million dollars could be used to better purpose by maintaining these regional labor camps.

Yes, we think the "Waukegan Idea" has merit, real merit in it and if the thought of this country can be turned toward such questions in a real positive force there is no reason to doubt that the curse of unemployment can be wiped off the social map of the Nation.

BARNYARD GOSSIP

It is not what we know that bothers most of us, for really I think we know so little when we realize how much there is to know in this big wide world that the little knowledge that is stored away in one man's cranium ought not be very much in the way. But sometimes we think we know a thing, when it has no reason in it or no fact about it save that we have given the idea a place in our head and the longer it stays there undisturbed the harder it is to get rid of it.

It is a mighty good plan for a man to overhaul his ideas occasionally, very much like he does his old papers and to get rid of those he finds are out of date. The world is moving about pretty fast in its development and a good farm practice this year may be a poor one next year. The grain cradle was a big improvement over the reap hook but the world would face a famine today if we had to harvest our wheat with the cradle.

A few days ago we heard three "had been" farmers discussing the merits of the experiment station and they all agreed that this institution was impractical and of little or no use to farmers. In discussing particularly the experiments that are being carried on in Missouri and many other states to find the best and most economical rations for hogs, one of these men remarked, "Why, I can feed hogs and put as much fat on them as any one, if some one will furnish me the feed. These boys at the Experiment Station can feed hogs because the state buys the feed and they have nothing else to do only to shovel the feed into the troughs." This was the gist of the conversation I listened to without permitting myself to be drawn into the conversation. The idea of these men without exception was that experiment stations were run as business institutions. But it would be hard to get them to understand that an educational plant and a business plant are quite different things. How could this man feed hogs intelligently without either experience or the guidance of someone who had gained knowledge in some way? These men all agreed (?) that feeding hogs as well as other farm operations was a business proposition. That farmers fed hogs and cattle, and raised corn and wheat for the profit they could get out of the operation and the more profit the better it pleases the farmers. They also agreed that some farmers were more successful than others, and that while some might be good cattle feeders, others were better handlers of horses or mules, or better corn or wheat growers. And, pray, Mr. Three Farmers what makes that difference? Is it not in the doing as well as in the knowing? Some men have many talents but use them very little other men have few talents but add to that which they already have by using them.

But I am getting away from the thought I wanted to bring out and that is the prejudice some men have against any idea emanating from an experiment station or other educational institution. How are we to know the best way to do a thing until some one has tried out the different ways side by side? Would the farmer who said he knew how to feed hogs as well as any one if some one would furnish the feed, know what to buy when he had feed to buy. Of course this farmer could take corn and shipstuff and tankage and fatten his hogs but how is he to know which to buy when prices go up or down. In other words when corn is 50 cents a bushel, shipstuff $1.25 a hundred and tankage $50 a ton what proportion of these feeds will he use to get the most profit out of the operation? Then if corn goes up to 60 cents a bushel and shipstuff down to $1.10 what change will he make in the feeds? The chances are this man would go right along feeding in about the same way.

We happen to know about these three has-been-farmers. One of them whose father gave him a 100-acre farm failed to make a living on it, said there was too much hard work about it and is now working as a day laborer on the Experiment Station farm at $1.50 a day. Another quit farming because it did not pay and is doing street work at $1.75 a day when he can find work to do. The third is running a corner grocery which barely makes him a living. And these men know how to farm! Well that is the trouble with too many of us we think we know. A better way is to open our minds and be sure about it.

THOSE "DANGEROUS" FARM CREDITS

It is gratifying to know that many business men, bankers and professional men realize that a grave crisis faces the future of agriculture in America and when that is said it means that a grave crisis is facing the country itself for without agriculture this country can not live long or prosper. The saddest thing about the whole proposition is that so many farmers are asleep to the danger that confronts them and not only farmers but many of those who are holding places of honor and supposed to be "on the job" in the interest of the farmers of the country.

We take pleasure in reproducing below an editorial from the July number of "Current Opinion" one of the most popular magazines of the country which shows the views of an able editor on the need for rural credits as a step in the direction of stabilizing agriculture and restoring the balance between agriculture and other industries if this country is to continue its existence and progress:

"No better example was ever given of how completely citified we have become mentally as a nation than the political and editorial comment on the Farm Credits Bill as it worked its way through the committees.

"In a word, we were told that this bill set a dangerous precedent of taking the money out of one class of pockets to subsidize another class of pockets. We were given to understand that 'Rube was pilfering us bad.' We were going 'straight to the bow-wows on socialism' with this bill. Even such staunch old supporters of the Democratic Administration as the New York Times read us deadly solemn lectures on 'the farmer picking the lock off the national till.' Naughty, naughty farmer! He is clearing $300 a year in many sections—the Federal Government figures. And, Rube looks so hay-seedly innocent. Let us hold our breath till we bust and pray for the rascal's reform!

"It's all right for the farmer to pay a tariff of 10 to 60 per cent. out of his pocket into the pocket of the manufacturer on everything he buys—machinery, steel, clothing, leather—but it's awful and 'combusting of the constituion' for the farmer to ask tariffs kept on the things he raises to sell so that he may take a little out of the consumer's pocket and put it in his own. Milk for instance! Free milk means a cent a quart off every quart of milk sold in cities within 48 hours of the Boundary.

"It's all right for Uncle Sam's Treasury to come behind the Federal Reserve Banks of the financial centers special aid—as it did in the War month of 1914—but it's 'robbery and socialism and state paternalism' for Uncle Sam to give his support to Farm Banks selling farm bonds secured by first mortgage loans.

"It's all right to squander $600,000,000 as we have in twenty years on rivers and harbors 'pork' for towns and cities, where the politicians round up carpet-bag and boarding-house ward votes; millions on which no interest is paid; millions which are not a loan but a hold-up for hogs and pirates and thieves; but it's a 'subversion of the constitution'—whatever that is, the editors said so—for Uncle Sam to permit Treasury funds as a loan secured by double-barreled collateral of a bond and land to launch a system of Farm Banks and Credits.

"It's all right to spend millions financing public highways. Of course, the highways aren't for motor cars! They are for farmers; but it is dangling danger above the inferno, to finance the farmers, who use the highways.

"It's all right to appropriate millions to tell farmers what to do; but it's catastrophic to finance farmers in the doing thereof.

"Farmers don't say all this; but the editors do; and it all depends on the point of view; and if each man could stand on his own stomach as a point of view, he might modify his judgment There is no use telling a farmer what to do, if he can't finance himself doing it; and for every farmer put out of business because he can't finance farming, the cost of living to the city man is increased just by that decrease of farm produce. We are a nation with 40 per cent. feeding 60 per cent. of the population now. If farms continue to be abandoned, the proportion will continue to shift from country to town. Within twenty years, the price of food has increased four-fold. With population increasing and farms decreasing, the cost of food will still further rise. That is why a workable system of Farm Credits is as vital to the nation as Federal Reserves or armaments."

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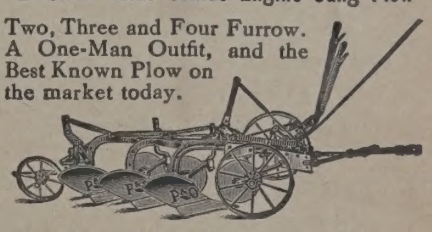
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David Dunne

A Romance of the Middle West

By BELLE KANARIS MANIATES

CHAPTER II

Gilbert, complacent and affable, returned to Washington accompanied by David. A month later the newly made consul sailed from New York for South America. He landed at a South American seaport that had a fine harbor snugly guarded by jutting cliffs skirting the base of a hill barren and severe in aspect.

As he walked down the narrow, foreign streets thronged with a strange people, and saw the structures with their meaningless signs, he began to feel a wave of homesickness. Then, looking up, he felt that little inner thrill that comes from seeing one's flag in a foreign land.

"And that is why I am here," he thought, "to keep that flag flying."

He resolutely started out on the first day to keep the flag flying in the manner befitting the kind of a consul he meant to be. He maintained a strict watch over the commercial conditions, and his reports of consular news were promptly rendered in concise and instructive form. His native tact and inherent courtesy won him favor with the government, his hospitality and kindly intent conciliated the natives, and he was soon also accorded social privileges. He began to enjoy life. His duties were interesting, and his leisure was devoted to the pursuit of novel pleasures.

Fletcher Wilder, the son of the president of an American mining company, was down there ostensibly to look after his father's interests, but in reality to take out pleasure parties in his trim little yacht, and David soon came to be the most welcome guest that set foot on its deck.

At the end of a year, when his duties had become a matter of routine and his life had lost the charm of novelty, David's ambitions started from their slumbers, though not this time in a political way. Wilder had cruised away, and the young consul was conscious of a sense of aloneness. He spent his evenings on his spacious veranda, from where he could see the moonlight making a rippling road of silver across the black water. The sensuous beauty of the tropical nights brought him back to his early Land of Dreams, and the pastime that he had been forced to relinquish for action now appeared to him with overwhelming force and fascination. But the dreams were a man's dream, not the fleeting fancies of a boy. They continued to possess and absorb him until one night, when he was looking above the mountains at one lone star that shone brighter than the rest, he was moved for the first time to give material shape and form to his conceptions. The impulse led to execution.

"I must get it out of my system," he explained half apologetically to himself as he began the writing of a novel. To this task, as to everything else he had undertaken, he brought the entire concentration of his mind and energy, until the book soon began to seem real to him—more real than anything he had done. As he was copying the last page for the last time, Fletcher sailed into the harbor for a week of farewell before returning to New York.

"What have you been doing for amusement these last six months, Dunne?" he asked as he dropped into David's house.

"You'd never guess," said David, "what your absence drove me to. I've written a book—a novel."

"Let me take it back to the hotel with me to-night. I haven't been sleeping well lately, and it may—"

"If it serves as a soporific," said David gravely, as he handed him the bulky package, "my labor will not have been in vain."

The next morning Wilder came again into David's office.

"I fear you didn't sleep well, after all," observed David, looking at his visitor's heavy-lided eyes.

"No, darn you, Dunne. I took up your manuscript and I never laid it down until the first streaks of dawn. Then when I went to bed I lay awake thinking it all over. Why, Dunne, it's the best book I ever read!"

"I wish," David repied with a whimsical smile, "that you were a publisher."

"Speaking of publishers, that's why I didn't bring the manuscript back. I sail in a week, and I want you to let me take it to a publisher I know in New York. He will give it a prompt reading."

"If it wouldn't bother you too much, I wish you would. You see, it would take so long for it to come back here and be sent out again each time it is rejected."

"Rejected!" scoffed Wilder. "You wait and see! Aren't you going to dedicate it?"

David hesitated, his eyes stealing dreamily out across the bay to the horizon line.

"I wonder," he said mediatively, "if the person to whom it is dedicated—every word of it—wouldn't know without the inscription."

"No," objected Fletcher, "you should have it appear out of compliment."

He smiled as he wrote on a piece of paper: "To T. L. P."

"The initials of your sweetheart?" quizzed Fletcher.

"No; when I was a little chap I used to spin yarns. These are the initials of one who was my most absorbed listener."

Wilder raised anchor and sailed back to the states. At the expiration of two months he wrote David that his book had been accepted. In time ten bound copies of his novel, his allotment from the publishers, brought him a thrill of indescribable pleasure. The next mail brought papers with glowing reviews and letters of commendation and congratulation. Next came a good-sized check, and the information that his book was a "best seller."

The night that this information was received he went up to the top of the hill that jutted over the harbor and listened to the song of the waves. Two years in this land of liquid light—a land of burning days and silent, sapphired nights, a land of palms and olives—two years of quiet, dreamy bliss, an idle and unsubstantial time! How evanescent it seemed, by the light of the days at home, when something had always pressed him to action.

"Two years of drifting," he thought. "It is time I, too, raised anchor and sailed home."

The next mail brought a letter that made his heart beat faster than it had yet been able to do in this exotic, lazy land. It was a recall from Barnabas.

"Dear Dave:

"Nothing but a lazy life in a foreign land would have drove a man like you to write a book. The Jedge and M'ri are pleased, but I know you are cut out for something different. I want you to come home in time to run for legislature again. There's goin' to be something doin'. It is time for another senator, and who do you suppose is plugging for it, and opening hogsheads of money? Wilksley. I want for you to come back and head him off. If you've got one speck of your old spirit, and you care anything about your state, you'll do it. I am still running politics for this county at the old stand. Your book has started folks to talking about you agen, so come home while the picking is good. You've dreamt long enough. It is time to get up. Don't write no more books till you git too old to work.

"Yours if you come,

B. B."

The letter brought to David's eyes something that no one in this balmy land had ever seen there. With the look of a fighter belted for battle he went to the telegraph office and cabled Barnabas, "Coming."

CHAPTER III

On his return to Lafferton David was met at the train by the Judge, M'ri, and Barnabas.

"Your trunks air going' out to the farm, Dave, ain't they?" asked Barnabas wistfully.

"Of course," replied David, with an emphasis that brought a look of pleasure to the old man.

"Your telegram took a great load offen my mind," he said, as they drove out to the farm. "Miss Rhody told me all along I need hev no fears fer you, that you weren't no dawdler."

"Good for Miss Rhody!" laughed David. "She shall have her reward. I brought her silk enough for two dresses at least."

"David," said M'ri suddenly at the dinner table, "do tell me for whose name those initials in the dedication to your book stand. Is it any one I know?"

"I hardly know the person myself," was the smiling and evasive reply.

"A woman, David?"

"She figured largely in my fairy stories."

"A nickname he had for Janey," she thought with a sigh.

"Uncle Barnabas," said David the next day, "before we settle down to things political tell me if you regret my South American experience."

"Now that you're back and gittin' into harness, I'll overlook anything. You'd earnt a breathing spell, and you look a hull lot older. Your book's kep' your name in the papers, tew, which helps."

"I will show you something that proves the book did more than that," said David, drawing his bank book from his pocket and passing it to the old man, who read it unbelievingly.

"Why, Dave, you're rich!" he exclaimed.

"No; not rich. I shall always have to work for my living. So tell me the situation."

This fully occupied the time it took to drive to town, for Cold Molasses, successor to Old Hundred, kept the pace his name idicated. The day was spent in meeting old friends, and then David settled down to business with his old-time energy. Once more he was nominated for the legislature and took up the work of campaigning for Stephen Hume, opponent to Wilksley. Hume was an ardent, honest, clean-handed politician without money, but he had for manager one Ethan Knowles, a cool-headed, tireless veteran of campaign battles, with David acting as assistant and speech maker.

David was elected, went to the capital, and was honored with the office of speaker by unanimous vote. He had his plans carefully drawn for the election of Hume, who came down on the regular train and established headquarters at one of the hotels, surrounded by a quiet and determined body of men.

Wilksley's supporters, a rollicking lot, had come by special train and were quartered at a club, dispensing champagne and greenbacks promiscuously and freely. There was also a third candidate, whose backers were noncommittal, giving no intimation as to where their strength would go in case their candidate did not come in as a dark horse.

When the night of the senatorial contest came the floor, galleries, and lobby of the House were crowded. The Judge, M'ri, and Joe were there, Janey remaining home with her father, who refused to join the party.

"Thar'll be bigger doin's fer me to see Dave officiate at," he prophesied.

The quietly humorous young man wielding the gavel found it difficult to maintain quiet in the midst of such excitement, but he finally evolved order from chaos.

Wilksley was the first candidate nominated, a gentleman from the fourteenth delivering a bombastic oration in pompous periods, accompanied by lofty gestures. He was followed by an understudy, who made an ineffective effort to support his predecessor.

"A ricochet shot," commented Joe. "Wait till Dave hits the bullseye."

The supporting representatives of the dark horse made short, forceful speeches. Then followed a brief intermission, while David called a substitute pro tem to the speaker's desk. He stepped to the platform to make the nominating speech for Hume, the speech for which every one was waiting. There was a hush of expectancy, and M'ri felt little shivers of excitement creeping down her spine as she looked up at David, dauntless, earnest, and compelling, as he towered above them all.

In its simplicity, its ring of truth, and its weight of conviction, his speech was a masterpiece.

"A young Patrick Henry!" murmured the Judge.

M'ri made no comment, for in that flight of a second that intervened between David's speech and the roar of tumultuous applause, she had heard a voice, a young exquisite voice, murmur with a little indrawn breath, "Oh, David!"

M'ri turned in surprise, and looked into the confused but smiling face of a lovely young girl, who said frankly and impulsively: 'I don't know who Mr. Hume may be, but I do hope he wins."

M'ri smiled in sympathy, trying to place the resemblance. Then her gaze wandered to the man beside the young girl.

"You are Carey Winthrop!" she exclaimed.

The man turned, and leaned forward.

"Mrs. Thorne, this is indeed a pleasure," he said, extending his hand.

Joe then swung his chair around into their vision.

"Oh, Joe!" cried the young girl ecstatically. "And where is Janey?"

The balloting was in progress, and there was opportunity for mutual recalling old times. Then suddenly the sibilant sounds dropped to silence as the result was announced. Wilksley had the most votes, the dark horse the least; Hume enjoyed a happy medium, with fifteen more to his count than forecast by the man behind the button, as Joe designated Knowles.

In the rush of action from the delegates, reporters, clerks, and messengers, the place resembled a beehive. Then came another ballot taking. Hume had gained ten votes from the Wilksley men and fifteen from the dark horse, but still lacked the requisite number.

From the little retreat where Hume's manager was ensconded, with his hand on the throttle, David emerged. He looked confident and determined.

The third ballot resulted in giving Hume the entire added strength of the dark horse, and enough votes to elect. A committee was thereupon appointed to bring the three candidates to the House. When they entered and were escorted to the platform they each made a speech, and then formed a reception line. David stood apart, talking to one of the members. He was beginning to feel the reaction from the long strain he had been under and wished to slip away from the crowd. Suddenly he heard some one say:

Mr. Speaker, may I congratulate you?"

CHAPTER IV

He turned quickly, his heart thrilling at the charm in the voice, low, yet resonant, and sweet with a lurking suggestion of sadness.

A girl, slender and delicately made, stood before him, a girl with an exquisite grace and a nameless charm—the something that lurks in the fragrance of the violet. Her eyes were not the quiet, solemn eyes of the little princess of his fairy tales, but the deep, fathomless eyes of a maiden.

A reminiscent smile stole over his face.

"The little princess!" he murmured, taking her hand.

The words brought a flush of color to her fair face.

"The prince is a politician now," she replied.

"The prince has to be a politician to fight for his kingdom. Have you been here all the evening?"

"Yes; father and I sat with your party. But you were altogether too absorbed to glance our way!"

"Are you visiting in the city? Will you be here long?"

"For to-night only. I've been West with father, and we only stopped off to see what a senatorial fight was like; also, to hear you speak. To-morrow we return East, and then mother and I shall go abroad. Father," calling to Mr. Winthrop, "I am renewing my acquaintance with Mr. Dunne."

"I wish to do the same," he said, extending his hand cordially. "I expect to be able to tell people some day that I used to fish in a country stream with the governor of this state when he was a boy.

After a few moments of general conversation they all left the statehouse together.

"Carey," said Mr. Winthrop, "I am going with the Judge to the club, so I will put you in David's hands. I believe you have no afraidments with him."

"That has come to be a household phrase with us," she laughed; "but you forget, father, that Mr. Dunne has official duties."

"If you only knew," David assured her earnestly, "how thankful I am for a release from them. My task is ended, and I don't wish to celebrate in the usual and political way."

There is a big military ball at the hotel," informed Joe. "Mrs. Thorne and I thought we would like to go and look on."

"A fine idea, Joe. Maybe you would like to go?" he said to Carey, trying to make his tone urgent.

She laughed at his dismayed expression.

"No; you may walk to the Bradens' with me. We couldn't get in at the hotels, and father met Major Braden on the street. He is instructor or something or the militia of this state, and has gone to the ball with his wife. They supposed that this contest would last far into the night, so they planned to be home before we were."

"We will get a carriage as soon as we are out of the grounds."

"Have you come to carriages?" she asked, laughingly. "You used to say if you couldn't ride horseback, or walk, you would stand still."

"And you agreed with me that carriages were only for the slow, the stupid, and the infirm," he recalled. "It's a glorious night. Would you rather walk, really?"

"Really."

At the entrance to the grounds they parted from the others and went up one of the many avenues radiating from the square.

The air was full of snowflakes, moving so softly and so slowly they scarcely seemed to fall. The electric lights of the city shone cheerfully through the white mist, and the sound of distant mirthmakers fell pleasantly on the ear.

"Snow is the only picture part of winter," said Carey. "Do you remember the story of the Snow Princess?"

"You must have a wonderful memory!" he exclaimed. "You were only six years old when I told you that story."

"I have a very vivid memory," she replied. "Sometimes it almost frightens me."

"Do you know," he said, "that I think people that have dreams and fancies do look backward farther than matter-of-fact people, who let things out of sight go out of mind?"

"You were full of dreams then, but I don't believe you are now. Of course, politicians have no time or inclination for dreams."

"No; they usually have a dread of dreams. Would you rather have found me still a dreamer?" he asked, looking down into her dark eyes, which drooped beneath the intensity of his gaze.

Then her delicate face, misty with sweetness, turned toward him again.

"No; dreams are for children and for old people, whose memories, like their eyes, are for things far off. This is your time to do things, not to dream them. And you have done things. I heard Major Braden telling father about you at dinner—your success in law, your getting some bill killed in the legislature, and your having been to South America. Father says you have had a wonderful career for a young man. I used to think when I was a little girl that when you wer a grown-up prince you would kill dragons and bring home golden fleeces."

He smiled with a sudden deep throb of pleasure. Her voice stirred him with a sense of magic.

"This is the Braden home," she said, stopping before a big house that seemed to be all pillars and porches. "You'll come in for a little while, won't you?"

"I'll come in, if I may, and help you to recall some more of Maplewood days."

A trim little maid opened the door and led the way into a long library where in the fireplace a pine backlog, criscrossed by sturdy forelogs of birch and maple, awaited the touch of a match. It was given, and the room was filled with a flaring light that made the soft lamplight seem pale and feeble.

"This is a genuine Brumble fire," he exclaimed, as they sat down before the ruddy glow. "It carries me back to farm life."

'How many phases of life you have seen," mused Carey. "Country, college, city, tropical, and now this political life. Which one have you really enjoyed the most?"

"My life in the Land of Dreams—that beautiful Isle of Everywhere," he replied.

Her eyes grew radiant with understanding.

"You are not so very much changed since your days of dreaming," she said smiling. "To be sure, you have lost your freckles and you don't kick at the ground when you walk, and—"

"And," he reminded, as she paused. "You are no longer twice my age."

"Did Janey tell you?"

"Yes; the last summer I was at Maplewood—the summer you were graduated. You say you don't dream any more, but it wasn't so very long ago that you did, else how could you have written that wonderful book?"

"Then you read it?" he asked eagerly.

"Of course I read it."

"All of it?"

"Could any one begin it and not finish it? I've read some parts of it many times."

"Did you," he asked slowly, holding her eyes in spite of her desire to lower them, "read the dedication?"

And by their subtle confession he knew that this was one of the parts she had read "many times."

"Yes," she replied, trying to speak lightly, but breathing quickly, "and I wondered who T. L. P. might be."

"And so you didn't know," in slow, disappointed tones, "that they stood for the name I gave you when I first met you—the name by which I always think of you? It was with your perfect understanding of my old fancies in mind that I wrote the book. And so I dedicated it to you, thinking if you read it you would know even without the inscription. Some one suggested—"

"It was Fletcher," she began.

"Oh, you know Wilder?"

"Yes, I've known him always. He has told me of your days in South America together and how he told you to dedicate it. And he wondered who T. L. P. might be."

"And you never guessed?"

Her face, bent over the firelight, looked small and white; her beautiful eyes were fixed and grave. Then suddenly she lifted them to his with the artlessness of a child.

"I did know," she confessed. "At least, I hoped— I claimed it as my book, anyway, but I thought your memory of those summers at the farm might not have been as keen as mine."

"It is keen," he replied. "I have always thought of you as a little princess who only lived in my dreams, but, hereafter, you are not only in my past dreams, but I hope, in my future."

"When we come back—"

"Will you be gone long?" he asked wistfully. "Is your father—"

"Father can't go, but he may join us."

After a moment's hesitation she continued, with a slight blush:

"Fletcher is going with us."

"Oh," he said, wondering at his tinge of disappointment.

"Carey," he said wistfully, as he was leaving, "don't you think when a man dedicates a book to a girl, and they both have a joint claim on a territory known as the Land of Dreams, that she might call him, as she did when they were boy and girl, by his first name?"

"Yes, David," she replied with a light little laugh.

The music of the soft "a" rang entrancingly in his ears as he walked back to the hotel.

(To be continued.)

OUR BOYS AND GIRLS

Suppose our boys and girls who write letters to The Missouri Farmer for this column just tell us what they are trying to do to make some money, or to help father and mother with their work, or what kind of games they play or something else they are doing.

I think the idea of Minnie to raise chickens to get some money is excellent and also of Thelma who raises ducks. Most any girl can make several dollars by raising a flock of ducks or chickens and she will get good experience and exercise in doing the work.

For the boys we know of nothing better than a pig or a pet lamb. Sometimes it will pay to grow some kind of crop like pop corn, or peanuts for sale. But the aim should be to try to produce something that will give you a few dollars you know you have earned.—The Editor.

Georgia Has a Pony to Ride

Dear Mr. Editor:

I am a little girl eleven years old and live on a farm in Henry County. We finished shearing our sheep today (May 15), and have about 100 pounds of wool, not so very much but enough to make a nice lot of warm stockings for several little boys and girls.

Mamma has 75 little chickens and 500 eggs setting besides a great many turkey eggs. Papa and I will set 150 R. I. R. eggs this week and I have 150 white Leghorn eggs to set, so you may guess we will have something to do. I have a pony to ride and her name is Daisy. When papa bought her for me she was very poor but I fed her good on bran and chops, corn, oats and hay and brushed her off and now she is smooth and fat and I ride her most everywhere. I have a red saddle.

Next winter I will not mind going a mile to school for Daisy will carry me over the snow and mud just like a bird and I think I owe her a lot of kindness for this service she gives me. I like to read the letters in the "Boys and Girls column. Georgia.

Thelma Raising Ducks

To the Boys and Girls Column:

I don't expect this letter will be printed as I have written before.

As I said before I live on the farm and for the last two or three years I have been raising ducks to sell. I sell my ducks just before Christmas each time for 45 and 50 cents apiece. Last year I made about four dollars, and fifty cents. I took the money and bought Christmas presents with it.

I am taking music lessons this summer and I like my teacher fine. I have three brothers and I am the only girl and the baby in the family. One of my brothers who attended school at Columbia, two years ago is married and has a little baby-boy his name is Otto Vincent Silvey. If I am welcome again I will send one of his pictures when he is a little older.

I hope there will be enough letters from the boys and girls to start a children's page. Thelma S.

Money From Pet Chickens

To the Editor:

I have been reading the story "David Dunne." I like it fine. I think David is the most interesting character. I like all the other characetrs of the story, there is a good lesson in the story. I am twelve years old. I live on a farm of one hundred and sixty acres. I am in the eighth grade. I have a father, a mother, a brother, and a sister. I have nineteen pet chickens. I don't know what I will do with the money I get for them. This is my first letter to a paper. I hope it will be printed in The Missouri Farmer. Minnie Woods.

From A Sunday-School Girl

Dear Editor:

I am a girl seventeen years old. I am very much interested in the story "David Dunne." I think David is the most interesting character, although I like all the story fine. I am always glad when the paper comes. I live on a farm of eighty-six acres. I go to Sunday-School every Sunday. I am also a Sunday-School teacher.

Bessie Bush.

Her First Letter

To Editor of Missouri Farmer:

I am very much interested in the story "David Dunne." I like all the characters in the story except Jud. I think David is the best character. I am always anxious for the next paper to come. This is the first letter of this kind that I have written.

Lula Dye.

Likes The Missouri Farmer

To the Editor:

I am a girl 9 years old. I am very fond of your paper. We take The Missouri Farmer, and all the family want to read it. I wish you could send it oftener. The character which interests me most is David. I shall not be sorry when your next paper comes.

Elsie Cromley.

From Southeast Missouri

To the Editor:

I am a girl fourteen (14) years old and I live on a farm southwest of East Prairie. I like "The Missouri Farmer" very much and I am very much interested in the story "David Dunne."

The character which interests me the most is David, although I like all the other characters except Jud

Lily Heath.

AN OFFER TO FARMER BOYS

After thinking over the matter for some time we have concluded to make the farmer boys who belong to our "Big Family" the following proposition: For $50.00 worth of subscriptions to The Missouri Farmer we will ship to every boy who procures them for us, a bred gilt, selected from one of the best pure bred Poland China, Duroc, Chester White, Hampshire or Berkshire herds in the state. There won't be any "contest" about it. Farmers receive The Missouri Farmer three years for one dollar—and 50 such subscriptions will win this fine bred gilt. That is all there is to it. All your neighbors will be glad to give you a dollar for three years' subscription to a paper like The Missouri Farmer. They will do it first, because the paper is more than worth the money and because it is fighting their battles. Secondly, they will be glad to help you win this splendid prize.

If you will take good care of the gilt and her litter it will start you in the pure bred hog business and if you will go in "halvers" with your Father you are sure to make some money. We are making this offer not only because we are trying to place The Missouri Farmer in every good farm home in the state but because we want to get our boy friends genuinely interested in the farm. In order to do this we want to help you earn some money. Now we can make this offer to only one farmer boy in each community—so there is no time to lose. You have all summer in which to work—and should you finally fail to get the required number of subscriptions, we will nevertheless pay you a substantial commission on all you do get. So you can't lose. Why not make this gilt and her litter the beginning of a fund which in a few years will pay your way through the Agricultural College or through some other good educational institution? The boys who take advantage of this fine offer will be among the "big farmers" of the future. William Hirth, Publisher,

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CO-OPERATIVE LIVESTOCK SHIPPING ASSOCIATIONS

(Continued from page 5.)

serve fund which is intended chiefly for use in reimbursing members for loss sustained on account of injury or death of animals in transit. The charge for the reserve fund is usually fixed at one cent a 100-pounds for cattle and two cents a 100-pounds for hogs.

How to Organize

The plan of organization is simple, as little or no capital is required. The plan recommended by the Minnesota Experiment Station is substantially this: "A few leaders naturally take the initiative in arousing interest in this subject in this community. An informal meeing is called to decide definitely whether to form an association. A temporary chairman and secretary should be elected. At least two committees should be appointed. First, a membership committee to solicit members, and an organization committee to draw up articles of incorporation and by-laws. A moderate membership fee should be charged to provide the small sum necessary for organization expenses; a fee of $1.00 should be ample in most cases and a good many associations charge less.

"The committee appointed to solicit membership should consist of active and influential farmers chosen from different parts of the district which the organization is to serve. The organization will naturally cover all the territory from which farmers ordinarily make shipments through a given town. In some cases, territory dependent upon two or more shipping points may advantageously be included."

Where a co-operative association is already in existence such as creameries or grain buying companies these can very well afford to carry on the shipping of livestock without any extra expense. The manager of the creamery or other association will usually have plenty of time to look after the shipping of stock and the expense will be kept down as well as the co-operative spirit be fostered and extended.

In all this work of farm betterment the central thought is co-operation. By co-operation we learn to help each other and to depend upon ourselves as a class rather than leaving our business to others who have no interest in us save the profit they get out of us.

DRY WEATHER CULTIVATION

The two important things in dry weather cultivation of corn are to prevent evaporation of the water in the soil adn to retain what may fall as rain.

To leave a slightly corrugated surface is best, since a flat surface of dust will get hotter than one with slight corrugations similar to the surface as it is left following a corrugated roller. Since on the flat surface the sun's rays strike more nearly perpendicular to the surface, hence evaporation by the wind and heat will be less than on a flat surface.

Again, if the surface of dust is left flat and a heavy rain should fall, this flat surface will "puddle" more quickly than the corrugated surface, hence the water will begin to run more quickly from the flat surface, while on the corrugated surface more rain gets into the soil, which is very desirable in a dry time.

Again, after the rain has ceased the flat surface will dry more rapidly, and crack open worse than will the corrugated surface.

In view of these facts, any tool such as a drag, mower, or corn planter wheel should have some harrow teeth so placed that they will leave the surface slightly rough. Where shovel tools are used, the plowing should not be deep nor very close to the corn roots, especially toward time for "laying by."

It would appear that corn roots finish their growth early, and do not grow much after the corn is large as can be plowed with a two-horse cultivator. Cutting of the roots when they have made their full growth does a damage that cannot be repaired.

Cultivation should be frequent enough to keep down weeds and to prevent the crusting and cracking of the surface. S. M. Jordan.

GOOD CREAM PAYS BEST

The American farmer who sells cream should insist that the creamery grade his cream. This will tend to cull out the poor quality of cream and make possible a better grade of butter. Give the creamery a good grade of cream and they can make a good grade of butter. Good butter sells for a high price, therefore top prices can be paid for the cream. Better cream prices stimulate the farmer in obtaining better dairy cattle and increases the desire for a more careful study of economical milk production.

The close grading of cream has become absolutely necessary. Within the last few years creamery butter of the United States has been meeting with greater competition from foreign butter. Butter from Siberia, Australia, Denmark, and South America has come to our shores by the ship-load and sold in our large markets alongside American made butter. It has poured into the United States on both the eastern and western coasts.

Imported butter does not reach our markets in as fresh condition as our own butter, consequently the majority of it sells as second grade. In many cases it leaves the point of production as a first class article, but is so long in transit that it deteriorates and arrives as second grade butter. Unfortunately the majority of American made butter is also second grade. This is not because it cannot reach the market at once, but because it is made from a poor quality cream. The American farmer is not producing as good quality of cream as his foreign brother.

First grade butter is still in big demand in this country and the producers of good butter are realizing a nice margin in price over the producers of second grade butter. Because of foreign competition with our second grade butter the difference in price between first grade and second grade is wide. Foreign competition has not materially increased the supply of first grades, while the supply of seconds has been increased tremendously.

Because of our poor markets for second grade butter the farmers in every community should compel their creamery to grade the cream, and should do all in their power to see that every farmer produces only first grade cream. Then and only then will that creamery be able to pay top prices for cream.—L. G. Rinkle, Missouri College of Agriculture.

CONE TRAP FOR FLIES

A fly trap is far more effective than fly paper, poison or fly killer for reducing the annual crop of house flies, according to specialists of the Bureau of Entomology in the U. S. Department of Agriculture. Many types have been advocated to apply to windows, garbage cans, and manure boxes. Exhaaustive tests on the part of the Department's specialists, however, have shown the cylindrical cone type will catch more flies than any other type yet devised. In a new Farmers' Bulletin, No. 734, by F. C. Bishopp, means of making this and various other types of traps and other methods of destroying flies are described. The bulletin describes how to make a trap of the cone type with only four second-hand barrel hoops, a barrel head, a few strips of lumber, and 45 cents worth of screening and tacks.

The two barrel hoops are bent into a circle and nailed together, the ends being trimmed to give a close fit. These form the bottom of the frame and the other two hoops, nailed together in a similar way, the top. The top of the trap is fitted with an ordinary barrel head with the beveled edge sawed off, causing the head to fit closely in the hoops to which it is securely nailed. A square is cut out of the center of the top to form a door, and the portions of the top are held together by inch strips. The door consists of a narrow frame covered with screening well fitted into the trap and held in place by buttons. When nailed together the trap is cylindrical in shape and the frame is covered with closely tacked screen wire on the outside of the hoops. Four laths (or light strips) are nailed to the hoops on the outside of the trap to act as supports between the hoops, and the ends are allowed to project one inch at the bottom to form legs. A cone is cut from the screen and sewed with fine wire or soldered where the edges meet. The top of the cone is then cut off to give an opening an inch in diameter. This is then inserted in the bottom of the trap and closely tacked to the hoop around the base.

COTTAGE CHEESE

Either skimmilk or buttermilk may be used for making cottage cheese. Skimmilk is used the most.

The sweet skimmilk is brought to a temperature of between 70° F. to 75° F. About one ounce (two tablespoonfuls) of good clean starter (sour milk or buttermilk) is added for every gallon of milk, and then stirred well. Then add rennet at the rate of one ounce of rennet to each 1,000 pounds of milk. The rennet should previously be diluted with cold water (½ ounce of rennet to one pint of water).

Set the milk away to curdle, cover it with a clean cloth to prevent dust from entering and also to aid in maintaining the desired temperature, 70° to 75° F. About from 12 to 24 hours will be required to properly curdle.

When the curd has become reasonably firm, it may be broken up by means of gentle stirring. Should the curd be too soft to separate from the whey, the temperature may be raised to about 85° F. to 90° F. Do not warm too much. This will make the curd hard and granular. The cheese should remain soft to be most palatable.

Then remove the cheese to a double cheese cloth, and hang it up to drain. About 6 to 8 hours time will be required for this.

When the loose whey has drained away, add and mix salt at the rate of from 1 to 1½ ounces to 5 pounds of curd. Some also add caroway seed to give flavor. Some like rich cottage cheese. In that case, cream is mixed with it. This results in a smoother, richer, and more palatable cottage cheese, but more expensive.

From 15 to 20 pounds of cottage cheese is obtained from 100 pounds of milk.

Buttermilk is also used for cottage cheese. In order to separate the curd from buttermilk, it is necessary to heat it to a temperature of about 120° F. for about two hours. This is necessary on account of the softness and fineness of the buttermilk curd. Otherwise, the process of manufacture is the same as when sour milk is used.

This cheese may be marketed in one pound paper containers made for this purpose, or it may be packed into glazed earthen jars. During the summer restaurants sell and serve considerable cottage cheese. Cottage cheese is used for sandwiches, it is eaten directly with cream, salt and pepper, and it is used for salads.

Cottage cheese may also be made in the same manner from naturally soured milk without any rennet. In that case, it is necessary to warm the milk to about 90° F. to separate the whey from the curd.—South Dakota College of Agriculture.

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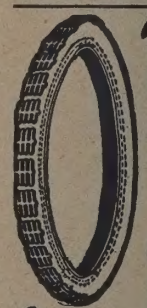

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THE TRACTION ENGINE PROBLEM

By A. A. Potter

Dean Division of Engineering and Professor of Steam and Gas Engineering, State Agricultural College, Manhattan, in address before the State Board of Agriculture.

The object of any industrial enterprise, whether this enterprise is farming or manufacturing, is to produce a good product in large quantities and at the lowest possible cost. The wonderful growth of the manufacturing enterprises of the United States is due mainly to the introduction of methods which resulted in large-scale production. Large-scale production is of comparatively modern development in manufacturing establishments and has been brought to its highest perfection in the iron industry, the automobile factories, the meat-packing plants and the electrical industries. The success of large-scale production is dependent upon the use of mechanical power and of mechanical devices.

The agricultural industry of the United States is not concerned as much with intensive farming as it is with extensive farming, which requires the application of modern manufacturing systems and large-scale production methods to the problems of the farmer.

In the earlier days when the wants of man were few, when women and slaves were willing to do all the hard work and land was cheap, the power problem of the farm was very simple. As civilization advanced and the people increased in numbers the demand for power other than human became urgent. The horse, mule or other animal was forced into service. Then a little later the development of farm machinery made it possible for one man to control the work of several horses. Desire on the part of farmers to raise large crops and to put under cultivation greater and greater areas of land created a demand for still larger power under the control of one man. With animal power one man can control at one time four horses; with mechanical power the number of horsepower under the control of one man becomes unlimited, if the ma controlling mechanical power is willing to learn the fundamental processes which govern the conversion of fuel into mechanical energy as well as the simple laws of mechanics which enable one to keep machines and mechanisms in adjustment and in perfect working order.

The demand for mechanical power is further augmented by the scarcity of farm labor and by the increased cost of draft animals suitable for farm work.

In the earlier "home-made" days of the traction-engine development, small stationary engines were mounted on various farm machines and an attempt was made to do farm work without regard to principles of engineering or of construction. Then followed the line of large traction engines which developed sixty to eighty horsepower on belt and thirty to forty horsepower on the drawbar. These traction engines were expensive, poorly designed, complicated and unsuited for practical farm conditions.

It is only within recent years that the largest and best engineering manufacturing companies began to realize that modern farming is, to a considerable extent, an engineering problem, which offers an excellent field and market for engineering ability and for machinery carefully designed and built.

About seventy-five manufacturers are building traction engines in the United States. The designs differ greatly. Some have engines with horizontal cylinders, others with vertical cylinders. In some cases the power of the engine is given to one wheel, in others to two, while still others pull with all four wheels. Several makes are of the so-called "creeping grip" types. The diversity of styles is very great, but, after all, a careful examination will reveal the fact that the best makes of traction engines are very similar. In fact, the whole traction-engine industry is undergoing a standardization process, weeding out freak designs and retaining only such types as are sound in accordance with the best mechanical-engineering practice. Before long the standard type of traction engine will be available, and, like the standard type of automobile, will give satisfaction in every detail.

Low first cost of any machine should not be made the most dominating feature. A high-grade traction engine must be the product of the best engineering talent, which means brains and money, and this must be included in the price of the machine.

The backing of a company whose financial standing is an assurance that the company will remain in business for many years is an important consideration. Expert service and repair parts may be needed at any time. A high-grade manufacturing company is usually very careful about maintaining its reputation and will see to it that it does "deliver the goods."

Before making up his mind to purchase a traction engine, the farmer must analyze very carefully himself, his farm, and the work of the traction engine.

In analyzing himself the farmer must decide as to whether he can plan his work so as to keep the traction engine busy. The average person spends too much time working and too little time in planning his work. Can the farmer lay out the work of his farm so that the traction engine can be used for belt work and for hauling as well as for field work? To make most on the investment of a traction engine the farmer must keep the traction engine busy.

Proper tillage is a very important factor in farming, if good crops and big crops are expected. The traction engine will probably never replace the horse, but will replace many horses, on large farms, and especially in connection with the very heavy farm work. The traction engine has advantages over the horse in that it is not affected by the heat, can be used for deep plowing, eliminates to a considerable extent the "hired man" troubles, as it is a concentrated form of farm power, can work continuously day and night, and can be used to advantage at all seasons of the year, if the farmer is a good manager and plans his work. Like horses, traction engines are liable to internal disorder on account of overwork. Some farmers overload their animals and use the same practice when dealing with traction engines. They get by with it for a time, but all at once, when least expected and most needed, the engine breaks down—and who is blamed? The engine and its manufacturer.

The traction-engine field work can include: Clearing the land; tearing out hedges; pulling up trees, stumps and stones; preparing seed bed and seeding, with the operations of plowing, disking, harrowing, listing, drilling, seeding, harvesting operations, such as mowing, hay loading, hay hoisting, and drawing binders and diggers.

The traction engine is suited for heavy belt work, such as hay baling, corn shelling, pumping water for irrigation and for other purposes, grinding feed, ensilage cutting, sawing wood, threshing, husking, hulling, shredding, filling silos, crushing rock, and elevating grain.

The traction engine can be used for hauling grain and other farm produce to the shipping-point or to the market; also for hauling fertilizer and other material to the farm.

In connection with road work, traction engines have been utilized for pulling graders, scrapers, road plows, drags and other road implements, as well as road materials.

A farmer who can find many uses for a traction engine and who can make use of this form of power the whole year round will find the traction engine a profitable investment.

Modern House Aids in Liking Country

The farm boy or girl likes to live in a good house. The call of the city is largely a call of the better house, the house better adapted to being made a home, say men in the United States Depatment of Agriculture.

It is not necessary to go to the city to get a modern home. A farm home can be built for three or four thousand dollars that would cost nearly twice as much in the city. A lighting and heating system can be installed as cheaply in the country and kept up at a much smaller expense than similar conveniences can be kept in the city home.

The amount of money necessary for taxes and for public improvement is almost negligible to the farm-home owner. To the owner of the city home, it is considerable.

The amount of money to be invested in the building of a farm home should not be determined by its relation to the balance of the plant in size nor the amount needed to provide a shelter. It should be the amount the owner may reasonably afford to spend without financially crippling himself too severely, says the Department of Agriculture. The average city home is bought as a social investment. The buyer looks to the comforts and conveniences that he can get in the new home that can not be supplied in a rented house. He does not think of how much he can sell the house for when he no longer wants it. He knows he can not sell it, oftentimes, for as much as he must pay for it in the first place.

The better farm house is not a panacea for all ills of dissatisfaction with farm life. There will be farm boys and farm girls who want to take up other professions than tilling the soil. The problem, continues the Department of Agriculture, is not to force them to stay on the farm, but to make conditions good enough there that they may make an intelligent choice.

By Old Jim Riley

I heerd of a farmer th' other day who mortgaged his work horses to buy an automobile while it takes all th' eggs and chickens his wife can rake and scrape to buy gasoline. He's a bigger fool than Charley Chaplin, only he don't get paid for it.

The Professor "Het Up"

The "Professor" wishes to say to his friends and enemies alike that he is all "broke out with the heat" and that as soon as he gets cooled off a bit he will be back into the game with the hottest lot of "Buckshot" that ever came down the line. Likewise the "Possum Holler" gang is so busy "fightin' flies and muskeeters" that the weighty matters of state must await a little cooler atmosphere. As he took a vicious swat at a green head which had temporarily forsaken his old gray mule, the Professor took this parting shot at "Old Jim Riley": he says that old Jim's hide is so tough that he couldn't break out with the heat if he wanted to.

NATIONAL AID FOR GOOD ROADS

Press dispatches from Washington announce that the good roads bill carrying aid to the amount of $85,000,000 has passed both houses of Congress and now awaits only the signature of the President to become a law. We have not been able to get a copy of the amended bill which has passed but hope to have a review of it in the next number of The Missouri Farmer.

Whatever the bill may provide farmers should not content themselves with thinking they have nothing to do with the question and wait for the Government and the State to find their own way to put the law into effect. That state and that community which is awake to its own interests and has its forces well organized and ready to do its part will reap more benefit from national aid than the ones who are indifferent about it. So let us suggest that our readers make themselves acquainted with the national aid bill and then get their members of th Legislature interested and by the time the next General Assembly meets v will be ready to accept the proffer of help and go to work to get out of the mud in Missouri.

If there is a boy in your family, why not urge him to win one of the fine bred gilts which are offered elsewhere in this issue? It will get him interested in the farm. Read it carefully and then tell him about it.

EXTRA OFFER!
3 Girls Dresses 99¢ POSTPAID

Here is a bargain indeed! Three girls' pretty Wash Dresses! One of tan linen, one of pink percale and gingham and one of plaid and checked percale, all for only 99c. Becomingly made exactly as you see them here. Order direct from this advertisement. Satisfaction guaranteed. Colors, as described. Sizes 6 to 14 years. Price prepaid.....3 for 99c

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Live Stock Notes

R. P. ROYCE, Fieldman

REPORT OF THE MISSOURI LIVE STOCK PRODUCERS' ASSOCIATION'S SPECIAL MEETING

The directors of the Missouri Livestock Producers Association held a special meeting at Kansas City, June 27th. This organization was formed last winter and has for its membership various breeders and feeders organizations of the state of Missouri. The directors are the presidents of these associations.

Ways and means for increasing the membership of the association were discussed. It was unanimously agreed that a man was needed who could devote all his time or at least a considerable portion of his time to the work of the association, combining the office of Secretary with that of field representative and a committee was appointed to work out a plan for securing such a man. This committee consists of President C. E. Yancey, Secretary E. A. Trowbridge, Dr. A. W. Nelson, and Dr. J. B. Unsell.

"If this association is to accomplish anything like the good for the livestock producers of this state that we believe it can, we must have someone to look after the large amount of detail work that will necessarily have to be done" said Dr. Unsell in urging the importance of securing the services of a good man. "In the first place the membership of the association must be built up until it includes the leading breeders and feeders of the state. This means much hard work. We should have a man who would be in a position to respond to the calls for a representative to attend the numerous livestock meetings held throughout the state. We are planning some aggressive work, and we need someone who will follow this work up and see that it is pushed as hard as possible. We might be able to get along with a part, only, of a good man's time for the present, but we cannot afford to depend upon the volunteer work of busy men, such as our officers and directors are."

Dr. Unsell was appointed a representative of the association to attend the meeting of the Missouri veterinarians to be held at Neosho, Aug. 1st and 2nd. The veterinarians have expressed their desire to meet representatives of the breeders at Neosho and have a heart to heart talk with them, and Dr. Unsell was instructed to correspond with the breeders and feeders and find out where they stand on questions affecting their relations with the veterinarians and be prepared to go "loaded" to Neosho.

Secretary Trowbridge was instructed to enroll the association as a member of the Missouri Federation of Agricultural Societies of which Walter W. Head of St. Joseph is Secretary.

The plan of this organization is in the immediate future to issue a directory containing names and addresses of members of it. This will be used to meet requests which come to members of the association and for those wanting to buy or sell live stock and other purposes which it may serve.

The organization plans to hold several meetings in different sections of the state at times when such meetings seem advisable. It also plans to be of any service it can in promoting the livestock industry of Missouri within the state.

American Royal Live Stock Show

The Eighteenth Annual American Royal Live Stock Show will be held in Convention Hall October 2 to 7, 1916, Kansas City, Mo. The four beef breeds, Hereford, Shorthorn, Angus and Galloway, will be represented—and the present prospects are for a much larger showing than in any previous year. The secretaries report that breeders generally are eager for the big show, and will have stock in fine condition to bring. A total of more than $12,000 will be offered in prize money in the breed classes, and there will be more prizes than usual in the range classes, contributed by the Kansas City Stock Yards Company. A calf class has been added in this division.

The arrangements for the show provide for about half again as much space as was available last year, the additional ground adjacent to the former barn room, being used for nurse cattle chiefly, and allowing for the use of the entire block across from Convention hall for the stabling of show cattle.

Special entertainment features will be provided, which will be staged in the big hall.

There will be three auctions, as follows: Wednesday, Galloway; Thursday, Shorthorn, and Friday, Hereford. There will be no auction of Angus cattle.

Following the custom of recent years, there will be no judging in the morning, that time being allowed for the visitors to take in the stock yards, and to see the city, after they have liesurely viewed the exhibits.

Southwestern Dairy Show

The Southwestern Dairy Show Association will hold its first annual Dairy Exhibition in Convention Hall, Kansas City, Missouri, September 18-23rd, inclusive.

The Association is preparing a strong program of lectures, demonstrations, and exhibits. There will be on exhibition six different breeds of dairy cattle to the number of 600 head. Guernseys, Jerseys, Ayrshires, Brown Swiss, Dutch Belted and Holsteins will be "At Home" to their friends for six full days. There will be something of interest for old and young, from early morn until late at night.

A feature of the show will be the evening parades of all the winning stock in the large arena of the hall. The best herds in the Middle West are entering as the premium list is attractive, between six and seven thousand dollars being offered in prizes.

Another feature attracting attention is the Market Milk Show. Dairymen all over the Mississippi Valley will enter exhibits, which consist of three quart bottles of market or of certified milk. No one is barred, so send in your sample and have its commercial standards determined. The samples will be judged as to appearance, flavor, fat, solids—not fat, acidity and bacterial count.

The State University Extension Service will have exhibits showing the value of various feed stuffs for milk production, the use of soiling crops; value of pure bred sire, the Babcock test and scales, silos and silage.

Kansas City should draw a big attendance and the manufacturers of dairy machinery and equipment realizing this, are planning on making extensive exhibits in the machinery section. The milking machine section will have some 10 or 12 different types on display and there will be as many different types of separators and engines of all types.

A SCRUB SIRE NEVER PAYS

Quality becomes more essential to profit in live stock farming each season. When labor, land, and feed were cheap it was possible to realize a profit on live stock of an inferior grade, but with the present high cost of these production factors and a constant discrimination on the market against the "scrub," it has become evident that the greatest profit can be expected only from live stock of good quality. It may be possible for the feeder or dealer to make a profit on inferior live stock if he is able to buy it sufficiently cheap and sell quickly, but usually someone has not realized the greatest possible profit when a "scrub" goes to market. If it is not the feeder, it is the man who produced the animal.

At the Missouri Agricultural Experiment Station lambs sired by a $30 mutton ram and out of Western ewes weighed 2.54 pounds more at three months of age than lambs out of the same kind of ewes by a "scrub" ram weighed at four months. The well-bred lambs were ready for market a month earlier, they ate only about one-half as much feed, and they sold for nearly $3 more per hundred than did the lambs by the inferior ram.

Just recently two Utah ranchmen are reported to have sold their cattle on the same market on the same day. Both used the same amount of national forest range per head and paid the same grazing fee. One had used good bulls to produce his cattle, the other had not. The good cattle brought $40 per head more than the poor cattle.

Whether the live stock is cattle, hogs, sheep, or horses, the good ones are appreciated when sold and consequently bring higher prices and normally yield greater return. The most practical means of improvement is through the use of good sires, for the male may become the parent of from 40 to 100 animals each year.—E. A. Trowbridge, Missouri Agricultural Experiment Sttation.

SELECTING DAIRY BULLS

Since the dawn of genuine interest in dairying the matter of how to judge the value of a bull has been one of the large questions presented for solution. Each breeder has met this problem sooner or later and each has solved it by one of three methods: the bull has been selected because of individual merit; because of his ancestry; or because of his get. In the past the first two—individuality and pedigree—have been the chief methods of selection. In fact, with young animals these are the only possible methods.

Individuality—In so far as type and the capacity to get high producing offspring are correlated, it is possible to select bulls by individuality. Most authorities agree that either we do not know this type as yet, or there is little positive correlation between the two.

Pedigree—Selection of pedigree is based upon the thought that high milk production or the power to beget high milk production is rather regularly transmitted from parent to offspring.

POLAND CHINAS

Smooth Columbus
THE BOAR THAT PUT MISSOURI ON THE MAP. HEADS OUR HERD

SMOOTH COLUMBUS BLOOD has held the record in Missouri for two years—it will do it again next year. Fall pigs, either sex, by this great boar, now offered for sale.
BENNETT BROS. R. 5, LEE'S SUMMIT, MO.

Spring Boars by the Grand Champion
A desirable lot of early spring boars by The Giant, acknowledged to be one of the greatest young Poland China boars of the breed. Prices within reach of all.
WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

Poland Chinas & Shorthorns
Bred sows and gilts. The real big kind with bone and quality. A few serviceable boars. Several extra good young bulls and heifers. Satisfaction guaranteed.
H. S. Williamson, Route 6 Centralia, Mo.

BAKER'S REAL BIG-TYPE POLANDS
We have a number of extra good spring boars sired by Big Look that we are offering worth the money. Need the room and must sell.
W. A. BAKER & SONS, BUTLER, MO.

Linhardt's Polands
I have a choice lot of extra good fall gilts sired by outstanding boars. Customers in 26 states. GIANT MAMMOTH 68375 and CHIEF BIG BONE 75856 in service. Priced for farm trade.
H. O. LINHARDT, LOHMAN, MO.

DOOLEY'S SPOTTED POLANDS
Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pair and trios no relation. Also registry furnished. Send check with first letter.
EDGAR DOOLEY, - Etterville, Mo.

DUROC JERSEYS

Durocs With Size and Bone
I am offering a choice lot of early spring pigs with unusual size, bone and quality. Bred right and priced right. Visitors welcome.
A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

BIG EARLY DUROC SPRING PIGS
Pigs with size, lots of bone and quality sired by our big prize-winning boars, Col. Wonder II., Merry Chief, and Rexall Col., and out of big prolific sows. None from litters of less than 11. Spring pigs are cheapest to buy, costs practically nothing to ship them, and they can be grown cheaply.
R. L. (BOB) HILL ADENHILL FARM, - - COLUMBIA, MO.

Classified Advertising

BARRED PLYMOUTH ROCK EGGS—From A. No. 1 stock. The large, deep barred, yellow-legged kind. Price $5.00 per 100. T. J. Dunn, R-2. Moberly, Mo. t.f.

WANTED—To hear from owner of good farm for sale. Send description and cash price. R. G. List, Minneapolis, Minn.

Shetland Ponies for Sale.—I am closing out my herd. Geo. Aid, Gallatin, Mo. 2-t

THRIFTY HOGS
Are the money makers. They can not be thrifty and have worms. The worm preventative recommended by the College of Agriculture sells for only 3c per pound.
JESSE J CULP, - Warrensburg, Mo.

DUROC HERD BOAR!!
We offer for sale our herd boar sired by Weller's Example and out of a Whiskey & Faith sow. Also a few September boars. Booking orders for spring pigs.
J. C. Garrard & Son, McBaine, Mo.

Hazelwood Durocs
Seventy choice spring boars and gilts sired by HAZELWOOD CHIEF, by CRIMSON COL., and out of OHIO CHIEF bred sows. Get our prices.
E. P. POWELL & SON, Maryville, Mo.

80 O. I. C. Spring Pigs
Guarantee and pedigree accompanies each sale. This herd has been exhibited at World's Fairs and State Fairs for years. You are sure to get prizewinning blood from us. Prices reasonable. Write us today. Address
S. D. & B. H. FROST, Kingston, Mo.

HAMPSHIRES

BROOKVIEW HAMPSHIRES
Herd headed by GEN. TIPTON and SIR BROOKVIEW, both grand champions. Spring boars and gilts of choice breeding and individuality. Prices reasonable.
ISOM J. MARTIN, - Kahoka, Mo.

RED POLLED

RED POLLED CATTLE
Herd established 16 Years
Young stock for sale. Young bulls sired by LOGAN 13500; Calves sired by KNOCKER 23791. Bred for milk and beef. Also offer spotted Poland China hogs and Rieds Yellow Dent seed corn.
M. L. SNYDER. - - POLO, MO.

ANGUS CATTLE

ANGUS CATTLE
Herd founded 1904
Young stock sired by Dean's Eric 139686. Also offer splendid herd bull for sale. Every one the right kind and priced to sell.
V. E. LAWRENCE, SALISBURY, MO.

Aberdeen-Angus
I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.
J. D. Blackwell - Fayette, Mo.

This, as is known, is far from a dependable occurrence.

Frequently, always, in fact, where possible, a combination of the two methods mentioned is employed. That is, a bull is selected because he has the desired type and comes from a high producing family.

Even this combination of methods is far from adequate, as is evidenced by the numerous disappointments which have followed selections based upon it.

Performance—The advice to dairymen in later times has been to get a tested bull—one that has actually produced daughters of merit. This, of course, is the real test after all, for a bull is valuable in proportion to the average production of his daughters.

This method is not generally applicable, because the bulls must be tested in some herd. Another disadvantage is the time required to get an actual measure of the productivity of the female offspring of any one bull, but where at all possible a tested bull should be used. As between a young untried bull of ever such good individuality and breeding, and an older one which has proved his value as a sire of good producers, breed to the tried bull every time.—Dr. W. E. Carroll.

TAKE CARE OF YOUR COLTS

Horse and mule colts suffer more from heat and flies during July and August of their first year than at any other time, according to the experience of the Missouri Agricultural Experiment Station. During these two months many plump, well-developed, smooth-haired youngsters become thin, pot-bellied, listless and begin to show staring coats. In this condition they are likely to be weaned in September and perhaps before they have become thrifty again they are put on a scant spuply of dry winter feed. Such set backs cut profits seriously.

Colts from work mares should be kept in the barn or lots while their mothers are in the field and should not be turned in with their mothers if the mares are warm immediately on their return from the field at noon or in the evening. They should be kept separate until the mothers are thoroughly cooled.

The colts should be eating grain and a little grass or hay by the first of July and if they have not yet learned to eat grain, a clean mixture of equal parts of crushed oats, ground corn, and bran should be placed in a trough where they can get it at any time. The lots should have plenty of shade and if the colts are kept in the stable, the stalls should be partially darkened, taking care not to shut out the breeze or free circulation of air. If flies cause much trouble, hang up old burlap bags where the oclts can walk under them and scrape the flies off their backs and sides. Proper care may make a difference of from $10 to $40 in the value of the colt at weaning time and these inexpensive methods should be used to increase the owner's profits as well as to make the colt do better.—E. A. Trowbridge, Missouri College of Agriculture.

COLT SHOWS

Colt shows are proving a great aid in stimulating interest in the breeding of high-class horses. Next to community horse breeders' associations and State stallion license laws there is, perhaps, no other factor that will so materially assist in the improvement of the horses of the country. It is only in recent years that impetus has been given to this very important feature in connection with the rapidly growing movement for better horses.

At the present time colt shows are an annual event in many districts of a number of the States, chiefly where stallion license laws are in effect. As an illustration of the popularity of these shows and the keen interest manifested in them by the people of the farming communities, it is reported that in 1915 no less than 25 colt shows were held in the State of Minnesota alone. In some sections these shows are held in the spring, but in a majority of cases the fall of the year is selected. The latter season appears to be preferable for a number of reasons. At that time the heaviest part of the farm work is about over, and with more time to spare, farmers will take a greater interest in the event and the object for which it is held.

These exhibitions are invariably held independent of the county fair, although there is apparently no reason why a show of this kind could not be made an important and outstanding feature of the annual county event.

In some instances these shows were inaugurated with simply one class for grade draft foals and have gradually grown until the classification is almost as complete as that of the State fair. However, such a large classification is not possible in most localities, as the larger amount of money necessary can not be raised. The best plan, and the most beneficial one, perhaps, would be to hold an exhibition for weanlings and yearlings only. If the community or district has a fairly large number of purebred horses, separate classes could be provided for pure breds and grades.

The question of having classes for both light and heavy horses will depend upon whether sufficient attention is being given to the production of both classes.

In securing the necessary funds to finance such an exhibition as a colt show a number of different plans have been suggested. In Minnesota one show is financed by the stallion owners, each giving $25 in cash prizes, to be divided among the colts sired by his stallion. Another plan is to have the county horse breeders' association or the various farmers' clubs contribute sufficient money to finance the show, while still another scheme is for the local bank or banks to furnish the money for premiums and other expenses.

However, the most popular and common method is to go among the business men of the community and secure subscriptions in sufficient amount to pay all expenses of the show.

All premiums should be designated by neat, but inexpensive ribbons on which are printed the name of the show, the year, and the classes to which they belong.

While the premiums in the individual classes should consist of cash awards, it is suggested that the championship prize consist of a suitable trophy rather than money. This trophy need not necessarily be expensive. It should, however, be something lasting, to which the holder can point with pride. Any breeder would be glad to possess something of this kind, the true value of which is in what it represents.

The securing of competent men to act as judges is an important consideration. This problem probably can be solved comparatively easily by taking up the matter with the animal husbandry division of the State agricultural college or with the various breed associations. Either of these bodies probably will be willing to cooperate with the local committee and furnish efficient judges for the show.

When once established, it will be found that the annual colt show will do much to bring about an improvement in the quality of the horses raised in the community. These exhibitions, held preferably at the county seat, will afford possibly prospective buyers an opportunity to learn something of the class of horses being produced in the locality, and the community will thus be benefited by the fact that it will eventually have established itself as a market for horses that will readily sell at good prices.

There is every reason to believe that the practice of holding annnual colt shows will become more general. The fact that they have increased considerably in the past few years is evidence that they have not only proved popular but profitable as well.

The movement through the country today is not for more horses, but rather for better horses. Whatever the future demand may be, the man raising the better class of horses will receive the higher price.—Weekly News Letter.

VALUE OF A GOOD SIRE IN DOLLARS AND CENTS

A very practical and convincing demonstration of the value of a good sire over an inferior sire has recently been reported by the Illinois Experiment Station. A number of cows whose average annual production was 5,380 pounds of milk and 234 pounds of butter fat were bred to a bull termed "inferior" and the daughters from such matings were tested and it was found that they produced 1,050 pounds of milk and 18 pounds of butter fat less than their dams. The cows were then bred to a "fairly good sire" and the daughters showed a gain of 1,300 pounds of milk and 60 pounds of butter fat over their dams. When a "superior sire" was used the daughters showed a marked increase over their dams amounting to 2,545 pounds of milk and 110 pounds of butter fat.

Figuring the value of milk at $1.25 a hundred, the daughters of the "superior sire" produced $45.00 worth of milk more than the daughters of the "inferior sire." In view of these results, and they are by no means unusual, the progressive dairyman should exercise the greatest care in the selection of a herd bull. The production of a herd can be materially raised by the use of a bull backed up by heavy producing dams, and the man who allows a few dollars difference in price to influence him in the purchase of an inferior bull is indeed, "penny wise and pound foolish."

A FARMERS EXPERIENCE WITH THE SELF-FEEDER

The self-feeding practice of fattening hogs is, in the writer's opinion, a very profitable way to feed where it is desired to get the hogs on the market as early as possible. The first of February we started to feed fifty head of sixty pound shoats according to this system. It took about one week to get the hogs on a full feed so that it would be safe to turn them to the feeders, one of which contained corn and the other tankage. They were also given access to the following condition powder: 4 pounds of charcoal, 3 pounds each of, copperas, salsoda, glaubers salts, and common salt, and one pound of sulphur.

After a sixty-five day feed the hogs were sold at an average weight of 175 pounds. They made a net gain of 115 pounds in the sixty-five days or a daily gain of one and ten thirteenths pounds. The total gain for the whole herd being 5750 pounds. During this period they were fed 375 bu. of corn and one ton of tankage. Figuring corn at 75 cents and tankage at $50.00 the total cost of producing the 5750 pounds of pork would be $331.25 or a fraction over $5.75 per hundred pounds gain.

It is ordinarily recommended that corn and tankage be fed in the proportion of ten pounds of corn and one of tankage where the feeder does the mixing. In this instance the hogs mixed their own feed and the result was they ate 21,000 pounds of corn and 2,000 pounds of tankage which is a little less tankage than would have been given if the two had been mixed and fed as is the customary practice. However for the first thirty or forty days they ate a larger precentage of tankage than they did later in the feeding period. This may be accounted for to some extent from the fact that the hogs were running on a clover and timothy pasture and the clover had made some little growth by the middle of March.

E. R. Spence.

Remedies for Lice on Hogs

Of the remedies commonly used for lice on hogs, the Nebraska College of Agriculture says that crude oil is properly the cheapest and the most effective, as it kills not only the lice but the nits as well at one application. The most convenient method of applying is by means of a hog oiler, of which there are several good types. These have the advantage of being always ready and need little attention except keeping oil supplied. The best type of oiler is one that enables the pig to get the oil to all parts of the body. The oil can also be applied with a sprinkler, a spray pump, or a broom or brush. If there is any indication of skin disease, the part should be scrubbed with a broom or brush so as to get the oil well into the skin. Where crude oil is used, it will be noticed that the skin and hair are improved in appearance. Where any of the coal tar dips are used, at least two applications should be made at intervals of seven days. Where the floors of the pens or sheds are of dirt, a liberal application of oil will keep down the dust as well as aid in killing lice.

St. Joseph Feeder Show

F. C. Fletcher, secretary of the St. Joseph Stocker and Feeder show which will be held at the stock yards, Sept. 27 and 28, is working on the premium list of the show. About $2,000 will be paid out this year in cash premiums on exhibits of feeding cattle of the leading beef breeds. Practically the entire expense will be borne by the Live Stock Exchange and other stock yards interests. There is every reason to believe that the show this year will eclipse that held last year, both in the number of cattle entries and in the number of buyers for the auction sale which will be held the closing day when all of the good feeders will be disposed of.

Tried Shorthorn Bull

I offer for sale at reasonable price my herd bull, Imperial Knight 353519. Red, five years old. Splendid sire. Am keeping his daughters. Weight between 1800 and 2000 lbs. Good disposition.

NELSON COLE, - Brashear, Mo.

JERSEY CATTLE

JERSEY CATTLE

Bulls ready for service. They are sired by the Owl's Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

JERSEY BULL CALVES

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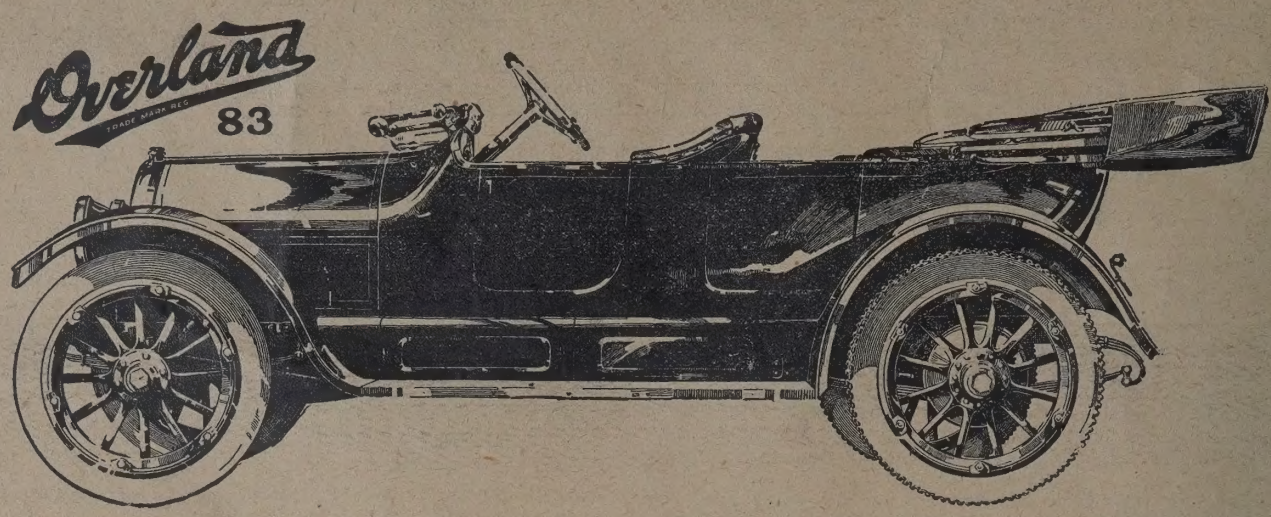

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IN ORDER to increase its subscription list, **The Missouri Farmer** has concluded to give away this beautiful five passenger **Overland** automobile under conditions which place it within easy reach of any bright young farmer girl or young farmer in the state. Everybody almost wants to own an automobile and the wish is an entirely normal one. In the first place, the automobile wipes out distance. If an emergency of any kind arises, the automobile "goes there and back" in the length of time that it takes to hitch up and get started with a team which is frequently tired out from work in the fields.

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AND THIS beautiful car is within easy reach, as we said above, of any bright farmer girl or young farmer in Missouri. All that is required to win it is first, the **desire**—and then the willingness to do a few weeks **hustling!** Get a bunch of sample copies of **The Missouri Farmer** together with a subscription pad and then "hit the trail." We give three years subscription for one dollar and when you show your neighbors what a splendid paper **The Missouri Farmer** is—when you tell them that it is leading the fight for Farm Club organization throughout Missouri—**and that you want them to help you win this beautiful car!**—hardly a single one of them will turn you down. The renewal of old subscriptions will count the same as new—and should you fail to win the car we will nevertheless give you a **substantial commission on every subscription you send in—so in any case you will make a lot of money!**

Send Us Your Name Today

NOW WE WANT every farmer girl or young farmer who reads this advertisement and who would like to win this magnificent car to send us their name and address today. **Don't be afraid of not winning!** "Faint heart never won fair lady." Again, you don't know how **easy** our plan is for a real hustler. There may be some reason why it would be particularly easy **in your community!** We intend to help everybody who gets into this fight. We will tell you just how to conduct your campaign from start to finish. If there are a bunch of old subscribers in your neighborhood which need renewing we will send you their names. You will have little difficulty in getting **practically every one of them!** You owe it to yourself to find out all about our plan—**and your failure to write us may deprive you of this beautiful car!** If, after you understand our plan fully you do not care to go into the fight you will merely be out a postage stamp. **Isn't such an offer worth at least an investigation?**

THE PEOPLE WHO WIN

THE PEOPLE who win in this World are those who have faith in themselves and who are not afraid to hustle. Somebody who has this kind of will power and ambition is going to win this splendid five passenger OVERLAND. It might as well be you as somebody else. It is for you to say. It costs $695. Why not let THE MISSOURI FARMER buy it for you? And remember that in any event we will pay you handsomely for every subscription.

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COLUMBIA, MISSOURI

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THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE
AND THE MISSOURI EXPERIMENTAL STATION

He Gets the "Hot End"

When the farmer goes to market to buy a new self binder, a suit of clothes or a pair of shoes the merchant tells him the price and usually that is final. If the farmer objects that the price is high, the merchant explains that the manufacturer has been compelled to advance the wholesale price because of the European War or because some other economic factor has increased the cost of the raw materials; that the Organized Labor which the manufacturer employs has compelled him to advance wages to meet the "high cost of living"—and that he, the merchant, of course, cannot afford to do business for nothing—that he must have some kind of a return on the capital invested in his business, and for clerk hire, rents, etc. Likewise, the banker or loan agent says, "I must have such and such a rate of interest on my money"—governed by the law of supply and demand in the money market at that particular time. Now I have no fault to find with the argument of the merchant or the banker, for it is sound. When the manufacturers' cost of production increases he must advance his price or face bankruptcy—and the merchant in turn must advance the price to the consumer. Likewise, the demand for money fixes the interest rate—and until the farmer exercises gumption enough to bring about the adoption of an Agricultural Credit System in his state, he has no right to grumble. Again, the farmer should be willing for the great manufacturing industries of the Nation to be wholesomely prosperous and to pay living wages to their millions of employees—for these employees consume the things which the farmer produces.

But how different is the situation when the tables are turned and when the farmer goes to market with the fruits of his years' sweat and toil? When he arrives at the Stock Yards with his hogs, cattle or sheep, the buyers for the Packers Combine say, "We will pay you such and such a price"—and that is all there is to it. Unlike the manufacturer of farm implements, clothes and shoes the farmer cannot say, "I fed these hogs and cattle on 75c corn and the price you offer me doesn't cover my production cost, saying nothing about a reasonable profit." The Packers are in control of the great Live Stock markets of the Country and there is no appeal from their ultimatum. They know that the farmer must accept what they offer—nor do they even stop to explain why today's market is 50c per hundred under that of yesterday or the day before. They hold the whip hand and that their methods may bring tears and anguish to thousands of farm homes or that they are striking a deadly palsy into the great fundamental industry of American Agriculture—these things are of no concern to the great Packer Kings who demand their "pound of flesh" with an abandon which knows no conscience. Likewise, when the farmer drives to market with a load of wheat or corn, he must accept the price which has been fixed by the grain gamblers. He cannot say, "We had a Nation-wide drouth this year which cut down the yield and I therefore must have more than I received last year when farmers produced a big crop." Again he is offered so much and perhaps with his interest due at the bank or the merchant crowding him for a long over-due store account he has no choice but to gulp down the bitter dregs as best he can.

Foreign wars and other factors which increase the cost of production for the manufacturer, merchant and Organized Labor compel the farmer to pay a higher price for the things they sell to him—but there the rule ends and when applied to his hogs, cattle, sheep, corn and wheat it becomes a dead letter. In other words, to use the language of the street, the farmer is the "goat" of our economic system and this he will continue to be until he and his neighbors organize and get in position to demand at least the production cost of the great staples of the American farm. In this situation you find a complete answer to "What's the matter with the farm?" And well may we exclaim, how long, Oh Lord, will the farmer continue to submit to this condition of affairs? How much longer will he drift with the current? Upon the answer to this question depends the future of American Agriculture.

William Hirth, Publisher,
THE MISSOURI FARMER.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VIII AUGUST 1, 1916 NO. 15

WILLIAM HIRTH
PUBLISHER

FEDERAL AID FOR RURAL ROADS

The sum of $85,000,000 of Federal funds is made available for the construction of rural roads, by the passage of the Federal Aid Road Bill which became a law in July 11, 1916. Of this sum, $75,000,000 is to be expended for the construction of rural post roads under co-operative arrangements with the highway departments of the various States, and $10,000,000 is to be expended for roads and trails within or partly within the National forests. The Act limits the Federal Government's share in road work in co-operation with the States to 50 per cent of the estimated cost of construction. Federal aid may be extended to the construction of any rural post road, excluding all streets or roads in towns having a population of 2,500 or more except the portions of such streets or roads on which the houses are, on an average more than 200 feet apart.

Five million dollars is made available for expenditure during the fiscal year ending June 30, 1917, and thereafter the appropriation is increased at the rate of five millions a year until 1921, when the sum provided is twenty-five millions, making a total of seventy-five millions. In addition, an appropriation of one million dollars a year for ten years, a total of ten million dollars, is made available for the development of roads and trails wholly or partly within the National forests.

The class of roads to be built and the method of construction are to be mutually agreed upon by the Secretary of Agriculture and the State highway departments.

Apportionment of Funds Among States

The Act provides that after making necessary deductions for administering its provisions,—not to exceed 3 per cent of the appropriation for any one fiscal year,—the Secretary of Agriculture shall apportion the remainder of each year's appropriation in the following manner:

One-third in the ratio which the area of each State bears to the total area of all the States:

One-third in the ratio which the population of each State bears to the total population of all the States:

One-third in the ratio which the milage of rural delivery routes and star routes in each State bears to the total mileage of rural delivery routes and star routes in all the States.

Estimates of Funds Needed

Project statements setting forth the proposed construction of any rural post road or roads in a State are to be submitted by the State highway department to the Secretary of Agriculture, and upon approval by the Secretary all necessary surveys, plans, specifications and estimates must be furnished. The roads projected must be of a substantial character, and items covering engineering, inspection, and unforeseen contingencies are not to exceed ten per cent of the total estimated cost of the work.

Upon completion of the work as approved by the Secretary, the amount set aside for the project is to be paid to the proper State official. The Secretary of Agriculture is given authority in his discretion to make partial payments as the work progresses, but not in excess of the Federal Government's pro rata share of the labor and material which have been actually put into constructive work, nor in excess of $10,000 per mile, exclusive of the cost of bridges of more than 20 feet clear span. All construction work is subject to the inspection and approval of the Secretary of Agriculture.

States Charged with Maintenance

The various States securing aid under the provisions of the Act are chaged with the making of needed repairs and the preservation of a reasonably smooth surface, considering the type of the road, but are not obligated to make extraordinary repairs or undertake reconstruction. If, after due notice, a State fails to maintain a federally aided road properly, the Secretary is required to refuse further aid until the road has been properly repaired at State expense.

$10,000,000 for Roads and Trails in the National Forests

The sum of $10,000,000 is made available in yearly appropriations of $1,000,000 for the co-operative construction and maintenance of roads and trails within the National forests by the United States, States, Territories, or counties in which the forests lie. Expenditures for this purpose are not to exceed ten per cent of the value of the timber and forage resources available for income upon the National forests where the roads or trails are constructed. Beginning with the next fiscal year after an agreement is made between the Secretary of Agriculture and a State, Territory, or county for the co-operative construction of such roads, ten per cent of all revenues from such forest are to be applied toward reimbursing the U. S. Government for funds expended in road work until the whole amount advanced shall have been returned.

The objects sought through federal aid to roads in the National Forests are thus explained by the Secretary of Agriculture in his annual report for 1915 in which he recommends such legislation as well as federal aid to rural post roads:

"The real agricultural problem within and near the Forests is to make possible the successful occupancy and development of the lands that already have been opened to entry or actually patented. The mere private ownership of land does not insure successful use of it. In Oregon and Washington alone there are about 3,000,000 acres of logged-off land, much of it agricultural in character, now lying idle. In this condition speculative holding of the land for higher prices plays a large part. Another cause is the lack of transportation facilities. A settler may clear land and raise crops upon it, but he is helpless if he can not market them. There are great areas of fertile land unused today on this account. In many sections near the National Forests pioneer conditions still exist. The population is small and the task of road building is beyond the means of the residents. There is little or no demand for timber and the receipts from the Forests which go to he community are small. The fact that the public property is not subject to taxation makes such communities feel, and very justly, that the Forests are not contributing enough to local development."

BUMPER GRAIN CROPS
GOOD MARKETS — HIGH PRICES

Prizes Awarded to Western Canada for Wheat, Oats, Barley, Alfalfa and Grasses

The winnings of Western Canada at the Soil Products Exposition at Denver were easily made. The list comprised Wheat, Oats, Barley and Grasses, the most important being the prizes for Wheat and Oats and sweep stake on Alfalfa.

No less important than the splendid quality of Western Canada's wheat and other grains, is the excellence of the cattle fed and fattened on the grasses of that country. A recent shipment of cattle to Chicago topped the market in that city for quality and price.

Western Canada produced in 1915 one-third as much wheat as all of the United States, or over 300,000,000 bushels.

Canada in proportion to population has a greater exportable surplus of wheat this year than any country in the world, and at present prices you can figure out the revenue for the producer. In Western Canada you will find good markets, splendid schools, exceptional social conditions, perfect climate, and other great attractions. **There is no war tax on land and no conscription.** Send for illustrated pamphlet and ask for reduced railway rates, information as to best location, etc. Address

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No passports are necessary to enter Canada

LYON'S PRACTICAL FARM PAPERS

As I write at 4:45 P. M., July 13, the rain is coming down in torrents, the first rain in twenty-two days. Our hay was later than in years owing to the cold, wet, June, but from July 3 to 8 inclusive, we put in twenty tons without a drop of rain on it, and with little or no damage from sunburn.

Just about half is medium red clover, more than half the rest clover and timothy, the balance being pure timothy, this being the last put in.

We cut of mornings from about 8:30 to 11:00 o'clock, raked after dinner and hauled to the barn at once, excepting in the case of some very heavy clover and a poor day for curing, this part being put into shocks of about 150 pounds on the afternoon of the day it was cut, and hauled in the next afternoon.

Our hay is all handled in the good old style way, with pitchforks, and we are just as careful about distributing and tramping it evenly in the mow, as if we were building stacks to stand rain. The mows are 13x13 feet and 18 feet deep, three of them side by side, the tops being filled from the tops of the loads, and the even distribution and packing of the hay w prevent uneven heating, too much in some spots and not enough in others.

Of course being put up green as it was, there is found to be some heat developed, but the finest clover and alfalfa hay I ever had, came from mows that got so hot I was almost afraid they would set the barn on fire.

Yesterday morning when I was gone to the station with the cream can, a neighbor came in to tell me that his clover hay had got hot and that he had dug an alley through it with forks, the very thing he should not have done as that hay will mold, and if he had let it alone it would not have done so.

When I had my first acre of alfalfa, one spring it kept raining all the time and I feared that I was going to lose the crop.

Remembering a talk with Professor Ten Eyck, in which he told me of curing alfalfa under very unfavorable conditions, one morning when the sun was shining but the earth still very wet, I cut that alfalfa, two boys following with forks and shaking it up.

This shaking was done twice between 9 A. M. and 2 P. M., when the alfalfa, still about as green as it ever was, was sledded into the barn and pitched into a 13x13 foot mow, evenly spread but not tramped at all.

It got hot and very hot, but I think that it made the finest hay I ever saw, and I have seen some alfalfa hay by thousands of tons.

Right across the valley, on grandfathers' old home farm, there lies in this soaking rain about five acres of mixed timothy-clover hay, cut yesterday morning, and not thought by the tenant on the farm to be cured enough to go up.

Last year the same tenant lost six acres of good hay in exactly the same manner, and it did not teach him any thing.

I may say that our pure timothy, and part of the mixed hay, will be baled and sold, as timothy hay is very scarce here and it is sure to bring a good price, enough at least to buy a ton of 15 per cent phosphoric acid fertilizer for each ton of hay, and that is more value than I can get out of timothy by feeding it.

With us, on our rolling lands, corn cultivation has been an easy matter this year, as the rains did not prevent us working it out well early, and it is early corn cultivation that counts, but on the flat lands a few miles north, and in the river bottoms south, a great deal of corn got very weedy, and the close work necessary to get the weeds out after the rains were over, has damaged the crop badly.

Wheat is a practical failure. I sowed eight acres and cut about 50 bushels, neighbor on the west twenty acres, cut 60 bushels, neighbor on the north, sixteen acres, cut about 50 bushels, neighbor on the east, twelve acres, cut about 60 bushels, and neighbor on the south, eighteen acres of the best wheat land near, will have perhaps 175 bushels.

Rye was good, and as it is selling about as high as wheat, much wheat land will be sown to rye. I do not like the rye crop on account of its being mean to handle, but it has several points in its favor, these being some of them; it may be sown earlier or later than wheat, it will produce more bushels per acre on thin soil, it can be cut earlier, or will stand late cutting better than wheat, it is not subject to fly damage, it requires less seed per acre, it does not need as much fertilizer, and it does not freeze out as badly as wheat does. C. D. Lyon.

Whitwash Mixture

For general use about the farm buildings to assist in destroying insects, the following recipe for whitewash is offered by the College of Agriculture: Slake 5 quarts of lime with hot water to about the consistency of cream. To this add 1 pint of zenoleum or some other coal tar product, and one quart of kerosene. Dilute with about its volume of water; apply with a brush or a pump. This solution when properly applied accomplishes three things: (1) Zenoleum acts as a disinfectant by killing disease germ (2) the kerosene aids in destroying mites; and (3) the lime whitens the house.

The Missouri Farmer

VOLUME VIII AUGUST 1, 1916 NUMBER 15

Saving the Small Grain Crops

BY W. L. NELSON

Reports show that a considerable per cent of the 1916 Missouri wheat crop is being stacked. This is due in part to the feeling that present prices are too low and that with a decreased yield prices should advance unless affected adversely by the European war.

Early plowing and thorough turning under of all stubble and volunteer wheat are important in the fight against the Hessian fly. It is not enough that wheat be seeded late; the stubble must be turned under early. This is the prime reason for stacking. The farmer with his wheat in the stack can time his threshing to suit his convenience. Only the farmer and the farmer's wife can appreciate just what this means. First of all, it simplifies the labor problem. Threshing from the stack saves the labor of eight or ten men, and even if as much help were required it would be easier to secure after the rush of shock threshing was over. Most threshing, at least in the corn belt states, means "swapping work," as in many communities it is practically impossible to hire help. When three or four machines are operating in the same neighborhood it can be seen how complicated the situation becomes. If by stacking, the farmer can, by giving a little more of his own time and that of his regularly employed help, dispense with several men at threshing time he has saved the housewife some of the work of cooking for threshers and also made it possible to get the help needed to "keep the separator singing" and the wagons going to market or granary. Wheat threshed from well-built stacks is better in quality. It grades higher, having good color and weight. The straw, too, is bright and fine.

Stacked Grain Should be Insured

One disadvantage in stacking is in danger from fire, especially from fire caused by lightning. For this reason a large number of stacks should not be grouped too close together. Where insurance can be carried in a farmers' mutual fire insurance company, it is a good plan to take out a short-time policy.

Opinions differ as to shape and suitable dimensions for stack or rick (the round stacking being generally in favor), but all good stackers are agreed that the foundation is of prime importance. But before foundation comes site. The location of the stackyard should be on well drained, yet level, ground and on that part of the farm where it will be most convenient to have the wheat stacked. The one exception to the latter consideration is where all the straw is to be baled. In this event the length and kind of haul to shed, barn or market should be considered.

In building the foundation, which may be of straw or timber, the object is to prevent the absorption of water. Some recommend a foundation of poles or scantling placed on logs so that the base of the stack will be eight or ten inches above ground to insure free circulation of air under the stack. The air prevents dampness. A common plan in Missouri and other states where rail fences once were plentiful is to use rails for a foundation. For an ordinary stack three 10-foot rails are placed on the ground about four and one-half feet apart and on top of these ten or twelve rails are placed crosswise. For a rick, the foundation consists of two such squares. Four stacks or ricks may be grouped for convenience. Leave space for separator between stacks, so that the pitchers in getting the bundles to the self-feeder will not have to pitch a great distance. Plan to do away with all unnecessary labor.

The way stacking is done in New South Wales. A fine job of stacking.

Methods of Stacking

In starting a stack or rick methods differ. One plan is to set up bundles for foundation just as for a shock in the field. The outside course is then started by placing butts so that they extend a little beyond the outer rail. Then follows the second course with the bundles so placed that they come to the band of the outside course. This plan is continued until the middle of the stack is reached. Speaking of the middle, as every good stacker well knows, the center should be kept full and well tramped so as to prevent the finished stack from taking water. It is desirable to have the outer edge of the stack settle more than the center so that the outside straws will pitch down and out. Where this is done, no rain can enter the stack as to do so the water would have to run upward. On this point Chris Smith, of Cooper County, who follows this plan, says, "Where the science in stacking comes in is always keeping the middle solid and full so the bundles will be sure to slope, yet not enough to cause a slide. In stack building I always 'carry,' or lay, two courses at a time and never 'knee' on the outside course, as I want to leave this loose so it will settle most. This is equivalent to tramping the center more. When I complete the outer and second courses, I take but one course at a time. I always 'knee' or walk on these courses and am careful to lap the bundles to the band."

Another rule for starting a stack is to begin at the outside, placing a row of sheaves completely around the pen, packed as closely as possible with the butts against the inner side of the pen. When one course is finished, begin a second by placing the butts of the sheaves about one-third the distance between the butts of the firs' layer and the twine, breaking the joints all the way around. Keep this up until the floor is entirely covered. When the pen is full go to the outside and lay a row on top of the timbers, projecting a few inches over. Keep the butts of the sheaves as nearly even as possible. Begin the next row as previously described, breaking joints and always working toward the middle of the stack. Each outer row should be projected over the one on which it is placed until a height of five or six feet is obtained. By this time, in a well-built stack, the diameter is probably three or four feet greater than at the base, or if a rick it is from three to five feet wider at the eaves than base. A full and solid center has a tendency to cause the stack to spring outward, and this should be taken into consideration. As the ends spring more than the sides, a good plan is to every now and then build an extra row of sheaves across the ends and around the corners. This keeps the ends as high as the sides when the rick settles and prevents it from being "stoop shouldered." The main object in the bulge of rick or stack is to cause all water that falls on the "roof" to fall clear of sides and foundation.

As the stack goes up it is a good plan to walk over it after each round, so as to see that it is level and that there are no "cuppy" places to catch water.

Now as to "drawing in," the common rule is to turn the slant side of the bundles up, or in other words, so that the long sides of the butts are at the bottom. Keep the cap bundles for the inside instead of placing them on the outside row where they would leave a hole. The last few tiers of the body would be kept extra full in the middle before beginning the roof, which should be so built as to have an angle of about 45 degrees when settled.

Some stackers, once the stack is fairly started, handle practically all the bundles with a fork. Where there is no danger from rain some stackers prefer, however, to allow a day's time for the stack to settle before putting on the last load.

How Some Farmers Do It

"For topping out a stack," says Mr. Smith, "I save a dozen or more cap bundles as it is much easier to finish with these than a round bundle. In the ridge bundles I put sticks three or four feet long so the wind cannot blow the top off."

The following method for stacking wheat is recommended by John Klingele of Audrian County, Missouri:

"A wheat stack ought to have a bottom of rails, or a layer of straw or damaged hay, as everybody knows. I merely mention it, as this gives us the exact start. Make your bottom three common steps broad for a rick, and not longer than six. For a round stack, rails 10 feet long make a good bottom, leaving the corners exposed. This may not seem important, but once you get used to it you get all stacks and ricks of a uniform height.

"If you make no other bottom, place four bundles at each corner, grain facing outward, three by three steps for a stack or three by five or six steps for a rick. (Round stacks are safer for a beginner.) Then make a shock in the center and continue around, ex-

Stacks built by John Klingele, a veteran Missouri stack builder.

posing not more than two bands on bottom, till you have your bottom laid. Be sure you get it as you want it, especially in a rick where you must have a straight line, for if you have any dents in it your rick will not stand well. Have the bottom right and start a little to the right of the lowest place, if there is any.

"Place the bundles alternately, but not right flat, one on another; they lay better. Get on them with your right knee, keep your outline straight. Keep this up for three or four rounds, putting as many bundles as may look well inside, but not too many. This makes your outside hard and solid. Now get on your stack with your fork. First walk over your stack on the outside. You must be able to walk with your left foot on the outside band. At least, the inside should be straightened out and walked down. It should appear to you lower than the outside if moderately walked down, does not need to be solid, just so it binds.

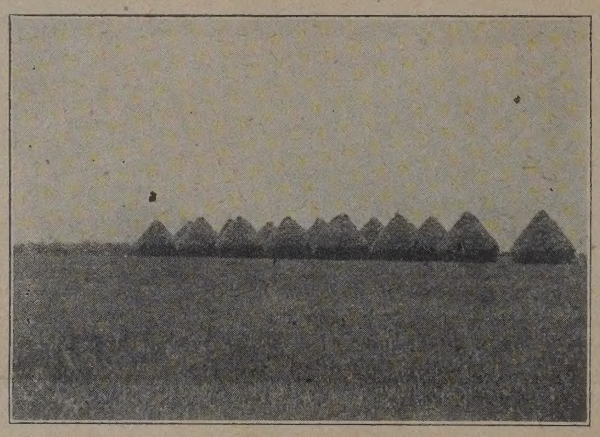
"After I have a stack this far I use a fork, till the last two or three dozen bundles, so I can only give it to you this way.

"Have the pitcher put the bundles on the center of the stack between you and him, and you will never have to take your left foot off the outside. This is important. In using a fork you will get so you can place the bundles from a distance and not get the outside solid enough in the bottom. Keep this up for four or five layers, place refuse bundles on the inside layers as you go around. Inside butts must not overlap too much. After every completed round walk all over your stack, see that it is level and stays that way. Never begin a layer in a low place. Start to the right of it and level up as you complete the round. It will hold better, as you have a counterweight on the outer side. Carry your stack up perpendicularly six feet or more in soft stuff. Have the outside solid and the center filled so it binds very well. Then commence building. Turn the slant side down and get on a second bundle first round and on the third layer as you get higher. All this time fill your center more by placing one bundle forward between the next two and putting another one next to you. You will soon get so you can bulge and bind anything that is not too short and dry. Bulge from four to six layers. If the stack develops soft places, prop, level up, fill center and draw to a head. You will not have to do this often, as you will soon learn how to do better. If you have no trouble with your stack, don't invite any. After bulging four to six layers, you will, by standing on the third bundles, be straight above your bottom outline and, even if the stack would stand, it is time to draw to a top, else it would get too high.

"Be sure your stack is level or even in outline. Fill in extra in center and don't leave any low places. I get a stack at this stage so that a little extra would make it turn a common rain. Now start to draw your stack to a top by putting the slant side of the bundles upward. This is generally the off side of the knot and has a better face. Don't put out too far at first drop. Push out a little if needed, it all goes at one move. Always cover half the stack as you go or at least three layers of bundles. Place both layers next outside shingle fashion. The stack will not seem so easy and the water must get on the outside of the bundles and can not run like in a valley.

"On a stack like this you never step in a hole. After you start to draw to a top, place your bundles straight, lay as above stated, stay on the third layer as the outside does not need to be so solid. It will get solid by settling and rain, the inside being solid and the bottom on outside solid, so as to make an even setting and be sheltered by the bulge. If you study this over you will see that it can not take water, and the reason for building it just this way.

"I have a medium long-handled fork, and by placing the fork prongs turned downward on the edge of outside bundles and standing on the third bundle toward center, holding fork in left hand, arm at full length down and outward, and the butt end of handle in right hand at right shoulder, I have an ever ready gauge that enables me to draw every stack or rick back, or to a top, as evenly as a roof, one like another, in height and shape. I am five feet ten inches high and left-handed, a right-handed man must go from right to left, if he wants to use a fork. If your first stacks don't have pitch enough, pull out one layer of bundles below bulge. Have your boys, fork in hand, get on the bulge and walk all around the stack. That will make the butts slant down."



Some well built stacks put up by Frank Heim, Barton County, Missouri.

SOME WHEAT ON EVERY FARM

By William D. McKee, farmer and institute lecturer, Polo, Missouri.

The yield of wheat in Missouri of a normal year is somewhere between 25 and 45 million bushels—60 millons maximum. The total would boom if some wheat were sown on every Missouri farm every year.

The quantity could be materially increased—not solely in increase in the acreage—not by those who are already growing this important cereal—but by farmers who are not growing wheat at all, by growing a small acreage, or as much as would fit into their crop rotation, in a wise and judicious way, on every Missouri farm.

It is true that much of Missouri soil is not adapted to the growing of wheat in the way and to the extent of much of the land in the favorite wheat growing districts—and in some ways I am proud it is not, for if it were, there would be almost an irresistible temptation, such as exist in those sections, to grow "wheat after wheat" to the great injury of the soil.

We cannot always figure on the immediate or direct returns of a crop like wheat in deciding to grow or not to grow it. When we plant an orchard we do not expect to gather fruit the next year, or the year after the next, but with patience, coupled with faithful industry, we await the coming of the reward. So it is, in a way, with our wheat growing.

If the sale of the grain alone was our only reward, wheat growing in Missouri would have a narrow and tottering fundation upon which to stand in most sections of the state.

The agricultural papers, the State Board of Agriculture, the Agricultural College, the Farmers' Institute lecturers, and the experiment stations, all, with one accord, are of the same mind and speak the same things when they recommend and insist that each and every farmer should plan and provide a sane, sound, and intelligent crop rotation. Now, it happens that Missouri soil conditions are such that the wheat crop helps very nicely to make it possible to provide this crop rotation. The best judges of the best farm practices in Missouri urge that the fertility of the soil be maintained. Barnyard manure stands at the head of the list, when it comes to accomplishing this task. Here is one place your wheat straw shines—it can be used for bedding—much bedding, much manure—more vegetable matter to be returned to the fields to help to keep up the humus content of the soil. Again, this being an age of silos and alfalfa in Missouri agriculture, the wheat straw can be utilized in a more profitable way in feeding live stock, than ever before. Hence, speaking in the parlance of the great packing houses and factories, this is a by-product, and constitutes an avenue of profit in wheat growing aside from the grain alone.

Again, there is not a better nurse crop for clover than the wheat plant. Clover can be sown in January or better still drill in the wheat after it has started to grow in the spring in the North part of the state and after the danger of late freezes in other parts of the state, thus securing a catch of this valuable crop and at the same time enjoying a return from the land.

At the time wheat is sown the bacteria in the soil are active and busily engaged in liberating plant food. This can be used by the wheat plant at once, while otherwise it might be carried by leaching, caused by heavy soaking fall rains, into the lower strata of the soil.

It will perform another, and perhaps the most important service of all, it will provide a cover crop—and its millions or rootlets will help to bind the soil particles together and prevent the soluble component parts of the soil from "washing into the wasting sea."

Go out upon your farms in broad daylight, as I have pleaded with the farmers all over this state, in the rolling portions especially, to do, and when you have counted and recorded the number of ravines and ditches that have been made by the cutting power of water falling on an unprotected soil since it was plowed—as a newground filled with stumps and roots, or, as a virgin prairie soil—and answer for yourself if this last mentioned reason why every man should make the wheat crop in Missouri a part and parcel of his crop rotation, is or is not well founded. I say it is—and so do you.

The wheat crop, if unwisely handled may multiply innumerable weeds and insect pests, but if wisely managed it can be used as an effective weapon to combat the noxious weeds and destructive insect pests.

It may be said that the wheat prices are not always satisfactory. Here, again, on account of the wide and almost unlimited domain in which the farmer operates, he is not compelled to put his wheat on a low and unremunerative market. He can feed it to well bred farm animals of all kinds, especially hogs, if the market proves very low. This I have done, time and time again, both to my own individual profit and to the good and betterment of my land.

The land must be prepared and the seed rightly planted, in wheat growing, the same as any other field crop. There are exceptional seasons when a disc and a drill may be all the implements necessary—but note, I say, this is the exception and not the rule—and I would rather rely upon the rule than the exception.

If it could be done—I say, if you can find the time, and the soil conditions are right, plow early—the earlier the better. The wheat plant is one that always requires a fine, firm seed bed—with plenty of emphasis on the qualifying adjective, "firm." By early plowing you give the furrow slice time and opportunity to settle and the proper relationship between the furrow slice and the subsoil to take place, which is of great importance in successful wheat growing. If you can plow good and early—then plow deep—8 inches if you want to, and have the horse power to so do. If you can't plow early, disc your ground—both ways will be the better. Then you may do more shallow plowing. You can with a disc and harrow and roller, compact a shallow furrow slice much better than a deep one plowed late.

Each neighborhood has discovered by long years of experience the variety and the quantity to sow per acre, so rules will not be offered along the lines of seed selection and quantities to sow. You can best choose the variety, based on local experiences. Use the wheat fan, and sow the heavy plump seeds and treat for the smuts, always.

Now, there is no better way to plant your wheat than with a drill, but do not neglect to sow broadcast, if you cannot procure a drill, for large yields of fine wheat have been grown by the old hand-slinging, broad-casting method. The drill is the only truly modern method, and pays best, but do not give up because you find drilling beyond your power. If you positively cannot secure a drill, sow broadcast as in pioneer days.

Just as soon as you have plowed, or better while you are plowing, disc and roll to fine, firm and pack your seed bed.

When the time comes, after all reasonable danger from Hessian fly troubles are past, then sow. The time of sowing will be controlled by the part of the state in which you are growing wheat. October 15th is considered always sure from the Hessian fly in North Missouri, in a normal season.

If you drill, and your soil is a strong clay soil, I suggest, not advise, but suggest, that you do not follow drill with a harrow or any smoothing implement, if the clods be small and not chunky.

These clods, have already been brought to the surface by disking and harrowing. Your litle grains of wheat are deposited in the fine, firm soil and will grow—the clods will hold the snow, and this snow will protect your wheat. Next spring the hard beating

rains will not then glaze the surface of your land, causing cracks to form allowing moisture to escape from these cracks—but, instead of reducing the yields of your crop, these same beating rains will melt or pulverize those clods, create a mulch and every time help and not injure the wheat plants.

BETTER ROADS IN NEAR FUTURE

The last ten years has been an era of road agitation and some progress in road work and the next ten years according to present prospects will be an era of great road construction. Congress has passed the good roads bill which appropriates $75,000,000 to be used to aid the states in road work within the next five years. For the fiscal year ending June 30, 1917 there will be available $5,000,000, and for the following four years there will be ten, fifteen, twenty and twenty-five millions respectively. The money is to be apportioned to the 48 states on the basis of area, population and mileage of rural delivery routes and star routes. Missouri will be fifth under this plan, the states of Texas, New York, Pennsylvania and Illinois in the order named will get more money than Missouri. The amount apportioned to this state for this year is $169,720.41.

The state must expend an equal amount and the money can be used only for construction and can not be used for repairs.

In the language of the bill "the Secretary of Agriculture is authorized to co-operate with the states, through their respective state highway departments, in the construction of rural post roads." Rural post roads are "construed to mean any public road over which the United States mails now are or may hereafter be transported, excluding every street and road in a place having a population, as shown by the last available census, of two thousand five hundred or more, except that portion of any such street or road along which the houses average more than two hundred feet apart."

The Act provides that not more than three per cent of the money may be used for administrative purposes. The plans for roads are to be submitted to the Secretary of Agriculture by the highway department and only projects approved by the Secretary can be ordered paid for out of this fund. The State must provide for the maintenance of such roads and if it fails to do so the Secretary shall refuse further appropriations.

Thus it will be seen that the kind of roads to be built and the general policy rests largely with the state highway department, but the Legislature may control this to a certain extent in any act it may pass accepting the Government appropriation. We think an important item would be to require any community where a road is to be built to pay at least one half the cost of construction.

A great opportunity faces the people of Missouri who want to get out of the mud. In the first place very much depends upon our state highway commission. If that department will plan a system of roads fair to all the people of the state and eliminate graft and political favoritism. Missouri can soon have a road system that every citizen will take pride in supporting. Why not require the people who live along any line of road to be improved to put up as many dollars as the State and Government puts up? Surely any community would be getting more than a fair deal if one-half the money for a good road is paid to them by the state and Federal Government. Under this arrangement we would have $678,881.64 available this year and double the amount next year and about five times that amount or nearly $3,500,000 for the fifth year. No doubt after five years if the work is well done the people of the state both town and country will realize the benefits from good roads to such an extent that a much greater sum can be secured to continue the improvement. The expenditure of this amount will have a good effect on the business of the state and particularly on any community where the road work is going on. Nearly all this expenditure will be for labor and material and very little of it will leave the community.

In this connection why not have the next Legislature of Missouri submit a proposition authorizing a bond issue of several million dollars to take up road improvement in a general way. A bond issue of $20,000,000 or $25,000,000 divided ito four or five series with one series available each year would give Missouri a great start in road building. This amount supplemented by the Federal funds and by the money put up by local commuities would build a great many miles of roads annually and being made available yearly there ought to be little danger of mismanagement.

The interest on these bonds can be paid by the money received from automobile licenses and a levy so small that we would scarcely notice it would retire the bonds in a few years.

Think about this proposition Mr. Farmer and if it appeals to you take the matter up with your member of the Legislature immediately after the election in November. What other public improvement can you suggest which will so nearly help every individual in the state as the building of better roads?

A TRIBUTE TO MISSOURI G-R-I-T —GRIT!

By Jewell Mayes

It is not catalogued in the mining reports, it is not indexed in the crop reviews, it is not listed in the factory bulletins—Missouri G-r-i-t Grit!

Without Grit, human life in Missouri is flat and without delight, lonely and stale—with Grit, ambition rules and life becomes the Dreamland Castle of Purpose.

It is common for speakers and writers to labor to seek to show the origin of the causes of the varied conditions in nature's kingdom, and to especially discourse on the forces leading directly to success in life—and we are a unit in our undimmed desire to find a short-cut across the twin-table-land of Fate and Hope!

Few are the worthy things in life that cost us nothing, and much of life with its position, honor and fame, is bought with a price—and that price is Missouri Grit and Get-up and Get!

Next to origin, comes the longing for unearned bliss. You may aspire to this or to that, yet what you desire should be reasonable. Whether you are hoping for a place which you think you deserve, or whether your ambition is yet to make ready for life by higher education, still the great question is: "What is it worth?"

Let us see what some things cost. For everything you dare to invest there is return of some kind. While we should ask no garland sought beyond the tide, yet we should venture out far enough to gather in a floating life-belt or lose a leg a la shark. Most things are worth more to us than they cost—"The noblest service comes from nameless hands and the best servant does his work unseen!"

Coming down to a "hoss and hoss" proposition, are we willingly demonstrating pride in shooting the only gun within our means, a target rifle, instead of lingering in the gloaming longing for a Schneider "75" millimetre rapid-firer? Are we mustering up enough personal Grit to brighten the little corner where we are while hankering and hungering for the spotlight of fame instead of hanging one's head in shame and indirection? Are we earning better "luck"?—are we? Are we industriously doing our "dead level best" and trusting to Providence to do the rest?

If we will dare to act unselfishly each day, as some one has said, "Out of the rough stones in the daily walks of life we may build a beautiful temple that will shield us from all harm and will invoke the Blessings of Almighty Himself". Providence seems to most cordially assist those people who help themselves.

The earliest principles of liberty in Europe; all successes in military combat; all the reforms in church, and in state; the first, and the latest sucesses in our own land, have been purchased with that wonderful coin—"Effort", milled out by Grit!

What is not worth risking if not worth having. An earnest endeavor is commendable, whether it be the purchase of national fame or whether it be the whole-souled effort of a hungry child laboring to earn money to buy an already needed supper for a sick mother. The great national opportunities are seldom—but the battle with poverty and hunger is fought daily by thousands in our own country. Great is the heroism in common life. Virtue merits respect, even in a beggar's garb. There are as many noble hearts in the breasts of neglected waifs as are to be found beneath the gold-laced coats of an equal number of military heroes.

How many men and women that have dared to die wihout the applause of men? Long is the list of those who dared to risk life and fortune. Wonderful is the glory due and yet untendered in the every-day battles of life. Many a mother struggling for food for her fatherless little ones merits the Carnegie medal a thousand times more than the excited soul that does a daring deed in the impulse of the moment and lives the life of a cringing coward ever afterward. Blessed are the heroes and heroines in these every-day battles of life and love. Harder than the African diamond is the Grit of the Missouri mother who faces the struggle of world undefended—heaven alone may cheer her rayless days, and only beyond the Uncharted Sea will the cost be known and justly acknowledged—Grit and Grace united accomplishes what the world never suspects possible in the human tragedy of sickness of soul through the sweetness of sacrifice!

Among three and a half millions of our people there are multitudes of daily deeds of daring nobler far in everyday life than have ever graced the books of chivalry and fame—and too high a tribute cannot be bestowed on Missouri Grit!

Several hundred Farm Clubs have been organized in response to the appeals made by THE FARMER and they have already saved their members a great deal of money. Why not organize a Farm Club in your school district?

Engineering the Telephone

THE great Bell System, with its telephone highways connecting the farthest points of the country, is primarily a brain creation.

The telephone engineer is the genius of communication. Like the general of an army, he plans, projects and directs his campaigns far ahead. He deals with the seemingly impossible — transforming ideas and ideals into concrete facts.

His problems may involve doubling the capacity of a city's underground telephone system, or the building of a transcontinental line, or a serious war-shortage of supplies needed in telephone work.

Whatever the difficulties, they must be overcome so that the progress of the telephone shall continue equal to the ever-growing needs of the people.

It is not enough to provide only for the present—the future must be anticipated and discounted.

In the Bell System, more than two thousand highly efficient engineers and scientists are constantly working on the complex problems of the telephone business.

As a result, the service keeps step with present requirements and the assurance is given to every subscriber that the Bell System is prepared for whatever the future develops.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy *One System* *Universal Service*

THE STORY OF AN OLD FARM

By C. D. Lyon

(Editorial Note: We think 100 years continuous cultivation a pretty fair test of any system of farming and so when our regular contributor Mr. S. M. Jordan, after visiting the farm of C. D. Lyon in southern Ohio, about a year ago wrote The Missouri Farmer, "It was interesting to know that while his (Lyon's) farm has been in cultivation for over one-hundred years, there is no 'worn out land' on it. Yet the hills are so steep that I would not know how to go about it to farm them. That part of the country sure stands on edge. His system has and is producing gratifying results," we thought the story of how this farm has been maintained would make valuable reading for Missouri farmers. Mr. Lyon has promised to tell this story in three or four papers in The Missouri Farmer and if any of our readers are interested enough to discuss Mr. Lyon's methods as we progress or after he has finished we will be very glad to have them do so. If you have a question to ask to bring out anything not made clear to you do not hesitate to ask it.)

NUMBER II

When father came into possession of the farm in 1851, it consisted of 87 acres of land, and was practically divided into four fields, which may be described as; No. 1, north field, 16 acres, No. 2, point field, 13 acres, No. 3, west field, 14 acres, No. 4, south field, 14 acres; or 57 acres of cleared land, and 20 acres more or less of woodland.

It may be explained that the house, barn, orchard, garden and 4 acres of cleared new land, were on a 7 acre tract at the south end of the farm, this and a tract having been bought by father from a neighbor, the other 9 acres of the present 103, having been added since, 5 by father, 4 by myself.

The farm had been used since 1832 as a hay and pasture farm, timothy meadows cut as long as they produced hay enough to pay for cutting and the hay hauled to the main farm. After hay harvest the sheep and young cattle from the main farm were brought over and kept here until winter, and when a field in meadow "ran out," it was rented to some one for wheat at $3 per acre. The renter seeding it back to timothy.

Hence it may be seen, that for fully fifty years the farm had been skinned, and while it was all originally strong clay loam soil, in 1851 the loam had been pretty well worked out of a great deal of it, and the clay predominated.

The point field had suffered most, for as its name indicates, it is composed of five points or ridges sloping to the east, with four draws or ravines dividing it.

One of these draws was naturally too deep to cross with team, the other three had been allowed to wash out, in some places six feet deep, several bad gullies had been made where stock made paths in going to water, and while the field was originally one of the best, it was many years before it was all brought back.

The north and west fields were in better condition, as there is but little land in either of them subject to washing, yet the north field has a few acres of naturally second rate land in it, and this had run down until it would not produce good briars.

Some seventeen years ago, a relative was visiting us in August, and came out where I was mowing the weeds and briars on this thin land, which had begun to improve in fertility and he advised me to let it grow up to locust timber, yet during the first days of July this year, I cut two tons of clover hay per acre from this very land.

Father did some fruit growing for the first twenty years he owned the farm, this and the few acres of new land enabling him to keep his family, and it also permitted him to maintain a good part of the farm in grass, clover being always sown to follow small grain crops.

This brings us down to the early 70's, and about this time a systematic crop rotation began to be practiced, one crop of corn, a crop of small grain, one year in clover, but some timothy always sown with the clover, a year of timothy-clover, then corn again.

In 1876, we used our first commercial fertilizer on the four acres of tobacco crop, and in 1878, reasoning that if the fertilizer made an increase of 50 per cent in the tobacco crop it would enable us to grow better small grain, we began its use on wheat, 120 pounds per acre mixed with the wheat and drilled in.

Our first experience in this line was favorable; it not only gave us a much better wheat crop but the grass and clover was 20 to 50 per cent better than on unfertilized land.

It was in 1874, I think, that we began to go over all the uncultivated fields with mowing machines clipping not only the wheat stubble, and the young clover, but also the pasture fields, setting the mower bar low on the wheat stubble, and high on the pastures.

Very often the growth was so heavy in the rich spots of the fields, that when mowed it threatened to kill out the grass and clover, and I have hauled many a load of this weed and grass crop from the lower rich spots to the almost bare clay points, "Robbing Peter to pay Paul" we might say but always with satisfactory results.

It has never been our policy to sell hay, and we never did so unless it brought a high price, the same being true of the corn crop, both corn and hay being fed out upon the farm. If the barns and stacks had enough hay to promise rough feed for the coming year, we have often permitted good fields of mixed timothy-clover to go down on the land, of course mowing the crop down.

Indeed in the period of the most rapid increase of soil fertility on this old farm, or between 1890 and 1916, many a year we did not make any grass hay at all, depending upon the three acres of alfalfa 1903-1911, a few acres of clover hay in good clover hay seasons, and a few years no hay at all, corn stover being the entire forage crop.

In the next article of this series, I want to take up the subject of farm manuring as practiced by us for fifty years.

HOW TO HAVE BETTER ROADS

Thirty years ago my attention was called to the earth-road problem. Twenty years ago I began to drag the road. I bring you the fruit of those years of study, experiment and experience.

I came to the farm from the city, fresh from school with no practical farm knowledge. My mind was open and unbiased. It contained no prejudices or preferences. I was anxious to learn. With three miles of muddy road between my farm home and the station in Maitland, I had reason for my study and plenty of material convenient on which to practice. I began with an ax and a spade and worked the road in the good old way for a number of years.

Finally the split-log drag was discovered. The fame of the split-log drag has spread around the world. It is known and used in every civilized land; and also in places not so advanced, for President H. J. Waters found a beautifully dragged earth street in a village of tree dwellers in the Philippines. Therefore I need make no plea for it here.

To do the best work one must have the most perfect tools. A drag built according to the proper plan is strong but light. It has a substantial removable platform with narrow spaces between the boards. The chain is attached properly and the iron blade extends only half the length of the front slab.

Almost as important as the style of the drag is the condition of the soil. The proper moment for dragging comes at varying periods with varying soils. The road should be dragged after every rain or storm, but not too soon; nor should one wait too long a time. Drag when it is neither muddy nor dry; moist enough to mash, but dry enough not to stick. Don't wait too long, but if you find your drag clogging, wait a little longer next time.

When to Drag

Just a hint: In my experience I find that those draggings which are done when the road really does not need to be dragged are the most profitable. Drag after showers if you wish a glass-smooth roadway. By dragging after each of two consecutive showers one can produce a finish that will not be approached by even four or five consecutive draggings following a two days' storm. The excellence for driving and the delightful appearance of the shower-dragged road is not so profitable as is the power it gives the road to withstand the wet and travel that comes during and immediately following the next storm. Winter dragging, too, is of great value. Try it. Like shower-dragging, its value lies largely in the increased resistance given.

Different sections of roads usually require different treatment, and different effects are produced by shifting the snatch link on the draught chain and by changing one's position on the drag. By shifting the link well over to the ditch end and standing with one's weight on one foot right out at the ditch end of the front slab, one may turn a furrow almost like a plow. I mention only one foot; the other foot should rest as far back as one can reach, so it may be ready to catch the drag if the drag starts to tip over. Drive slowly and you will have time to stop it. When manipulated thus, a good drag, with plenty of power in front of it and sufficient weight on top of it, will roll out the dirt like an eight-horse road machine. Surely it can be done; but don't do it. Rather be satisfied to move a small amount of earth at each dragging, and thus build a solid road.

Keep the travel in the middle. Develop a crown slowly, and never put on at one time enough dirt to drive the travel to one side. Never break the hard, tough crust that covers every traveled wagon-way. The hard crust in the center of the wagon road is a most valuable good-road asset; and any man who breaks that crust into pieces or covers it with eight or eighteen inches of loose dirt commits a crime against the community, and the day is not far distant when he will be fined or thrown into jail.

The King drag is a pioneer in building dirt roads, as well as a maintainer of roads already built. Coupled with farm tools, it is the best and cheapest all-round road-working implement ever discovered. It is a beginner and a finisher. No other tool has been found that will leave a finer surface than the double-slab split-log drag. Go home and build one. No matter how bad your road may be, build a drag and try the formula I have here for you.

There are those who say the drag and a plow can not produce a worthwhile effect on an unimproved road. But there also are men who will not agree to that statement. There are men in my home township who will not agree to it, and in my home county are many more. Others of like mind may be found scattered over many states.

Listen to a neighbor of mine, C. T. Graves, the well-known Jersey judge and breeder, who says: "With a King drag and a plow a determined man can improve any piece of dirt road, no matter how long it has been neglected."

Next hear our probate judge, David Porter, of Mound City, who lives in a township adjoining mine: "We did more and better work with a King model drag than we did in twice the time with the road machine."

Still another from Holt county, A. A. Jeffries, of Forest City: "My three neighbors and I built a quarter of a mile of road with King drags and farm implements. In places a bank at one side was six feet high. It is astonishing how fast dirt can be moved over with drags and plows."

During an address in Rochester, Mo., a few days ago, I asked Judge C. E. Caldwell if with a drag and plow he could fill the middle of a road that is low in the center. He answered, "Sure." Then I asked others who could do so to raise their hands. Then I remarked, "We have a man at Washington who says the drag won't do any good on a neglected road." Instantly a man on a front seat ejaculated, "He must be crazy." This was N. H. Martin, who was a member of the committee in Rochester, and seemed to voice the opinion of the audience.

Formula for Road Building with a King Drag and a Plow

Build a King drag according to instructions. Hitch the team to the drag as directed, so that the drag will follow the team at an angle of about 45 degrees. Drive with one horse on each side of the wheel track to your neighbor's gate towards town, and come home over the other wheel track, smoothing the road and moving a small amount of earth toward the middle.

After the next rain or wet spell go again. Repeat this after each storm until the surface touched by the drag is smooth and slightly higher in the center than at the sides. The contour described may possibly be found after the fourth rain and dragging. It surely will exist after the sixth rain and dragging, provided the drag is properly built and skillfully used.

Now we are ready to widen the roadway and lift the center higher. The two objects can be reached by one operation. Plow a shallow furrow just outside the dragged portion of the road, turning the furrow onto the dragged portion. Spread this furrow over the road with the drag. When you have finished the roadway will be about two feet wider and the middle will be a little higher. After the next rain or storm plow again and drag again, adding two feet more to the width and building the road still a little higher in the center. Only plow one furrow between rains. When the road becomes wide enough quit plowing.

This plan of building has been in use on my own road for twenty years.

It will succeed any place if a plow is handy and the drag is right and the man determined. Probably some of my hearers will be skeptical, and it is quite possible that an individual here and there will say he has tried it and failed. I meet such men occasionally. Invariably when I question them they admit they did not follow the directions, but tried some sort of experiments of their own. Therefore, follow directions closely. Do not try any improvements or experiments until after a year has passed.

If any man will go out on the road with a drag and plow he can get the road in good condition. He can get a good surface and he can get good drainage. You do not build roads where there is no surface drainage. If you haven't got surface drainage you will have a pond there. If you will use the split-log drag you can put the water to the side of the road.

D. Ward King, Maitland, Mo.

WHEN THE WHEAT IS IN THE SHOCK

Are you a farmer, and did you ever feel the satisfaction that comes at this season when the small grain is safe in the shock? For weeks, perhaps, you watched every cloud and as the harvest time came nearer your uneasiness increased, lest wind or hail or continued rains cause the loss of the crop. The wheat crop, at best, can never be counted in advance. Especially is this true of winter wheat, which this season shows heavy losses from winter killing and Hessian fly.

It is true that the loss of wheat just when ready for harvest amounts to comparatively little in the total yield, but to the individual farmer it may mean much. In a few minutes hail may wipe out the crop, or rising water along streams subject to overflow may submerge thousands of acres. No wonder that the farmer discusses the weather and especially so at harvest time.

It's great to have the wheat in the shock and to feel that, at least, it is reasonably safe. But even then all speculation does not cease. Shall the wheat be threshed from the shock or shall it be stacked? If the latter, there comes the problem of securing a satisfactory stack builder—and stacking is, apparently, almost a lost art. Another question is, Shall we sell or hold? What do the government reports show and what do reliable buyers advise? What of the visible supply and what of the effect of war upon wheat prices?

Naturally, with a lowering of wheat prices in the face of a probable loss of several hundred million bushels in the 1916 crop of the United States as compared with the yield of last year, there is a prospect of profit by holding for higher prices. America, though, it must be remembered, represents only a part of the wheat territory of the world. Holding also means additional expense and risk. Lightning may cause losses. The shrink is considerable. If held in the stack, moisture may cause damage, while each year thousands of bushels go to the bad in the bins. Left in sacks for a long period the rental charges are considerable. The cost of sacks both to buyer and seller is an important item. A dealer in a small town in Missouri recently retired from the grain business. In looking over his books he was surprised to find that he had paid out more than $35,000 for sacks. Of course this charge fell, ultimately, upon the seller.

So it will be seen that the man who provides the raw material for light bread or hot buscuit has a business that requires thought and judgment as well as work. Furthermore, the wheat growing game is too often but little better than a gamble. The returns are frequently disappointing. Still, there is satisfaction when the "grains o' gold" are safe in the shock.

W. L. Nelson.

GOOD HORSES A STAPLE PRODUCT

I have visited farms where motive power costs absolutely nothing. Big quality, active horses are raised and used on these farms. They are broken to harness during the winter before they reach the age of three years, and the geldings are sent to market when they reach the age of five or six years to make room for younger horses. The increase in value from the time they are broken until they are sold will, under ordinary conditions, pay feed bills, making the services rendered cost practically nothing. Our own experience has been similar. In the fall of 1912 a bunch of grade colts, sired by fairly good pure-bred stallions, were purchased from near-by farmers. They were broken to harness in January, 1915, and have been working every day since that time. An offer of $200 each was received for these colts at the time they were broken to harness. This offer was at least $50 more than their total cost, even when the high prices of feeds during the year 1913-14 are taken into consideration. A few weeks ago we were offered $200 each for the poorest and $300 each for the best of the bunch. This increase in value has more than paid for the feed consumed since they were broken to harness one year ago.

In direct contrast with these experiences, the motive power on many farms is the most expensive item, but on such farms one usually finds carelessness, poor management, unsound, poorly-shaped, under-sized, inefficient horses for which there is practically no demand at any price.

Possibly some of the difference regarding the kind of horses that have been raised has been due to a general misunderstanding of the actual needs and demands for horses on the farm and in the city. Many horse raisers honestly believe that the need and demand for horses is almost a thing of the past, but, as a matter of fact, heavy horses have increased in value practically ten per cent during the past ten years, in spite of a widespread impression to the contrary. This assertion is proved by Chicago horse-market records, which show that all horses that would classify as drafters, including the good, bad and indifferent, averaged for each of the past ten years as follows:

1905	$186	1910	$198
1906	190	1911	203
1907	194	1912	210
1908	180	1913	213
1909	194	1914	208

Industrial depression due to the panic of 1907 resulted in a lower price for the year 1908, but this loss was soon regained. The effect of the war on general industrial conditions had somewhat the same effect on prices for the year 1914, but every indication points to higher prices in the near future. While good prices have been maintained for high-class horses, the fact must be emphasized that each year finds city buyers discriminating more severely agianst inferior horses. Quality in the horses we have been producing has not kept pace with the increased demand for quality upon the part of buyers and users, and we are now paying the penalty for this neglect in the form of an inefficient laborer and a decidedly weakened demand for the average kind we now have on hand.

At the present time three classes of horses are most in demand—wagon horses, chunks, and drafters, all of which are derived from draft blood. Wagon horses weigh from 1250 to 1550 pounds, are nice movers and well made, showing style, quality and finish to a marked degree. Chunks weigh from 1300 to 1600 pounds, and are, as the name implies, compactly built, averaging about two inches less in height than a wagon horse of equal weight. Style, quality and action are very desirable in this class of horses, while substance is an absolute necessity. Drafters weigh from 1600 pounds upwards—the bigger the better, providing they are well made, have plenty of style, substance, quality and finish, and are easy, snappy movers. Probably no horse is less in demand than the big horse without these qualities. Good horses of these three classes have been selling during the past year at prices ranging from $175 each for the lighter wagon horses to $350 each for the best drafters. However, it must be remembered that horse-market demands change with the seasons, and that there is about as much demand for heavy horses during the midwinter months as there is for straw hats at that season of the year. Heavy horses ordinarily command the best prices during the months of March, April and May. The city demand to which I have just referred is important, as it must take care of the surplus after the farm demand has been supplied, but we must give more attention to the farm demand, especially to that of individual farms and to the efficient type of farm horses, for seven out of every eight work horses are laboring on farms. It so happens that the most desirable farm horse is also the most desirable market horse; hence to make our horses a more staple product we must raise a better kind of farm horse and discard the idea that the horse that is not good enough for a market horse is good enough for a farm horse.—Dr. C. W. McCampbell, Secretary State Live Stock Registry Board, Manhattan.

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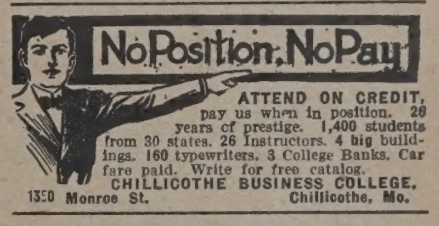

Wants A Dog Law

Editor of The Missouri Farmer. Enclosed is one dollar for which please mark up my subscription. My banker first sent me The Missouri Farmer and now I find it is hard to get along without it. I have been reading your dog license law which I think would be the very thing we need (although I expect some of the hound dog fellows would howl pretty loud).

I would vote for it every time. I am very much interested in the farm advisor and wish we had one in Shelby County, still there are lots of men who think the farm advisor is a wrong thing, bu tif you would go by their farms you would see lots of things that the advisor could be a great help in. The Missouri Farmer is all right and getting better every month.

C. P. Cotton, Emden, Mo.

THE MISSOURI FARMER

Devoted to Better Farming, Better Farm Homes and Better Citizenship.

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Geo. B. Ellis - - Managing Editor

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CO-OPERATION THAT COUNTS

Much has been said and written about the co-operation between town and country and a great deal of it has been ill advised because the authors did not recognize the fundamental fact that the success of co-operation depends on mutual interest. Where there is conflict of interest there has never been successful co-operation and we do not think there can well be.

There can be and there should be close and hearty co-operation between the people of the town and the people of the country in matters of mutual interest and benefit. But the man who would try to bring the urban and the rural citizen together on all matters alike is doomed to failure. Just as well that employers of labor and employees should be brought together in one organization. It would be just as sensible to try to unite the farmers with the labor organizations representing railroad employees on the ground that both farmers and railroad employees are to a great extent dependent upon the successful management and operation of the railroads.

We have in previous articles said that the only way for farmers to maintain their rights and to promote their interests is for them to maintain a strong organization of farmers and of farmers only. Unless this principle is accepted then we must accept the idea that there should be but one organization among all the various branches of trade, profession and industry and of course such an idea is absurd on the face of it.

Men connected with our state universities and the Federal department of agriculture have no doubt been influenced by the financial aid given different rural projects in their efforts to bring town and country together in an effective co-operative body. But their failure to get a single organization of this kind that is solving the hard practical questions of production, distribution or social betterment ought to convince them that they are working along impractical and impossible lines.

Where the town is organized for the town's betterment and the country is organized for the farmer's betterment there should be no trouble in bringing about co-operation between the two when the object is mutual. We have frequently said when discussing good roads that there must be two ends to a road and that one of them is in the town and the other is in the country. The progress in road building makes headway only about as fast as this idea spreads. It is the recognition of this idea that has given us national aid, state aid, the special 8-mile district in this state which puts the town into the road district, and the generally active interest of business men and commercial clubs in the work of road improvement.

The business man has a right to say to the farmer "I live at one end of the road you travel and I am as much interested in getting you to town as you are in getting to town, and it is my business to join with you in the work and expense of building better roads."

Recently some farmers in a progressive neighborhood in Boone County got interested in the formation of a district, known as the special benefit assessment district under our Missouri laws. There are some technicalities to be observed in the proper organization of such a district, and a preliminary survey is necessary and legal advice needed and this gives the people of the town of Columbia, the county seat their opportunity to co-operate in an effective way. The Columbia Commercial Club, one of the live organizations of the state has notified the farmers that the commercial club will pay out of its funds the preliminary expenses for attorney's fees, and surveyor's fees necessary to get the district organized.

This is the kind of co-operation that will count and that will not cause resentment among farmers because of intereference with matters which belong properly to themselves. Other commercial clubs will do well to adopt the same plan the Columbia club has originated.

CONSTRUCTION OR DESTRUCTION?

It does not matter in what line of endeavor it is we always find two classes of men, one who would build up, the other who would tear down. One man offers plans the other offers only objection or criticism. The thing that brought this thought so forcibly to our mind recently was the method used by many of the candidates for office before the primary election. Few of the candidates even for the high office of Governor had a constructive platform to stand on. Most of them seemed to think their special mission in this world was to point out the short comings of everybody who happened to get in the way of their own ambitions. This is a poor policy. It will never make the world better than it is. A man who deserves to win for any office should have a constructive plan and if it is right it is mighty apt to win him success. This is just as true of candidates of the different political parties as it is of those contesting before the primary. No party can hope to win, or at least should not desire to win because of the weakness of the opposition. That would be no honor. But the man who can win on merit even against a strong opponent has cause for gratification. Every voter however humble may help to bring about respectability in political campaigns by showing in some convincing way his displeasure of political mud slinging.

GOOD MEASURE PRESSED DOWN

The Great Teacher said "Give and it shall be given unto you; good measure, pressed down, and shaken together, and running over, shall men give unto your bosom. For with the same measure that ye mete withal it shall be measured to you again." What do our readers think about the way this advice is observed in the markets of the country. Would it not be a wise thing to have this wise saying of Christ printed in big black letters and posted on all our containers, measures and scales until we get into the habit of given full measure, "pressed down and shaken together, and running over." Farmers are not blameless in this matter for all over the country they have sold berries in boxes that were short measure, and other fruits in containers that did not hold what it was claimed. Many states are passing laws compelling full weight and full measure packages but we need to have these laws backed up with a wholesome public sentiment for their enforcement. A brick of butter is not a pound because it looks like a pound and if it weighs only fifteen ounces the one who buys it has been cheated out of one-sixteenth of its value. It matters not whether the deal is selling to the merchant or buying of the merchant, or between neighbars the only honest way of dealing is to "give good measure, pressed down, and shaken together."

MAKING THE BEST OF IT

The Central West including this state is now suffering severely from a protracted drouth and unless rain comes very soon the corn crop will be light. The damage is greater than it otherwise would have been had we not had too much rain early in the summer which prevented proper cultivation. It is now too late to plant emergency crops to take the place of grain but with a late growing season millet would have time to mature hay if sown early in August. This late sown millet if harvested before the seed ripens will make excellent feed for all kinds of stock fed on roughage. Dwarf essex rape may be sown any time now during August or early September and should furnish a lot of grazing for hogs, sheep or cattle during November or a least until freezing weather. It would not be advisable to sow the rape before the land can be put in good condition.

Rye or wheat seeded on good soil as early as the ground can be put in order will make a lot of grazing through the fall and winter months and we think in a season like this farmers can well afford to sow a large acreage of rye and wheat even though it is plowed up next spring. When sowing for pasturing we would sow not less than two bushels of seed per acre and it will not take very much pasturage when grain is high to pay for that amount of seed.

We have frequently called attention to the advantage of having a cover crop like wheat or rye on all cultivated land during the winter to save washing of the soil and loss of available plant food and this alone will often pay for the cost of seeding the land. If the land is to be put in corn next year a good growth of green stuff turned under next May will be a great benefit to the soil and help it to endure either too much rain or too much dry weather.

Such unfortunate weather conditions come upon us without warning but finding fault with the weather man will do no good. We must make the best of the situation by taking advantage of future opportunities.

LET US CONTINUE THE FIGHT

A few months ago when fat hogs and cattle were selling at a great sacrifice to those who had produced them, thousands of farmers had on their fighting clothes and were ready to do most anything to right matters. Now that prices are better we hear little about the need of co-operative effort to put the marketing of live stock on a fair basis. Just as sure as the seasons come and go the same conditions of marketing we suffered last fall will be repeated unless farmers prevent them by organized co-operative effort.

Last winter at the suggestion of THE MISSOURI FARMER some two

IT'S TIME TO GET BUSY

Soon the rush of harvest and threshing will be over and once more I plead that the farmers of every county in Missouri get together and plan a great County Farmers Mass Meeting sometime in the latter part of August or the fore part of September in order that we may make this the occasion of literally setting your county "on fire" with the Farm Club movement. Especially do I urge that the Farm Clubs which have already been organized take up this work to the end that a strong County Farmers Ass'n may be perfected in your county. This is no time to be idle or standing around like a lot of Doubting Thomases. Rome wasn't built in a day and so we have only started upon the great task which confronts us and upon the outcome of which depends the future of every farm home in the land. Because your Club hasn't thus far turned the World up side down is no reason why your members should grow feint hearted or lose interest.

THE MISSOURI FARMER is at work on matters which mean the saving of many thousands of dollars to the farmers of this state—but whether or not we will be able to carry out our plans depends entirely on the amount of co-operation we receive. In other words, we can't help the farmers of your county so long as they are unorganized. Already the Farm Club leaders in Lafayette County have planned a monster two days Farmer Picnic for September 14 and 15—and it is to be made the greatest farmers "Love Feast" that ever met in the history of that county and a powerful County Farmers Ass'n is to be formed. Several other counties are now planning similar meetings and their dates will soon be announced. To this end, I trust the farmers of many other counties will plan to follow suit at once. The first thing to do is to call a meeting of a few leading farmers from every township. Then write us for convenient dates—for the speakers from the State Board of Agriculture and the Agricultural College should be able to get from one meeting to another with as little expense and inconvenience as possible. As I have stated before, I will address as many of these county meetings as possible and will deal directly with the question of farmer organization while the other speakers will discuss other pertinent farm questions. If the matter is taken in hand in the right way it will result in the greatest farmer awakening in the history of your county. And either farmers must organize for mutual protection against the Combines which are robbing them or submit to Agricultural bondage. We have no other choice. It is no time to stand around in a haze of doubt. The hour for action has come—and why not let us here in Missouri "set the pace" for the farmers of every other state in the Union? Now I am talking to **you** my good friend and I want you to go to the telephone when you have finished reading this appeal and call up some of your neighbors and start the ball rolling.

Sincerely, William Hirth, Publisher,
THE MISSOURI FARMER, Columbia, Mo.

hundred or more farm clubs were organized and quite a saving was made to the members in both buying and selling. If for any reason any of these clubs have not been meeting during the crop rush they should not fail to start their meetings again now and be ready to protect themselves in every way possible.

Before our readers will have read this article a meeting will be held in Columbia for the purpose of completing the organization of a farm marketing association of Missouri. This meeting is the final outcome of a meeting called last January during Farmers' Week. We hope to be able to give our readers a tangible plan of organization in our next issue. We see no reason why such a plan should not now be put before the farmers of Missouri and then it is our hope to see it ratified with determination to win. The farmers have been trying to do too many things single handed A shovel plow can be pulled with one horse but the gang needs a draft team or a tractor. We must realize the necessity for team work in the process of farm organization.

The essential things as we see it after a proper organization is to have some one of ability and integrity to direct the organization and to find a practicable plan to finance the organization. Some one must be right on the job all the time and a force of helpers must be employed, postage and other expenses must be provided for and this will cost something but with the loyal co-operation of a hundred thousand farmers the individual cost will be too small to be felt and the benefit ought to be great.

Let us appeal to our readers to go ahead with the organization of school district farm clubs and when a final plan is agreed upon by the state organization your neighborhood will be ready to join and make the state work a success. Every dollar that is saved to the farmers in this way is kept out of the hands of those who would use it to keep farmers from using the power of organization and co-operation.

FARM LOANS AND SINGLE TAX

The farm loan act recently passed by Congress does the right thing in exempting the mortgages and the farm loan bonds from all Federal, State and Municipal taxes. This bill was passed by a very large vote and as a majority of the members of both political parties voted for it no charge can be made that it is a partisan measure.

There would be no sense in trying to give borrowers cheaper money and then tax the loans to make them dearer but that is what some of our demagogic politicians would have us do. The passing of the Federal Farm Loan Act is a complete answer to the objections raised against the Missouri Land Bank because the assests of the bank are exempt from taxes of any kind.

The more we study the Missouri plan in comparison with the Federal plan the more favorably are we impressed with the simplicity of the Missouri law. Anyway the Federal law only provides for loans on the first capitalization of $180,000,000 and as we have a greater farm debt than that in Missouri alone it is clear that we will have plenty of business for the Missouri Land Bank right along side of the Federal plan.

The bonds of the Federal Loan Board drawing 4 or 4½ per cent interest will be an attractive form of investment for those who have a little money they want to put in a safe place. The bonds are to be issued in denominations as low as $20 and not higher than $1000 and the individual who has only a few hundred dollars to loan will find them about the best place to put it. In this way the small investor will no doubt largely furnish the money for farm loans in the future.

BARNYARD GOSSIP

Many times we have called attention to the inadequacy of the farmers' income. Now comes the United States Department of Agriculture with carefully compiled figures which show that the average farmer, including large and small farms, receives a cash salary for his year's work of $360. If there is added to this his house rent garden, fruits, etc., that he gets and for which others must make a cash expenditure it is estimated the average farmer's labor income is about $600. The average policeman in the cities gets a salary of $1,052 and needs no capital to work with. The ordinary factory worker gets $610 a year while the clerks ad officers in factories average $1,188. The average Federal employee gets $948 and the minister, who, next to the farmer is at the foot of the list gets $663.

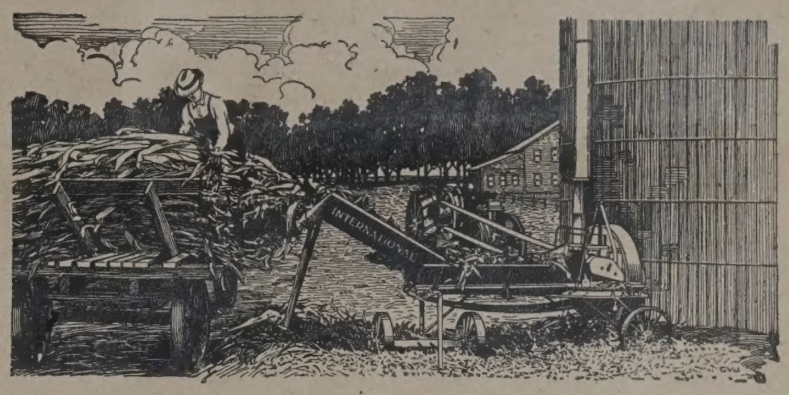
There are more than six million farmers in the United States as compared with approximately 200,000 salaried employees in the Federal service but when the latter can draw more than fifty per cent more pay for a much shorter day and less exposure it shows the value of organized effort. Most Federal employees get an annual vacation on full pay of three or four weeks while farmers must take a vacation at their own expense if they get any at all. Then employees of the Government as well as those of private corporations are furnished all the equipment they need to carry on their work but the farmer must supply himself or go without.

It appears that as soon as an individual gets on the public pay roll in most any capacity he thinks he has superior rights and that because of his position he is entitled to all the perquisites he can get his hands on. There has been an organized movement for a great many years to provide pensions for those engaged in the public service but the justice of any civil pension is hard to find. It is said our school teachers are underpaid and it may be when compared with other professions but it is not true when compared with the service rendered by the farmer and the salary he gets for it. In our higher institutions of learning there is a constant roar about salaries but not one in twenty of the men who are on the public payroll in these institutions getting from $1,000 to $5,000 a year could take an average farm and make a decent living on it.

But how is the farmer to get a better salary for his service? First, he must understand that he can not act independent of his fellows. There are so many things which affect the farmer's income that can be regulated only by law and by co-operative effort and by effective organization that the farmer who tries to act alone is helpless. We need just laws to prevent discrimination by the great corporations which have throttled competition but these laws can not be passed until there is a strong public sentiment aroused in favor of them. Suppose for instance just as one example that you have a small co-operative creamery in your community. It may be able to do a profitable business if it has fair competition with a small capital of $5,000 to $10,000. But what can you do when you must compete with a greedy corporation with $5,000,000, to $10,000,000 capital that will use any unfair means to crush your local plant. The only way for farmers to succeed under present conditions is, first, to demand and secure adequate laws that will permit and protect co-operative societies among the producing classes. Then these co-operative societies must be federated until all the people engaged in one industry in a state or better in the Nation are working under one organization. Then we will have capital enough and business enough to compete with any private corporation no matter how large it may be.

We are not prejudiced against private business large or small, but we are opposed to the plundering of the producers as they have been in the past by a body of business pirates who have grown rich by throttling honest and legitimate competition.

How do You Fill Your Silo?



CORN—always a wonderful crop—is more of a king each year. That is not to be wondered at since ensilage is proving so cheap and economical a feed. More and more we realize the extra profits in the all-year-'round use of green fodder.

In the same proportion **International** ensilage cutters have grown popular. Here are some **International** big points.

There's the famous special concave knife, with inward shear cut, cutting at outer edge first, hence the greatest volume is cut near the shaft with least power. The handy knife grinder that is always on the machine grinds one of the two sets of knives while the other is working. It's a water stone, leaving the temper in the knives. Perfect adjustment of knife blades to cutter bar can always be maintained, saving power and doing good work. Heavy channel steel frame, trussed, hot riveted, so that working parts can't get out of line. Self-feed keeps cutting always even; silage may be cut in various lengths. Blower pipe is adjustable to any angle; silage may be delivered to a silo of any height. Full equipment of safety devices.

These features make the **International** the best to buy. See the dealer who sells them. Write to us for the interesting booklet, "A Silo for Every Farm."

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Housewives Attention!

The Philipsborn Co., of Chicago, offers three pretty girls wash dresses for the remarkably low price of 99c. One is made of tan linen, one of pink percale and gigham and one of plaid and checked percale. Sizes from 6 to 14 years and satisfaction absolutely guaranteed. Be sure to address them Dept. L, Philipsborn & Co., Chicago. They also make an exceeding low price on all other kind of women's furnishings and will send you a big catalog free of charge for the asking. This big concern has an advertisement in this issue which every farmer's wife should read carefully. It advertises a Jap Silk Blouse for 98c. See it on the second page. Be sure to mention The Missouri Farmer when you write.

Why not get together with your neighbors and plan a big farmers mass meeting which will set your county on fire for Farm Clubs?

Win Against the Hessian Fly

TO ESCAPE THE MAIN ATTACK OF THE FLY— sow your wheat late. The early brood is most destructive to young wheat and provides for future broods. Your own Experiment Station will tell you this.

THE BEST WHEAT YIELDS come from plants that enter the winter strong and vigorous. Your own experience will tell you this.

TO WIN AGAINST THE FLY, seed late, feed the crop with available fertilizers which will hasten growth to overcome the late start, and secure vigor with consequent resistance to later broods. Use 200 to 400 pounds per acre containing at least 2 per cent of ammonia. Acid phosphate alone does not give the necessary quick growth and resistance to the fly.

In Farmers' Bulletin No. 640, U. S. Department of Agriculture, fertilizers are recommended to give vigor to late sown crops and resistance to the Hessian Fly.

Write for our map showing best dates for sowing wheat in your locality; also our Bulletin, "WHEAT PRODUCTION," both mailed free.

Soil Improvement Committee
OF THE
National Fertilizer Ass'n.
Chicago Dept. 162 Baltimore

David Dunne

A Romance of the Middle West

By BELLE KANARIS MANIATES

CHAPTER V

There was but one important measure to deal with in this session of the legislature, but David's penetration into a thorough understanding of each bill, and the patience and sagacity he displayed in settling all disputes, won the approbation of even doubtful and divided factions. He flashed a new fire of life into the ebbing enthusiasm of his followers, whom he had led to victory on the Griggs Bill. At the close of the session, early in May, he was presented with a set of embossed resolutions commending his fulfillment of his duties.

That same night, in his room at the hotel, as he was packing his belongings, he was waited upon by a delegation composed alike of horny-handed tillers of the soil and distinguished statesmen.

"We come, David," said the spokesman, who had been chairman of the county convention, "to say that you are our choice for the next governor of this state, and in saying this we know we are echoing the sentiment of the Republican party. In fact, we are looking to you as the only man who can bring that party to victory."

He said many more things, flattering and echoed by his followers. It made the blood tingle in David's veins to know that these men of plain, honest, country stock, like himself, believed in him and in his honor. In kaleidoscopic quickness there passed in review his life,—the days when he and his mother had struggled with a wretched poverty that the neighbors had only half suspected, the first turning point in his life, when he was taken unto the hearth and home of strong-hearted people, his years at college, the plodding days in pursuit of the law, his hotly waged fight in the legislature, and his short literary career, and he felt a surging of boyish pride at the knowledge that he was now approaching his goal.

The next morning David went to Lafferton in order to discuss the road to the ruling of the people.

"Whom would you suggest for manager of my campaign, Uncle Barnabas?" he asked.

"Knowles came to me and offered his services. Couldn't have a slicker man, Dave."

"None better in the state. I shouldn't have ventured to ask him."

Janey was home for the summer, and on the first evening of his return she and David sat together on the porch.

"Oh, Davey," she said with a little sob, "Jud has come home again, and they say he isn't just wild any more, but thoroughly bad."

The tears in her eyes and the tremor in her tone stirred all his old protective instinct for her.

"Poor Jud! I'll see if I can't awaken some ambition in him for a different life."

"You've been very patient, Davey, but do try again. Every one is down on him now but father and you and me. Aunt M'ri has let the Judge prejudice her; Joe hasn't a particle of patience with him, and he can't understand how I can have any, but you do, Davey. You understand everything."

They sat in silence, watching the stars pierce vividly through the blackness of the sky, and presently his thoughts strayed from Jud and from his fair young sister. In fancy he saw the queenly carriage of an imperious little head, the mystery lurking in a pair of purple eyes, and heard the cadence in an exquisite voice.

The next morning he began the fight, and there was an incessant cannonade from start to finish against the upstart boy nominee, who proved to be an adversary of unremitting activity, the tact and experience of Knowles making a fortified intrenchment for him. All of David's friends rallied strongly to his support. Hume came from Washington, Joe from the ranch, and Wilder from the East, his father having a branch concern in the state.

Through the long, hot summer the warfare waged, and by mid-autumn it seemed a neck and neck contest—a contest so susceptible that the merest breath might turn the tide at any moment. The week before the election found David still resolute, grim, and determined. Instead of being discouraged by adverse attacks he had gained new vigor from each downthrow. All forces rendezvoused at the largest city in the state for the final engagement.

Three days before election he received a note in a handwriting that had become familiar to him during the past year. With a rush of surprise and pleasure he noted the city postmark. The note was very brief, merely mentioning the hotel at which they were stopping and asking him to call if he could spare a few moments from his campaign work.

In an incredibly short time after the receipt of this note he was at the hotel, awaiting an answer to his card. He was shown to the sitting room of the suite, and Carey opened the door to admit him. This was not the little princess of his dreams, nor the charming young girl who had talked so ingenuously with him before the Braden fireside. This was a woman, stately yet gracious, vigorous yet exquisite.

"I am glad we came home in time to see you elected," she said. "It is a great honor, David, to be the governor of your state."

There was a shade of deference in her manner to him which he realized was due to the awe with which she regarded the dignity of his elective office. This amused while it appealed to him.

"We are on our way to California to spend the winter," she replied, in answer to his eager question, "and father proposed stopping here until after election."

"You come in and out of my life like a comet," he complained wistfully.

Mrs. Winthrop came in, smiling and charming as ever. She was very cordial to David, and interested in his campaign, but it seemed to him that she was a little too gracious, as if she wished to impress him with the fact that it was a concession to meet him on an equal social footing. For Mrs. Winthrop was inclined to be of the world, worldly.

"You have arrived at an auspicious time," he assured her. "To-night the Democrats will have the biggest parade ever scheduled for this city. Joe calls it the round-up."

"Oh, is Joe here?" asked Carey eagerly.

"Yes; and another friend of yours, Fletcher Wilder."

"I knew that he was here," she said, with an odd little smile.

"We had expected to see him in New York, and were surprised to learn he was out here," said Mrs. Winthrop.

"He came to help me in my campaign," informed David.

"Fletcher interested in politics! How strange!"

"His interest is purely personal. We were together in South America, you know."

"I am glad that you have a friend in him," said Mrs. Winthrop affably. "The parade will pass here, and Fletcher is coming up, of course. Why not come up, too, if you can spare the time?"

"This is not my night," laughed David. "It's purely and simply a Democratic night. I shall be pleased to come."

"Bring Joe, too," reminded Carey.

When Mr. Winthrop came in David had no doubt as to the welcome he received from the head of the family.

"A man's measure of a man," thought David, "is easily taken, and by natural laws, but oh, for an understanding of the scales by which women weigh! And yet it is they who hold the balance."

"Fletcher and David and Joe are coming tonight to watch the parade from here," said Carey.

"You shall all dine with us," said Mr. Winthrop.

"Thank you," replied David, "but—"

"Oh, but you must," insisted Mrs. Winthrop, who always warmly seconded any proffer of hospitality made by her husband. "Fletcher will dine with us, of course. We can have a little dinner served here in our rooms. Write a note to Mr. Forbes, Carey."

The marked difference in type of her three guests as they entered the sitting room that night struck Mrs. Winthrop forcibly. Joe, lean and brown, with laughing eyes, was the typical frontiersman; Fletcher, quiet and substantial looking, with his air of culture and ease and his modulated voice, was the type of a city man; David—"What a man he is!" she was forced to admit as he stood head uplifted in the white glare under the chandelier, the brilliant light shining upon his dark hair, and his eyes glowing like stars. His lithe figure, perfect in poise and balance, of virile strength that was toil-proof, wore the look of the outdoor life. His smile banished everything that was ordinary from his face and transmuted it into a glowing personality. His eyes, serious with that insight of the observer who knows what is going on without and within, were clear and steady.

The table was laid for six in the sitting room, the flowers and candles giving it a homelike look.

As Mrs. Winthrop listened to the conversation between her husband and David she was forced to admit that the young candidate for governor was a man of mark.

"I never knew a man without good birth to have such perfect breeding," she thought. "He really appears as well as Fletcher, and, well, of course, he has more temperament. If he could have been born on a different plane," thinking of her long line of Virginia ancestors.

She had ceded a great deal to her husband's and Carey's democracy, and reserved many an unfavorable criticism of their friends and their friends' ways with a tactfulness that had blinded their eyes to her true feelings. Yet David knew instinctively her standpoint; she partly suspected that he knew, and the knowledge did not disturb her; she intuitively gauged his pride, and welcomed it, for a suitor of the Fletcher Wilder station of life was more to her liking.

Carey led David away from her father's political discourse, and encouraged him to give reminiscences of old days. Joe told a few inimitable western stories, and before the cozy little meal was finished Mrs. Winthrop, though against her will, was feeling the compelling force of David's winning sweetness. The sound of a distant band hurried them from the table to the balcony.

"They've certainly got a fair showing of floating banners and transformations," said Joe.

As the procession came nearer the face of the hardy ranchman flushed crimson and his eyes flashed dangerously. He made a quick motion as if to obstruct David's vision, but the young candidate had already seen. He stood as if at bay, his face pale, his eyes riveted on those floating banners which bore in flaming letters the inscriptions:

"The father of David Dunne died in state prison!"

"His mother was a washerwoman!"

CHAPTER VI

The others were stricken into shocked silence which they were too stunned for the moment to break. It was Fletcher who recovered first, but then Fletcher was the only one present who did not know that he words had struck home.

"We mustn't wait another moment, David," he said emphatically, "to get out sweeping denials and—"

"We can't," said David wearily. "It is true."

"Oh," responded Fletcher lamely.

There was another silence. Something in David's voice and manner had made the silence still more constrained.

"I'll go down and smash their banners!" mutered Joe, who had not dared to look in David's direction.

Mr. Winthrop restrained him.

"The matter will take care of itself," he counseled.

It is mercifully granted that the intensity of present suffering is not realized. Only in looking back comes the pang, and the wonder at the seemingly passive endurance.

Again David's memory was bridging the past to unveil that vivid picture of the patient-eyed woman bending over the tub, and the pity for her was hurting him more than the cruel banner which was flaunting the fac before a jeering, applauding crowd.

Mrs. Winthrop gave him a covert glance. She had great pride in her lineage, and her well-laid plans for her daughter's future did not include David Dunne in their scope, but she was ever responsive to distress.

Before the look in his eyes every sensation save that of sympathy left her, and she went to him as she would have gone to a child of her own that had been hurt.

"David," she said tenderly, laying her hand on his arm, "any woman in the world might be glad to take in washing to bring up a boy to be such a man as you are!"

Deeply moved and surprised, he looked into her brimming eyes and met there the look he had sometimes seen in the eyes of his mother, of M'ri, and once in the eyes of Janey. Moved by an irresistible impulse, he stooped and kissed her.

The situation was relieved of its tenseness.

"I think, Joe," said David, speaking collectedly, "we had better go to headquarters. Knowles will be looking for me."

"Sure," assented Joe, eager to get into action.

"Carey," said David in a low voice, as he was leaving.

As she turned to him, an impetuous rush of new life leaped torrent-like in his heart. Her eyes met his slowly, and for a moment he felt a pleasure acute with the exquisiteness of pain. Such sensations are usually transient and in another moment he had himself well in hand.

"I want to say good night," he said quietly, "and—"

"Will you come here to-morrow at eleven?" she asked hurriedly. "There is something I want to say to you."

"I know that you are sorry for me."

"That isn't what I mean to say."

A wistful but imperious message was flashed to him from her eyes.

"I will come," he replied gravely.

When he reached headquarters he found the committee dismayed and distracted. Like Wilder, they counseled a sweeping denial, but David was firm.

"It is true," he reiterated.

"It will cost us the vote of a certain element," predicted the chairman, "and we haven't one to spare."

David listened to a series of similar sentiments until Knowles—a new Knowles—came in. The usual blank placidity of his face was rippled by radiant exultation.

"David," he announced, "before that parade started to-night I had made out another conservative estimate, and thought I could pull you through by a slight majority. Now, it's different. While you may lose some votes from the 'near-silk stocking' class, yet for every vote so lost hundreds will rally to you. That all men are created equal is still a truth held to be self-evident. The spark of the spirit that prompted the Declaration of Independence is always ready to be fanned to a flame, and the Democrats have furnished us the fans in their flying pennants."

David found no balm in this argument. All the wounds in his heart were aching, and he could not bring his thoughts to majorities. He passed a night of nerve-racking strain. The jeopardy of election did not concern him. That night at the dinner party he had realized that he had a formidable rival in Fletcher, who had a place firmly fixed in the Winthrop household. Still, against odds, he had determined to woo and win Carey.

He had thought to tell her of his father's imprisonment under softening influences. To have it flashed ruthlessly upon her in such a way, and at such a time, made him shrink from asking her to link her fate with his, and he decided to put her resolutely out of his life.

Unwillingly, he went to keep his appointment with her the next morning. He also dreaded an encounter with Mrs. Winthrop. He felt that the reaction from her moment of womanly pity would strand her still farther on the rocks of her worldliness. He was detained on his way to the hotel so that it was nearly twelve when he ar-

rived. It was a relief to find Carey alone. There was an appealing look in her eyes; but David felt that he could bear no expression of sympathy, and he trusted she would obey the subtle message flashed from his own.

With keen insight she read his unspoken appeal, but a high courage dwelt in the spirit of the little Puritan of colonial ancestry, and she summont its full strength.

"David," she asked, "did you think I was ignorant of your early life until I read those banners last night?"

"I thought," he said, flushing and taken by surprise, "that you might have long ago heard something, but to have it recalled in so sensational a way when you were entertaining me at dinner—"

"David, the first day I met you, when I was six years old, Mrs. Randall told us of your father. I didn't know just what a prison was, but I supposed it something very grand, and it widened the halo of romance that my childish eyes had cast about you. The morning after you had nominated Mr. Hume I saw your aunt at the hotel, and she told me, for she said some day I might hear it from strangers and not understand. When I saw those banners it was not so much sympathy for you that distressed me; I was thinking of your mother, and regretting that she could not be alive to hear you speak, and see what her bravery had done for you."

David had to summon all his control and his recollection of her Virginian ancestors to refrain from telling her what was in his heart. Mrs. Winthrop helped him by her entrance at this crucial point.

"Good morning, David," she said suavely. "Carey, Fletcher is waiting for you at the elevator. Your father stopped him. I told him you would be out directly."

"I had an engagement to drive with him," explained Carey. "I thought you would come earlier."

"I am due at a committee meeting," he said, in a courteous but aloof manner.

"We start in the morning, you know," she reminded him. "Won't you dine here with us to-night?"

"I am sorry," he refused. "It will be impossible."

"Arthur is going to a club luncheon," said Mrs. Winthrop, when Carey had gone into the adjoining room, "and I shall be alone unless you will take pity on my loneliness. I won't detain you a moment after luncheon."

"Thank you," he replied abstractedly.

She smiled at the reluctance in his eyes.

"David is going to stay to luncheon with me," she announced to Carey as she came into the sitting room.

David winced at the huge bunch of violets fastened to her muff. He remembered with a pang that Fletcher had left him that morning to go to a florist's. After she had gone Mrs. Winthrop turned suddenly toward him, as he was gazing wistfully at the closed door.

"David," she asked directly, "why did you refuse our invitation to dine to-night?"

"Why—you see—Mrs. Winthrop—with so many engagements—there is a factory meeting at five—"

"David, you are floundering! That is not like the frankly spoken boy we used to know at Maplewood. I kept you to luncheon to tell you some news that even Carey doesn't know yet. Mrs. Randall has written insisting that we spend a week at Maplewood before we go West. As we are in no special haste, I shall accept her hospitality."

David made no reply, and she continued:

"You are going home the day before election?"

"Yes, Mrs. Winthrop," he replied.

"We will go down with you, and I hope you will be neighborly while we are in the country."

The bewildered look in his eyes deepend, and then a heartrending solution of her graciousness came to him. Fletcher and Carey were doubtless engaged, and this fact made Mrs. Winthrop feel secure in extending hospitality to him.

"Thank you, Mrs. Winthrop," he said, a little bitterly. "You are very kind."

"David," she asked, giving him a searching look. "What is the matter? I thought you would be pleased at the thought of our spending a week among you all."

He made a quick, desparate decision.

"Mrs. Winthrop," he asked earnestly, "may I speak to you quite openly and honestly?"

"David Dunne, you couldn't speak any other way," she asserted, with a gay little laugh.

"I love Carey!"

CHAPTER VII

This information seemingly conveyed no startling intelligence.

"Well," replied Mrs. Winthrop, evidently awaiting a further statement.

"I haven't tried to win her love, nor have I told her that I love her, because I knew that in your plans for her future you had never included me. I know what you think about family, and I don't want to make ill return for the courtesy and kindness you and Mr. Winthrop have alweys shown me."

"David, you have one rare trait—gratitude. I did have plans for Carey—plans built on the basis of 'family': but I have learned from you that there are other things, like the trait I mentioned, for instance, that count more than lineage. Before we went abroad I knew Carey was interested in you, with the first flutter of a young girl's fancy, and I was secretly antagonistic to that feeling. But last night, David, I came to feel differently I envied your mother when I read those banners. If I had a son like you, I'd feel honored to take in washing or anything else for him."

At the look of ineffable sadness in his eyes her tears came.

"David," she said gently, after a pause, "if you can win Carey's love, I shall gladly give my consent."

He thanked her incoherently, and was seized with an uncontrollable longing to get away—to be alone with this great, unbelievable happiness. In realization of his mood, she left him under pretext of ordering the luncheon. On her return she found him exuberant, in a flow of spirits and pleasantry.

"Mrs. Winthrop," he said earnestly, as he was taking his departure, "I am not going to tell Carey just yet that I love her."

"As you wish, David. I shall not mention our conversation."

She smiled as the door closed upon him.

"Tell her! I wonder if he doesn't know that every time he looks at her, or speaks her name, he tells her. But I suppose he has some foolish mannish pride about waiting until he is governor."

When David, in a voice vibrant with new-found gladness, finished an eloquent address to a United Band of Workmen, he found Mr. Winthrop waiting for him.

"I was sent to bring you to the hotel to dine with us, David. My wife told me of your conversation."

Noting the look of apprehension in David's eyes, he continued:

"Every time a suitor for Carey has crossed our threshold I've turned cold at the thought of relinquishing my guardianship. With you it is different; I can only quote Carey's childish remark—'with David I would have no afraidments.'"

A touch upon his shoulder prevented David's reply. He turned to find Joe and Fletcher.

"Knowles has been looking for you everywhere. He wants you to come to headquarters at once."

"Is it important?" asked David hesitatingly.

"Important! Knowles! Say, David, have you forgotten that you are running for governor?"

Winthrop laughed appreciatively.

"Go back to Knowles, David, and come to us when you can. We have no iron-clad rules as to hours. Go with him Joe, to be sure he doesn't forget where he is going. Come with me Fletcher."

"It's too late to call now," remonstrated Joe, when David had finally made his escape from headquarters.

David muttered that time was made for slaves, and increased his pace. When they reached the hotel Joe refused to go to the Winthrop's apartment.

David found Carey alone in the sitting room.

"David," she asked, after one glance into his eyes, "what has changed you? Good news from Mr. Knowles?"

"No, Carey," he replied, his eyes growing luminous. "It was something your mother said to me this morning."

"Oh, I am glad. What was it she said?"

"She told me," he evaded, "that you were going to visit the Randalls."

"And that is what makes you look so—cheered?" she persisted.

"No, Carey. May I tell you at two o'clock in the afternoon, the day after election?"

She laughed delightedly.

"That sounds like our childhood days. You used to put notes in the old apple tree—do you remember?—asking Janey and me to meet you two hours before sundown at the end of the picket fence."

Further confidential conversation was prevented by the entrance of the others. Joe had been captured, and Mrs. Winthrop had ordered a supper served in the rooms.

"Carey," asked her mother softly when they were alone that night, "did David tell you what a cozy little luncheon we had?"

"He told me, mother, that you said something to him that made him very happy, but he would not tell me what it was."

Something in her mother's gaze made Carey lift her violets as a shield to her face.

"She knows!" thought Mrs. Winthrop. "But does she care?"

(To be concluded.)

OUR BOYS AND GIRLS

A Little Money Maker

Dear Editor:

You ask us to tell you how we make some money. Last year daddy gave me a little lamb whose mother had died and I fed it with milk out of a bottle. When it was about four months old I turned it in the pasture with the other lambs and it grew fine and this spring it sheared 6 pounds of wool. I got 35 cents a pound—$2.10 for the wool and I put that in the bank. Daddy says the sheep is now worth $8.00 I rode the horse when they were stacking hay and I got 50 cents a day for five days and I put that in the bank too. I had some other money I had earned so I now have $18.50 in my bank account and I want to buy a calf this fall and keep it until it is two years old and fatten it and sell it for $100. Do you think I can do it?

John, Sullivan County.

AN OFFER TO FARMER BOYS

After thinking over the matter for some time we have concluded to make the farmer boys who belong to our "Big Family" the following proposition: For $50.00 worth of subscriptions to The Missouri Farmer we will ship to every boy who procures them for us, a bred gilt, selected from one of the best pure bred Poland China, Duroc, Chester White, Hampshire or Berkshire herds in the state. There won't be any "contest" about it. Farmers receive The Missouri Farmer three years for one dollar—and 50 such subscriptions will win this fine bred gilt. That is all there is to it. All your neighbors will be glad to give you a dollar for three years' subscription to a paper like The Missouri Farmer. They will do it first, because the paper is more than worth the money and because it is fighting their battles. Secondly, they will be glad to help you win this splendid prize.

If you will take good care of the gilt and her litter it will start you in the pure bred hog business and if you will go in "halvers" with your Father you are sure to make some money. We are making this offer not only because we are trying to place The Missouri Farmer in every good farm home in the state but because we want to get our boy friends genuinely interested in the farm. In order to do this we want to help you earn some money. Now we can make this offer to only one farmer boy in each community—so there is no time to lose. You have all summer in which to work—and should you finally fail to get the required number of subscriptions, we will nevertheless pay you a substantial commission on all you do get. So you can't lose. Why not make this gilt and her litter the beginning of a fund which in a few years will pay your way through the Agricultural College or through some other good educational institution? The boys who take advantage of this fine offer will be among the "big farmers" of the future. William Hirth, Publisher,

THE MISSOURI FARMER, Columbia, Mo.

Flossie's First Letter

Dear Editor:

I am greatly interested in the story David Dunne. It is among the best stories I ever read. I like all the characters, especially David I certainly do enjoy reading the letters of this page. I am 13 years old. I live on a farm of 80 acres. I go to the Marion school, and will be in the 8th grade when school begins. This is my first letter to you and I hope to see it in print. Flossie Kincaid.

Likes David and Miss Rhody

To the Editor:

I am a girl twelve years old, and I am in the sixth grade. We have been taking The Missouri Farmer for several months and think it a fine paper. I am interested in the story "David Dunne." The character that I like best is David Dunne and Miss Rhody. I hope The Missouri Farmer will succeed in having a page for the girls and boys. Grace.

Wants to Become a Teacher

To the Editor:

I am a girl fourteen years old. I live on a farm east of Columbia. We have been taking The Missouri Farmer for six months, and think it a fine paper. I am very much interested in the story David Dunne, I like all the characters, but like David and Janie best. I finished country school last year and am going to High School. I am anxious to become a teacher I think it would be nice to have a page for the boys and girls in The Missouri Farmer.

Gertrude Wright.

Enjoys Reading The Missouri Farmer

Dear Editor: Mama and I read David Dunne, we think it is a nice story. I think David is the best of all. I am always glad when the paper comes. A friend sends us The Missouri Farmer and we enjoy reading it.

Mina Butler.

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FEDERAL FARM LOANS

We recently gave an outline of the Federal Farm Loan Act which was before Congress and which became a law by the signature of the President on July 17. The object o this law is to enable farmers to borrow money on farm-mortgage security for long time and at a reasonable rate of interest.

There will be two systems by which borrowers may get loans, land banks and joint stock land banks. Both systems will be under the supervision of the Federal Farm Loan Board in the Treasury Department which is composed of the Secretary of the Treasury, ex-officio chairman, and four members appointed by the President. These members have already been appointed and we suppose the regional banks will be organized as soon as possible.

Twelve Federal Land Banks

The United States shall be divided into 12 farm loan districts, and a Federal land bank with a subscribed capital stock of not less than $750,000, each share $5, shall be established in each district. Each Federal land bank may establish branches in its district. Within thirty days after the capital stock is offered for sale it may be purchased at par by anyone. Thereafter, the stock remaining unsold shall be bought by the Secretary of the Treasury for the United States. It is provided, however, that the Government shall not receive any dividends on its stock. Ultimately, it is intended that all the stock in the banks shall be owned by the associations of borrowers, and provision therefore is made in the law for transferring the original stock at par to these associations.

National Farm Loan Associations

The Act provides for the creation of local national farm loan associations through which it is contemplated that the Federal land banks shall make their loans. In the event that a local loan association is not formed in any locality within a year, the Federal Farm Loan Board may authorize a Federal land bank to make loans on farm land through approved agents. Ten or more persons who own and cultivate farm land qualified as security for a mortgage loan under the Act, or who are about to own and cultivate such land, may form such an association, provided the aggregate of the loans desired by the membership is not less than $20,000. Each member must take stock in his association to an amount equivalent to 5 per cent of the amount he wishes to borrow. This stock the association holds in trust as security for the member's individual loan. The association, in turn, when applying for money from the bank, must subscribe for stock in the bank to an amount equivalent to 5 per cent of the sum it wants to obtain for its members. This stock is held in trust by the bank as security for the loans it makes through the association. If a prospective borrower has no money with which to pay for his association stock, he may borrow the price of that stock as a part of the loan on his farm land.

Under this plan, then, every borrower must be a stockholder in his local association, and every association a stockholder in its district bank. Each stockholder in an association is liable for the acts of that association up to twice the amount of his stock.

How Loans Are Obtained

A member of a national farm loan association, before obtaining a loan, must first fill out an application blank supplied to the loan association by the Federal Farm Loan Board. This application blank and other necessary papers will then be referred to a loan committee of the association which must appraise the property offered as security. Such application as is approved by the loan committee is then forwarded to the Federal land bank and must be investigated and reported on by a salaried appraiser of the bank before the loan is granted. This appraiser is required to investigate the solvency and character of the prospective borrower as well as the value of his land. When a loan is granted the amount is forwarded to the borrower through the loan association.

Conditions under which Loans may be Obtained from Federal Land Banks

The Act specifically defines the purposes for which loans may be obtained. These are:

"(a) To provide for the purchase of land for agricultural uses.

"(b) To provide for the purchase of equipment, fertilizers and live stock necessary for the proper and reasonable operation of the mortgaged farm; the term 'equipment' to be defined by the Federal Farm Loan Board.

"(c) To provide buildings and for the improvement of farm lands; the term 'improvement' to be defined by the Federal Farm Loan Board.

"(d) To liquidate indebtedness of the owner of the land mortgaged, existing at the time of the organization of the first national farm loan association established in or for the county in which the land mortgaged is situated, or indebtedness subsequently incurred for one of the purposes mentioned in this section."

Loans may be made only on first mortgages on farm land.

Only those who own and cultivate farm land or are about to own and cultivate such land are entitled to borrow.

No individual can borrow more than $10,000 or less than $100.

No loan may be made for more than 50 per cent of the value of the land mortgaged and 20 per cent of the value of the permanent insured improvements upon it.

The loan must run for not less than five and not more than forty years.

Every mortgage must provide for the repayment of the loan under an amortization plan by means of a fixed number of annual or semi-annual installments sufficient to meet all interest and pay off the debt by the end of the term of the loan. The installments required will be those published in amortization tables to be prepared by the Farm Loan Board.

The bank is given power to protect itself in case of default by recalling the loan in whole or in part or taking other necessary action.

The Interest Rate Paid by the Borrower

No Federal land bank is permitted to charge more than 6 per cent per annum on its farm mortgage loans, and in no case shall the interest charged on farm mortgages exceed by more than one per cent the rate paid on the last issue of bonds.

For example, if the bank pays only 4 per cent on an issue of bonds, it can not charge more than 5 per cent for the next farm loan it makes.

Out of this margin of not to exceed 1 per cent, together with such amounts as it can earn on its paid-in cash capital, the bank must set aside certain reserves and meet all its expenses. Any balance or net profits can be distributed as dividends to the loan associations or other stockholders. The loan associations, from their bank dividends, after setting aside the required reserves and meeting expenses, can declare association dividends to their members. In this way the profits, if any, will be distributed among the borrowers and will, to that extent, reduce the amount of interest actually paid by them.

Amortization Plan of Repaying Loans

The borrowers may get his loan for not less than 5 nor longer than 40 years and must pay the interest and a small payment on the principal every year. A loan for $1,000 made at 5 per cent for 20 years would cost the borrower an annual payment of $80.24 or a total of $1,604.89 to finally extinguish the debt and pay the interest. The man who borrows $1,000 for 20 years at 5 per cent under the ordinary plan would pay besides any commissions $50 a year and would owe the debt at the end of 20 years thus it would require $2,000 to pay the debt. The difference $355.11 is the saving he would make or rather the premium he would get for the small annual payment he makes.

On the amount of capital authorized at the beginning the banks may loan $180,000,000 but by increasing the capital stock more bonds may be sold and the amount of loans increased. The bonds will be issued in denominations of $20, $50, $100, $500 and $1,000 which will make them attractive to any one who has a small amount of money to loan. These bonds will be exempt from taxation of any kind.

THE FARMER'S INCOME

A comparison of the farmer's income with that of other classes of workers is difficult because the farming business has not been entirely reduced to a money basis.

The average farm family has earnings, including house rent and the value of food and fuel supplied by the farm, about equal to those of the average industrial family, but the farmer has the advantage of a much lower cost of living and has, in addition to his earnings, the interest on the money he has invested in his farm business.

The wages of the average farmer are about $600, composed of about $200 in cash and about $400 supplied by the farm. The average wage earner in a factory earns about $460, and the average salaried employee about $1,200. Thus the farmer's wages are higher than those of industrial wage workers but lower than those of salaried employees in industry.

In view of the lower cost of living on the farm and the fact that two-thirds of the farmers have interest in addition to wages, it appears that farmers, as a class, are better off than the majority of persons engaged in other pursuits.

Nature of Farm Business

The business of the farm is so complex and so different in many particulars from that of other enterprises that it is a difficult task to measure the income earned by farmers in terms comparable to incomes of persons in other pursuits. The farmer lives at his place of business and pays no cash rent for the use of his house, while his fields and groves are nearly as much a part of his residence as the rooms in the farm dwelling. The farmer derives two-thirds of his food and fuel from the farm and pays no cash for them. When a value is placed on these items it is a wholesale farm value, which is much less than the price paid for the same articles by the city dweller, who has to pay in addition a series of transportation charges, commissions, and profits of middlemen. Furthermore, the products supplied by the farm are generally superior in quality to those obtained at groceries by the average city dweller. It is impossible, however, to place a correct money valuation on this difference.

The farm owner's capital is his farm. This includes not only his real-estate investment but also his entire working capital. The farm generally represents all of his savings and the inherited savings of his ancestors. The income derived from the farm is composed, from his point of view, of four different elements—the cash earnings of the farm family during the year under consideration, the living supplied by the farm, the annual return on the accumulated savings of his forbears.

In comparing the farmer with the city man who draws a weekly wage for his labor and spends it in providing the necessities of life for his family, the outstanding difficulty involved is the fact that the farm business has as yet not been reduced altogether to a money basis. The city man sells his labor for money and buys all he consumes at the cost of money. He invests whatever savings he may have or whatever capital he may have inherited in enterprises that often have no connection whatever with his own activities. In other words, the city man's life has been entirely reduced to a commercial basis, his income and outgo may be measured in terms of the medium of exchange, while the farm is still to a large extent a self-sufficient unit producing values not all of which have been reduced to exchange prices and an income that contains elements measurable only by the amount of satisfaction derived by the owner.

Earnings of Farm Family

It is estimated on the basis of the census figures that the total value of crops produced in 1909 by the 6,362,000 farmers in the United States and not fed to live stock amounted to about $3,250,000,000. The value of the live-stock products of the farms was $1,125,000,000, and the value of animals sold and animals slaughtered on farms, $1,833,000,000. The total gross income derived by farmers from all these sources was about $6,208,000,000, or $976 per farm. In this item are included such portions of the farm products consumed at the home farms as the census enumerator was able to estimate, but the total falls short of the full amount of the farmer's income by the omission of the milk and cream consumed on the home farm and of a large proportion of the vegetables, fruit, and poultry. Furthermore, the figure includes no allowance for the fuel and use of the house. The aggregate of these additional items has been estimated at $1,654,000,000, or $260 per farm, making a total gross income of $1,236 per farm. Out of this gross income the average farmer pays $512 in farm expenses, including labor, fertilizers, feed, animals purchased, etc., and the cost of repairs and depreciation charges, leaving a net earning of $724 available for family expenses, payments on mortgage, and savings. After deducting interest on the investment at 5 per cent ($322), there is left $402, the income produced by the labor of the farm family.—E. A. Goldenweiser, U. S. Department of Agriculture.

THE PACKER PLAYS SAFE

During the last two weeks the Packer's Combine pounded down the price of Beef Cattle approximately $1.50 per hundred. Simultaneously they announced with a flare of trumpets that they had reduced the wholesale price of dressed beef 2 cents per lb. to the retail butchers of the Country. In other words, the reduction in the wholesale price of meat was the pretext upon which they pounded the live stock producer.

Now lets see how this works out: A reduction of $1.50 per hundred to the cattle shipper meant a loss of $15.00 on every 1000 lb. steer. A 1000 lb. steer will dress out approximately 550 lbs.—and a reduction of 2 cents per lb. in the wholesale price means $11.00. So the Packers have $4.00 more in profits on every 1000 lb. steer today than they had before they pouded the price to the producer or reduced it to the consumer. In other words, the Packers never make a move that doesn't put more money into their till—and once more I ask, how much longer will the farmers of this Country stand for this kind of a deal?

William Hirth, Publisher,
THE MISSOURI FARMER, Columbia, Mo.

Wanted Stock or Dairy Farm

I want to lease a fully stocked farm or dairy big enough for my own force. I have four farm raised boys and we are up-to-date and mean business. Prefer share basis and possession at once. Can furnish best of references. If you have a good stock farm or dairy and are looking for somebody who will sincerely try to make money for you and for himself, write to W. C. J., care of The Missouri Farmer, Columbia, Mo.

Farm Manager Wanted

I want a high class man capable of managing a fine 320 acre farm and will pay good money to the right man. Must have a good head on him, be willing to buckle down to hard work and know how to handle all kinds of farm machinery and how to feed live stock. This is an unusual opportunity for a young married farmer. A steady and intelligent young German preferred. No "clod hopper" can fill the bill. Write to H. J., care of The Missouri Farmer, Columbia, Mo.

Farmer organization is the only hope for deliverance from the intolerable manipulated markets which exist at this time. How much longer are you and your eighbors going to stand for it?

THE COMMON GOOD

There is a principle involved, in this, that relates to character building. Until a sufficient number of men and women are unselfishly inspired to protect our civilization and promote a better one, without reference to compensation, other than a living that by habit they are accustomed to, if such compensation is needed, governments will continue to dissolve and evil thrive. A desire to promote the Common Good must permeate the multitude, before we can stay the devastating forces in evil character that are destroying us.

Too many are trying to pluck the Common Good. The commonly accepted idea is that the Common Good —our civilization—will take care of itself. That it will stand being neglected and being imposed upon. The question is too often asked, "What is there in it for me?" And to pluck the Common Good, to graft on it and to get out of it for oneself as much as possible, giving as little as possible in return, is the practice of too many.

We are in an era where too few appreciate, That man serves himself best by promoting the Common Good.

When a sufficient number exist, each trying to benefit self by neglecting or imposing on the Common Good, there will come an end to free government and to civilization. They will tear out the pillars from under the Temple of Civilization and it will all come down on our heads—as in Mexico and in twelve other nations where it is now a pile of ruins.

On one occasion, a road overseer going to his field to work took with him a plank to replace a broken plank in a culvert that he would cross in the road. He put the new plank in the culvert and worked in his field all day for himself, then charged and received pay for a day's work on the road. This illustrates how the Common Good, that should be of first and prime considration, is plucked. I have known the officers of a railroad, when the employees of the government were weighing the mail in transit to establish the yearly average on which to fix the railway company's compensation, to load the mails with everything they could get their hands on that was mailable.

This same disposition, practiced generally, signals the falling in of the Temple on our heads.

Washington gave eight years of his life to the Common Good, as Commander-in-Chief of the American army and refused any compensation for it. Many others did the same. Where are their prototypes today? Now they not only want pay for their services, but a pension for life thereafter, till the country is bled by taxation for hundreds of millions of dollars to pay pensions to able-bodied men, who in their old age are as healthy as you and I. We have one instance of a United States Senator who is doing this. I do not mean to include in this, those who have served their country and are needy—who deserve to be pensioned—but to the tens of thousands who are drawing pensions unjustly, the number unprecedented in the history of nations.

A new era, however, and fortunately, is beginning by men who are now coming to the front, promoting their personal happiness by giving of their time and money to promote the general welfare.

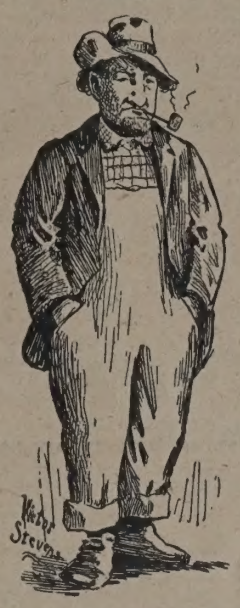
In Jasper County, Missouri, they have road district commissioners to handle and manage the road fund and road work, who charge nothing for their services—men who have an earnest desire to see the Common Good benefited in this respect—and Jasper County under their management has more good roads, probably than any other county in the United States. This movement is spreading in Missouri, now has legal recognition, and in each instance means more roads and better roads—men who are able to do so are emulating the immortal example of Washington.

There is a proper time and place for accepting pay for services performed for the Common Good. The one who needs it for his maintenance, if he earns it, should receive. Those who are able to help promote the Common Good without pay, should find pleasure, happiness and contentment in so doing.

All should do something. The poor man, who can not do more, who gives a day's work helping to make a good road, is doing his part. He who does not find pleasure in making a better world here on earth, is not fitted by character for a paradise in another world. All character may be measured by one's desire or disinclination to promote the Common Good. A desire in one to promote a better civilization is the key that will unlock the door in the Temple in which is stored the treasures of character. Such a person will be unselfish, with mind devoid of false pride and prejudices.

Wm. H. Harvey.

By Old Jim Riley



All I am tryin' to do is to hold onto my old pa'm leaf fan until that rain which old Doc Hicks has promised to send around the first of August gits here. If Doc goes back on me this time, th' only other thing left I know of is th' ice house.

ARE YOUR CHICKS DOING WELL?

If, for no apparent reason, there is a lack of thrift among your young chicks, perhaps the cause is lice, or worms in the intestines. Examine the chicks about the head for head lice. Lice are more likely to be present on hen-raised chicks. If lice are found grease the heads of the chicks with lard which is free from salt. Do not use lard and sulphur. Apply the lard with the finger, rubbing the head, neck, under the wings, and around the vent. The brooding hen should also be treated. One of the best methods of exterminating lice on the mature fowl is to rub a piece of blue ointment, the size of a pea, into the skin just beneath the vent, and also under each wing. Do not daub it on, but rub it well into the skin, as blue ointment is very poisonous and will kill the hen if she gets some of it into her mouth.

If no lice are found, carefully examine the intestines of a dead chick for intestinal parasites, such as tapeworms or round worms. If worms of any kind are found, the chicks should be treated and removed to fresh ground where there are no worms in the soil. As long as the chicks remain on the old runs the danger of contamination is always present.

To treat for intestinal parasites feed should be withheld for twelve hours, and one of the following remedies given:

Powdered areca nut 30 to 45 grains for an adult bird.
Powdered areca nut 15 grains for immature chicks.

This can be mixed in a wet mash and fed so that each gets an equal amount. It can be fed to older birds in capsules which can be forced down the gullet.

Turpentine, 1 to 3 teaspoonfuls, depending upon the age of the bird, is also effective. It can be made less severe by mixing with an equal amount of cottonseed oil, but if ineffective, should be used full strength. The best method of giving turpentine is by forcing it through a small flexible catheter that has been oiled and is passed through the throat into the crop.

Good results have been reported also with the use of tobacco dust, using 5 to 10 grains to a bird. This can also be fed in a wet mash.

The droppings containing the worms should be burned or buried deep to prevent the chickens from picking them up.—H. L. Kempster.

BUY YOUR SILO NOW

The Dickey Silo

is salt-glazed and vitrified, like a jug or your milk crock. Four walls, three dead air spaces. Thirty years of knowing how is worked into each and every block. We give you written guarantee to protect you.

The Dickey Silo is the kind you want on your farm; because it will last forever. No paint—no plaster needed to make it tight; the glaze and vitrification (glass like) takes care of that.

Buy It Now! Pay Later

Save yourself against loss of crops by having Silo ready to use if drouth and hot winds come.

We Can Ship at Once

We can send you an experienced mason to erect the Silo.

Send for our book telling why the Dickey Silo—Salt-Glazed—Vitrified—is better than all other kinds. Read what the man says who owns one. Compare the Dickey Glazed Silo with all others. If you do, you will buy the Dickey.

Let us know about what size silo you want, and we will quote you prices. Complete instructions with blue prints—everything you need to begin building at once.

Dickey Clay Mfg. Co.
204 Silo Dept. Kansas City, Mo.

A DOLLAR AND A HALF A HEN

There is profit in keeping a good poultry flock. This was shown by a flock of White Leghorn pullets at the University of Missouri. From 50 to 60 birds were housed in an open front poultry house with a yard 100 feet square which was sowed to wheat in the fall. This furnished green food in the late fall and early spring and was not charged against their feed bill.

In a year's time the fowls consumed 2,693 pounds of grain and 962 pounds of mash. The total cost of the feed was $66.27. In estimating this cost the following prices per 100 pounds were used; wheat $1.66; corn, $1.60; bran, $1.20; corn-meal, $1.75; shorts, $1.40; and beef scraps, $3.25. These prices are higher than the feed would bring if sold by the farmer, but at that the flock returned a good profit. They produced a total of 8,057 eggs at a food cost of 10½ cents a dozen. At the prevailing prices the eggs sold for $157.17, thus giving a total profit of $90.90. The results per month were as follows:

Month	Eggs	Per cent production per month	Eggs in dozens	Price per dozen	Value
Nov.	337	4.1	28.1	.30	$ 8.42
Dec.	215	2.6	18	.35	6.30
Jan.	300	3.7	25	.40	10.00
Feb.	552	6.85	46	.30	13.80
Mar.	993	12.3	82.7	.25	20.69
Apr.	1124	13.9	95.3	.20	19.07
May	1005	12.44	83.7	.20	16.75
June	921	11.81	76.7	.20	15.35
July	1059	13.1	88.2	.20	17.65
Aug.	880	10.9	73.2	.20	14.65
Sept.	478	5.9	40	.25	9.95
Oct.	193	2.4	15.2	.30	4.57
Total	8057	100%	671.4	Av.23.4	$157.17

At an average price of 23.4 cents a dozen the hens returned a profit of a dollar and a half apiece above the cost of feed. Even at an average price of 20 cents a dozen the hens doubled the value of the feed.

They were fed as a scratch food a mixture of two parts cracked corn and one part wheat. The mash consisted of equal parts of bran, shorts, corn-meal, and beef scrap. Grit, oyster shell, and water were kept before the birds all the time.—H. L. Kempster, Missouri College of Agriculture.

Suburban Home for Sale

A nice home consisting of 17 acres in the suburbs of Columbia, Mo.—5 room house, good outbuildings, young orchard, good shade and water. Located within half mile of city. This is a fine chance for those who desire to educate children in the University of Missouri. Write for further particulars and price to The Missouri Farmer, Columbia, Mo.

Stop Crop De-struction

Solve the drainage problem. Write for free book and letters from hundreds of farmers telling what they do with the Martin.

The Martin O.D.&G.Co.
Farm Ditcher and Road Grader
cuts ditches, throws up terraces, levels bumps, fills gullies, makes levees, builds roads. All-steel, adjustable and reversible for wide and narrow cutting. 10 days' trial. Money back guarantee.
Owensboro Ditcher and Grader Co., Inc., Box 311, Owensboro, Ky.
Branch: Traders Building, Kansas City, Mo.

Overhauling Typewriters Rebuilding

To the typewriter owners who are located in the smaller towns in the state of Missouri, and who do not have the advantages of the city in having a typewriter Mechanical Department near at hand, this advertisement is to advise you that our agents cover the entire state and do repairing, overhauling and rebuilding in your own town without the necessity of boxing your machine and shipping it in. All work done under a guarantee of satisfaction or no charge. Kindly write for further information.

American Typewriter Rebuilding Co.
Kansas City, Missouri.

Learn Telegraphy

NO POSITION, NO PAY. Largest School in the West. Over 300 students. 5 Teachers of R. R. experience. Regular Wabash R. R. wire. Attend on credit and pay when in position. Car fare paid. Write for catalog.
CHILLICOTHE TELEGRAPHY COLLEGE
293 Irving Ave., Chillicothe, Mo.

Build Your WORN OUT SOIL SWEET CLOVER

The great crop for soil fertility and animal feed. Exceptionally rich in nitrogen and humus. Higher protein content than alfalfa. Sow in spring, summer or winter. Write for prices.
Bokhara Seed Co., Box F, Falmouth, Ky.

RAMS Registered Shropshires—yrls. and twos. Bred for weight and wool. That's what you raise lambs for. The best go first. Come to the farm or write
C. W. Chandler, Kellerton, Iowa
80 miles north of St. Joseph, Mo.

If you believe in the fight which THE FARMER is making for the organization of Farm Clubs, why not write to us for a suitable Constitution and By-Laws and then get your neighbors together and get down to business? Why not join hands with the splendid work which thousands of farmers are doing in other parts of the state?

Live Stock Notes

R. P. ROYCE, Fieldman

Adenhill Farm Durocs

In regard to the Durocs now in offer by R. L. Hill, Columbia, Mo., this well known breeder has the following to say:

Just at this time we have several good yearling gilts, and a number of good fall gilts, all bred for fall litters, and these are doing nicely, running on rape and alfalfa, and getting a good lot of feed. They are well grown, in good breeding condition, and are going to make big sows at maturity, for they are sired by big boars and out of big prolific sows. Sows and gilts bred for fall farrow are going to be scarce, and we only have a few to offer and we are pricing them very reasonable. Will be glad to have inquiries for these, as we are anxious to see them go into good hands.

Our spring pigs are growing rapidly, and we are now offering about twenty-five good spring boars, sired by such boars as Col. Wonder II., our big 2nd prize boar at the Mo. State Fair, 1913, sired by the grand champion that year, and a litter mate to the 1914 grand champion sow. We have some boars by Golden Tat, one of the good big sons of the reserve grand champion Tatarrax Again, and also a few good boars sired by Missouri Valley Chief. These boars are priced reasonably, according to their age, and they will make big boars at maturity, with lots of stretch, plenty of bone, and quality to spare.. At this season of the year these spring boars can be purchased cheaper than at any other time, the best pigs are offered for sale, they can be shipped for less money now than at any other time.

We guarantee satisfaction on these boars and the bred gilts and if the purchaser is not pleased with what we ship him he does not have to accept the hog.

Splendid Shorthorn Bull Value

Elsewhere in this issue appears the advertisement of Nelson Cole, Brashear, Mo., in which he offers for sale his Shorthorn herd bull, Imperial Knight 353519. This bull was calved March 19, 1911, he is by Flower Knight 264126 out of Orange Crest 2nd by Lavender Viceroy. This bull is well bred, of excellent type, and will weigh around 1800 pounds in just breeding condition. He has given good account of himself in the Cole herd and is being offered for sale because Mr. Cole plans to keep a number of his daughters. Here is a good chance for some one to buy a well bred bull worth the money.

Shropshire Bucks

Hugh Whiteford, the well known Hereford breeder of Guilford, Mo., offers our readers some excellent values in pure bred and high grade Shropshire bucks. The four year old registered buck is one of the best in the state and is highly recommended by Mr. Whiteford. The grade yearling bucks are all out of choice ewes and are of the type most sought after by discriminating sheep men. Our readers can always depend on getting a square deal from Mr. Whiteford and will find his stock to be just as represented, or better.

Missouri Hampshire Breeders to Stage Free Sale August 8th

On August 8 the Missouri Hampshire Breeder's Association will hold the first free sale ever held in the history of the breed. The sale will be held at St. Joseph, Mo.

This sale is the first of a series planned and backed by the Hampshire Record Association, for the purpose of bringing this popular breed before the public in a strong way.

The leading Missouri breeders have agreed to furnish one hundred head of exceptionally high class boars and sows. Fifty per cent of the selling price goes to the breeder, ten per cent goes to the Missouri Association, and forty per cent will be used as premium money at the National Swine Show at Omaha and other important fairs and shows. All advertising, auction fees, and other sale expenses, are donated free. The management of the sale has exercised great care in getting together a superior consignment and prospective purchasers are assured of having a very unusual lot to bid on. When it is stated that the foremost breeders of this state are consigning top animals, an idea is given as to the quality of the offering, for, be it remembered that Missouri has some of the greatest sires the breed has ever produced.

Our readers are urged to keep the date, August 8th, in mind, and to arrange to attend this very unusual sale. Any further information may be obtained by writing Col. Thos. E. Deem, Cameron, Mo.

TANKAGE, CORN, AND WHEAT FOR HOGS ON PASTURE

In experiments recently conducted at the Missouri Agricultural Experiment Station and published in Bulletin 136 it was found that more rapid gains were made by hogs fed tankage in addition to wheat or corn or both than if the tankage was omitted. Whether the gains were more economical depended on the quality of the tankage and the price it was necessary to pay for it. If part or all of the grain ration was wheat the gains were both more rapid and more economical than if corn was the only grain fed.

For the 120-day feeding period the wheat-fed hogs made an average daily gain of one pound and a quarter a head a day as compared with one pound for the corn-fed hogs. It required 582 pounds of corn for every 100 pounds gained but only 483 pounds of wheat. Apparently the more exclusively the ration was made up of wheat the more efficient it was, for a mixture of equal parts of wheat and corn proved more efficient than corn alone both for low cost of gains and for rate of gain but the mixture was less efficient than wheat alone.

Tankage added to the feed increased the rate of gain and reduced the amount of grain required to produce a hundred pounds of gain. This increase in gain was much more pronounced, however, during the first 78 days of the 120-day feed than during the last 42 days. Results indicate that it would be profitable to feed tankage to fattening hogs for the entire feeding period when corn was used but only for the first 78-day period when wheat was fed. While the addition of tankage to the wheat ration increased the rate of gain during the last 42 days of the 120-day feeding period, this increase was hardly enough to warrant the increase made in the price of the ration due to the addition of the tankage.

TEMPERATURE IN THE SILO

Every one who has used a silo has observed that at times the silage becomes hot. This is generally noticed on the surface during mild weather as when the silage is being fed in rather small quantities. Many have supposed that the entire mass of silage becomes very hot and that a certain amount of heat is necessary to preserve it. Agents of various types of silos have also taken advantage of the lack of general information on this subject to make claims for or against certain types of silo on the ground that the temperature of the silage is influenced by the particular construction.

The Missouri Experiment Station decided two years ago to get the facts. Electric thermometers were placed in silos to take the temperatures. A bulb was placed in the silo during filling at any point where it was desirable to take the temperature. This bulb had wires leading to the outside of the silo so the temperature could be taken with an electrical device at any time. Temperature readings were taken near the center of the silage mass and at the wall at frequent itervals during two seasons in from 8 to 10 silos including stave, iron, tile, Gurler and concrete.

It was found that the temperature in the depth of the silage is never high as is so often thought. After filling, the temperature rises from 5 to 10 degrees the first few days and then slowly declines during the fall and winter until it reaches the lowest point, about 40 degrees, in March. In good silage the temperature seldom goes more than a few degrees if any above 100 F. and may not go above 90. The only high temperatures found are at the surface when the air comes in contact with silage. Furthermore a temperature much above 100 means loss of silage as some of the material is being actually burned to make the heat. Mould will raise the temperature some. Corn put in the silo in a mature condition develops more heat than that put in green. No relation was found between the material used in the construction of the silo and the temperature of the silage. Practically no difference in the freezing of the silage on the wall was observed with the different kinds of silos.

No one in the climate of Missouri at least, need hesitate to choose whichever type of construction he prefers on account of any fear regarding the temperature or freezing of the silage. —C. H. Eckles, Missouri Agricultural Experiment Station.

Appointment of Committee on Live Stock Sanitary Affairs

The Secretary of Agriculture has appointed the following named members of the Bureau of Animal Industry as an advisory committee on Live Stock Sanitary Affairs: Dr. A. D. Melvin, Chief of the Bureau of Animal Industry, chairman; Mr. Geo. M. Rommel, Chief, Animal Husbandry Division, Bureau of Animal Industry; Mr. B. H. Rawl, Chief, Dairy Division, Bureau of Animal Industry; Dr. R. A. Ramsey, Chief, Field Inspection Division, Bureau of Animal Industry; Dr. R. W. Hickman, Chief, Quarantine Division, Bureau of Animal Industry.

The committee will act in an advisory capacity on all live stock sanitary questions and will consider such matters as may be referred to it by the chairman or the secretary. Also on its own initiative it will consider related questions, suggest means for the control and eradication of animal diseases, and recommend such measures as seem best suited for live stock sanitary control work and for the gneeral welfare of the animal industry.—U. S. Dept. of Agr.

POLAND CHINAS

Smooth Columbus
THE BOAR THAT PUT MISSOURI ON THE MAP. HEADS OUR HERD

SMOOTH COLUMBUS BLOOD has held the record in Missouri for two years—it will do it again next year. Fall pigs, either sex, by this great boar, now offered for sale.
BENNETT BROS. R. 5. LEE'S SUMMIT, MO

Spring Boars by the Grand Champion
A desirable lot of early spring boars by The Giant, acknowledged to be one of the greatest young Poland China boars of the breed. Prices within reach of all.
WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

Poland Chinas & Shorthorns
Bred sows and gilts. The real big kind with bone and quality. A few serviceable boars. Several extra good young bulls and heifers. Satisfaction guaranteed.
H. S. Williamson, Route 6 Centralia, Mo.

BAKER'S REAL BIG-TYPE POLANDS
We have a number of extra good spring boars sired by Big Look that we are offering worth the money. Need the room and must sell.
W. A. BAKER & SONS, BUTLER, MO.

Linhardt's Polands
I have a choice lot of extra good fall gilts sired by outstanding boars. Customers in 26 states. GIANT MAMMOTH 68375 and CHIEF BIG BONE 75856 in service. Priced for farm trade.
H. O. LINHARDT, LOHMAN, MO.

DOOLEY'S SPOTTED POLANDS
Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pair and trios no relation. Also registry furnished. Send check with first letter.
EDGAR DOOLEY, - Etterville, Mo.

DUROC JERSEYS

Durocs With Size and Bone
I am offering a choice lot of early spring pigs with unusual size, bone and quality. Bred right and priced right. Visitors welcome.
A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

Adenhill Duroc Boar and Gilt Bargains
I can supply readers of this paper with choice yearling gilts bred for fall farrow. Also extra good spring boars. My Durocs are noted for size and quality. Satisfaction guaranteed. Inquiries gladly answered.
R. L. (BOB) HILL, ADENHILL FARM, - - COLUMBIA, MO.

Classified Advertising

BARRED PLYMOUTH ROCK EGGS—From A. No. 1 stock. The large, deep barred, yellow-legged kind. Price $5.00 per 100. T. J. Dunn, R-2. Moberly, Mo. t.f.

Shetland Ponies for Sale.—I am closing out my herd. Geo. Aid, Gallatin, Mo. 2-t

THRIFTY HOGS
Are the money makers. They can not be thrifty and have worms. The worm preventative recommended by the College of Agriculture sells for only 3c per pound.
JESSE J CULP, - Warrensburg, Mo.

DUROC HERD BOAR!!
We offer for sale our herd boar sired by Weller's Example and out of a Whiskey & Faith sow. Also a few September boars. Booking orders for spring pigs.
J. C. Garrard & Son, McBaine, Mo.

Hazelwood Durocs
Seventy choice spring boars and gilts sired by HAZELWOOD CHIEF, by CRIMSON COL., and out of OHIO CHIEF bred sows. Get our prices.
E. P. POWELL & SON, Maryville, Mo.

80 O. I. C. Spring Pigs
Guarantee and pedigree accompanies each sale. This herd has been exhibited at World's Fairs and State Fairs for years. You are sure to get prizewinning blood from us. Prices reasonable. Write us today. Address
S. D. & B. H. FROST, Kingston, Mo.

HAMPSHIRES

BROOKVIEW HAMPSHIRES
Herd headed by GEN. TIPTON and SIR BROOKVIEW, both grand champions. Spring boars and gilts of choice breeding and individuality. Prices reasonable.
ISOM J. MARTIN, - Kahoka, Mo.

RED POLLED

RED POLLED CATTLE
Herd established 16 Years
Young stock for sale. Young bulls sired by LOGAN 13500; Calves sired by KNOCKER 28791. Bred for milk and beef. Also offer spotted Poland China hogs and Rieds Yellow Dent seed corn.
M. L. SNYDER. - - POLO, MO.

ANGUS CATTLE

ANGUS CATTLE
Herd founded 1904
Young stock sired by Dean's Eric 139686. Also offer splendid herd bull for sale. Every one the right kind and priced to sell.
V. E. LAWRENCE, SALISBURY, MO.

Aberdeen-Angus
I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.
J. D. Blackwell - Fayette, Mo.

BREED DAYS AT SOUTHWESTERN DAIRY SHOW

The Southwestern Dairy Show Association have designated Monday, September 18th as Brown Swiss Day; Tuesday, September 19th, Ayrshire Day; Wednesday, September 20th, Guernsey Day; Thursday Septemoer 21st, Jersey Day; Friday, September 22nd, as Holstein Day, at their first annual exhibition of dairy stock, dairy products and dairy machinery and equipment, to be held in Convention Hall, Kansas City, Missouri, September 18th to 23rd, inclusive.

On these particular days the local and state breeders' association will hold their meetings. The Southwest Jersey Cattle Breeders Association, Mid-west Guernsey Breeders' Association, State Holstein Breeders Association, are planning special programs for their respective days.

Special breed trophies have been donated by the Holstein-Freisian Association, American Jersey Cattle Club, Ayrshire Breeders Association, Southwest Jersey Cattle Breeders' Associaton, State Holstein Breeders Association, the J. R. Mercer Jewelry Company of Kansas City and J. G. Watson of Kansas City.

Special mention is made of trophies presented by the American Jersey Cattle Club. These trophies are replicas of the famous Warwick Vase. The design is famous and the cups are valued at $100.00 each. The trophies are presented for the grand champion Jersey bull and grand champion Jersey cow, at the Southwestern Dairy Show.

NEW SHIPPING RATES FOR PURE BRED LIVESTOCK

The Interstate Commerce Commission handed down a decision July 20, establishing new shipping rates and regulations governing the transportation of pure bred livestock. The decision was the direct result of a complaint made by the National Society of Record Associations, representing 100,000 pure bred livestock breeders, against practically all the railroads of the country.

Minimum weights were fixed for the computation of freight rates on cattle, sheep and swine, and it was orde that the liability of carriers should be on the following basis:

Horse or mule, $150; colt, ox or bull, $75; cow, $50; calf, $20; hog, $15; sheep or goat, $5.

In the case of shippers desiring to declare higher values, the commission held railroads are justified in charging an additional 2 per cent on the rate for each 50 per cent or fraction above the standard value.

Higher charges for crated stock than for uncrated and rules requiring shippers to furnish attendants were found unreasonable and ordered discontinued.

CARE OF HORSES IN HOT WEATHER

The Boston Work-Horse Relief Association has prepared the following rules for the care of horses during hot weather. If every horse owner would put into practice these simp rules, he would get more efficient service from his horses.

Load lightly, and drive slowly.

Stop in the shade if possible.

Water your horse as often as possible. So long as a horse is working, water in small quantities will not hurt him. But let him drink only a few swallows if he is going to stand still. Do not fail to water him at night after he has eaten his hay.

When he comes in after work, sponge off the harnes marks and sweat, his eyes, his nose and mouth, and the dock. Wash his feet but not his legs.

If the thermometer is 75 degrees or higher, wipe him all over with a damp sponge. Use vinegar water if possible. Do not turn the hose on him.

Saturday night, give a bran mash, lukewarm; and add a tablespoonful of saltpetre.

Do not use a horse-hat, unless it is a canopy-top hat. The ordinary bell-shaped hat does more harm than good.

A sponge on top of the head, or even a cloth, is good if kept wet. If dry it is worse than nothing.

If the horse is overcome by heat, get him into the shade, remove harness and bridle, wash out his mouth, sponge him all over, shower his legs, and give him two ounces of aromatic spirits of ammonia, or two ounces of sweet spirits of nitre, in a pint of water; or give him a pint of coffee warm. Cool his head at once, using cold water, or if necessary, chopped ice, wrapped in a cloth.

If the horse is off his feed, try him with two quarts of oats mixed with bran, and a little water; and add a little salt or sugar. Or give him oatmeal gruel or barley water to drink.

Watch your horse. If he stops sweating suddenly, or if he breathes short and quick, or if his ears droop, or if he stands with his legs braced sideways, he is in danger of a heat or sun stroke and needs attention at once.

If it is so hot that the horse swe in the stable at night, tie him outside, with bedding under him. Unless he cools off during the night, he cannot well stand the next day's heat.

STAY WITH ONE BREED

It is surprising to observe how many stock farmers have been inclined, after having bred grade cattle for a considerable number of years, usually of Shorthorn blood, to use upon thes females a cross of some other breed. The writer has known a number instances of herds having been graded up in Shorthorn blood for a period of ten to twenty-five years and then all of these years' efforts abandoned by the introduction of a sire of another breed. In some cases, the first cross on such a foundation appears entir satisfactory, but the later crosses are less reliable and in a large percentage of cases, prove a disappointment.

It takes years to grade up a herd, and when this is done by the continuous use of registered sires of any breed the results show a steady improvement, assuming the sires used to be of a higher standard than the foundation females. After a few such crosses are made, the herd becomes for all practical purposes as useful as a full blood herd; but when a cross of another breed is introduced, further improvement becomes uncertain. It opposes an established law of heredity and that breeder is doomed to disappointment who runs counter to this law.

It is unfortunate that this practice has been more or less frequent. Yet, experience teaches that the breeder of grade herds who expects to make progress has only one practical course open and that the use of sires of one breed and of meritorious ancestry and individuality. Remarkable results have been obtained in the British Isles where many high grade herds of Shorthorns are maintained both for dairy and beef purposes that compare favorably in individual excellence with the standard of the registered herds. This has been accomplished by the careful and continuous selection of Shorthorn sires and the gradual elimination of the undesirable blood.

Frank D. Tomson.

$50,000 SUBSCRIBED TO INAUGURATE NATIONAL ADVERTISING OF DAIRY PRODUCTS

A fund of $50,000 has been subscribed by men prominent in the dairy industry for the preliminary work of the big national advertising campaign to increase the production and consumption of milk, butter, buttermilk, cheese, and ice cream.

Advertisements are in preparation and will shortly appear in the Saturday Evening Post and other national magazines, in such newspapers as the New York Times, Chicago Tribune, Philadelphia North American, St. Louis Globe-Democrat, Boston Post, Cleveland Plain Dealer, Detroit Free Press, and others.

It is proposed to raise a total fund of at least $750,000 to cover a complete campaign of 3 years and to expend in advertising, general publicity, and organization work approximately $20,000 a month for 36 months.

The godfathers of this extensive, powerful, and beneficial project are enthusiastic in their belief that this step means the full realization of the object of the National Dairy Council, now counting 280,000 members, "to advance the cause of dairying in America by promoting the dairy cow and all interests dependent upon her, through co-operative and united effort."

All now depends upon the support given the execution of this plan by the individual members of the industry. And the broad-guaged underwriters to the preliminary fund are confident that their enterprise and liberality in financing the opening campaign will electrify producer, manufacturer, distributor, and consumer alike and that the big fund of $750,000 will be promptly subscribed.

It is believed that the wonderful results obtained through co-operation in the orange and raisin industries, in the lumber and cement industries and others will be equaled and surpassed; that the American cow and all dependent upon her will, at last, come into her own, and that the dairy industry will quickly be placed in the very front rank of modernized, closely organized and highly efficient institutions.

The cow, the milk producer, the buttermaker, the cheesemaker, the ice cream manufacturer, the distributor will now have a sponsor armed to the teeth to combat inimical interests, stop misrepresentation, spread information and education, and heighten the standard, the prestige, and profit of the industry at large.

And the great American people and public will be benefited in its health and its pocketbook.

Over and beyond all that, the success of the campaign must solve the Nation's most troubling agricultural problem—the fertility of its soil, and ward off the impending danger of its loss of standing among the nations of the world as the standard bearer of agriculture.

Battles are won not by wishbone, but by backbone—with men, money and machinery, and the dairy industry is to be congratulated upon the acquisition of a fighting machine to thwart its foes and secure its rightful place in the sun. What is your contribution to the war chest?

W. E. Skinner, Secretary.

Lambs in the Cornfield

We wean our lambs about the first of July or even earlier at the Missouri Agricultural Experiment Station, but do not turn them into the cornfield until late in August or early in September when the forage has passed the "watery and washy" stage.

It is better to turn the lambs into the cornfield only an hour or so in the evening the first time and a little longer each day for three or four days, after which they can be left in the cornfield without further danger from the new feed.

Lambs will make more profitable gains in a cornfield in which cow-peas have been sown.—H. Hackedorn, Missouri College of Agricluture.

Know Your Cows

Don't be satisfied if the average milk yield from your herd is fairly good. Many cows board at the expense of the high-producing members of the herd. Success on the dairy farm depends on weeding out all these star boarders and keeping only the cows that more than pay their way.

The only way to be sure which cows really do pay is by keeping careful record of the amount of milk given by each cow in the herd, and the amount of butter fat her milk contains as shown by the Babcock test. The test should be made fairly frequently but the milk given and the feed used should be recorded every day. Circular 57 which is distributed free by the Missouri Agricultural Experiment Station shows how easy it is to keep the necessary records.—L. W. Wing, Jr., Missouri College of Agriculture.

Status of Horse Industry

Up to May 1 since the war in Europe began the United States has exported 593,136 horses, valued at more than $130,000,000, and 158,154 mules, valued at more than $32,000,000. Foreign nations are buying more heavily than ever before. In addition to that the United States government on June 26 opened bids for more than 60,000 mules and horses for its army.

Tried Shorthorn Bull

I offer for sale at reasonable price my herd bull, Imperial Knight 353519. Red, five years old. Splendid sire. Am keeping his daughters. Weight between 1800 and 2000 lbs. Good disposition.

NELSON COLE, - Brashear, Mo.

JERSEY CATTLE

JERSEY CATTLE

Bulls ready for service, They are sired by the Owl's Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

JERSEY BULL CALVES

I have three extra fine ones for sale. Sired by Stockwells Champion. He has won 29 first and Champion ribbons at the leading State Fairs. Calves are out of very high producing cows. For breeding, etc., writ.

J. B. SMITH Platte City, Mo.

SUNSET CORRECT TYPE JERSEYS

To keep our herd within 100 head we will offer at private sale fifty Jerseys, consisting of cows, bred and open heifers, young bulls, heifer and bull calves. Can fit out small herds for beginners. 125 head to select from. The famous Blue Belle-Golden Rosebays. Send for special circular before buying elsewhere. Bargains. Mention your wants.

THE ENNIS STOCK & DAIRY FARM, Horine, Mo. (Just south of St. Louis.)

HOLSTEIN CATTLE

Dutchland Sir Hengerveld Rag Apple 99771

A few choice bull valves out of heay producing dams sired by the above famous bull for sale.

BLACK AND WHITE FARM
Baden Station, Mo.
Tel. Colfax 1812 R. R. 30

IN MISSOURI

Eight Bulls, 2 to 8 months, $100 to $175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.

S. W. COOKE & SON, MAYSVILLE, MO.

HOLSTEINS

Young bulls and heifers from A. R. O. cows. Sired by Sir Korndye Imperial 53683. Eighty per cent of herd have A. R. O. records. Inspection invited.

M. E. MOORE & CO., Cameron, Mo.

Shropshire Bucks

For Sale — Registered Shropshire buck, four years old, a great individual. Also grade yearling bucks out of choice ewes, priced right.

HUGH WHITEFORD,
GUILFORD, - - - MISSOURI

Reg. Shropshire rams, yr's and twos. Square built, rugged hardy bucks with weight, bone and heavy fleece. Quick shipping facilities & priced cheap. 412 head. Above Kansas City.

HOWARD CHANDLER, Chariton, Iowa.

AUCTIONEERS

P. M. GROSS
Live Stock Auctioneer
"Twelve Years on the Block"
Pure bred Sales a Specialty
Sales Made Anywhere
MACON, - MISSOURI

Thos. E. Deem
LIVESTOCK AUCTIONEER
Selling for the foremost breeders. Address
Cameron, : Mo,

FARMER BOYS ATTENTION!

Here is Great News for You

A Bank Account of Your Own!

HERE IS A GREAT AND SPLENDID OPPORTUNITY!

SEVERAL WEEKS ago we announced that we would present a fine bred gilt to every farmer boy who sends us $50.00 worth of subscriptions to THE MISSOURI FARMER between the time the announcement was made and November 1st —and we have never made an offer which has aroused more interest and dozens of bright farmer boys are already at work, while fresh inquiries are coming in on every mail. This offer is open to any farmer boy in the state and all you have to do is to get 50 farmers in your neighborhood to give you a dollar each for three years subscription to THE MISSOURI FARMER when we will ship you a bred gilt selected from among the best pure bred herds in the state. You can select either a Duroc, Poland China, Berkshire, Chester White or Hampshire gilt—whichever breed you like best and between now and November 1st I want

ONE THOUSAND MISSOURI FARMER BOYS

to **make good** on this great offer. If you take good care of the gilt and her litter of pigs they will start you in the pure bred hog business and enable you to make a lot of money. You can go "halvers" with your Father in the profits—or maybe he will let you keep them all and soon you will have a nice bank account which will enable you to pay your way through College later on or build up a "nest egg" with which to buy a farm of your own some day. Now I am mighty serious about this proposition. The farmer boys of today will be the farmers of tomorrow. Upon their shoulders will rest the responsibility of citizenship—and therefore the sooner you have definite aims in life the better for yourself and for the great Country of which you are a part and which has a right to expect you **to become a real man and play a man's part in the World's work.** That's why I want you pitch in and win one of these fine gilts—for it will give you a greater interest in your Father's farm **and teach you how to become a business man in your own right.** Now just think how fine it would be to have a bank account **of your own** so that when you want to buy something which will add to your happiness you will not have to ask someone else for the money!

Get Busy at Once:

Now think this proposition over carefully. Talk it over with your Father—then if he is willing for you to win one of these fine pure bred gilts—which I am sure he will be—write me at once for a bunch of samplecopies and subscription receipts—**and then pull off your coat, grit your teeth, and go in to win!** No doubt you can sit down right now and think of 25 farmers who will be glad to give you a dollar for three years subscription to a fine paper like THE MISSOURI FARMER—and with a good stiff fight during the next three months you can easily round up the balance. Go to every one of your neighbors and show them a sample copy of the paper. Tell them that it is the **best farm paper in Missouri!**—that its Managing Editor is Geo. B. Ellis who for years was Secretary of the Missouri State Board of Agriculture and who understands Missouri farm problems and conditions better than any man living—that it is their **home farm paper** and that they ought to read it in preference to farm papers published outside the state which do not understand Missouri farm conditions first hand—**and then tell them that you want them to help you win one of these fine gilts—and seven out of ten will do so gladly because everybody is anxious to help a boy who is a hustler!** Don't forget this last point, for it is the truth. That is where we got the splendid adage that the "Lord helps those who help themselves." Now make up your mind right away and write me **before some other boy gets your territory!** The boy who writes first gets the first chance in his neighborhood—**so fill out the blank below and mail it today!**

To Our Subscribers:

If there is a boy in your family please call his attention to this splendid offer. If there is not, then I will take it as a great personal favor if you will bring this to the attention of some bright farmer boy in your neighborhood. It is a chance to do good.

WILLIAM HIRTH, Publisher,

THE MISSOURI FARMER

COLUMBIA, MISSOURI

THE MISSOURI FARMER, Columbia, Mo.:

I want to win one of your pure bred gilts. Please send sample copies and full instructions at once.

Name .....

Address .....

R. F. D. ..... Age.....

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE MISSOURI FARMER

COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE
AND THE MISSOURI EXPERIMENTAL STATION

Illinois Agricultural
URBANA, ILL.

LIBRARY
College of Agriculture
University of Illinois

DON'T GET DOWN HEARTED

Once more we have been compelled to go through a drouth which has withered up thousands of corn fields and turned the rich pastures of a few weeks ago brown and barren—and what this means to the farmers of Missouri is nowhere better understood than in the office of THE MISSOURI FARMER from which we have watched with sinking heart the drouths of 1911, 1913, 1914, and the floods of 1915. In fact, except for the big corn crop of 1912, there has not been a single normal, bountiful year during the last six—and yet, discouraging as these things are, none of us can afford to get down hearted—for, after all, the most of us have much to be thankful for if the good Lord has permitted ourselves and our loved ones to remain in good health. And this last point is a mighty important one during these intensely hot summer days when everybody should be on guard against typhoid fever and other ailments which are deadly, once they find lodgment in the human system. To this end, be sure that your water supply is pure and unpolluted—that no filth of any kind from any source can get into the cistern. In fact, while I am no physician, I think I would boil every ounce of water before it passed the lips of a single individual in the household—for herein lies safety and one cannot be too careful. And then, make war on the deadly fly. Destroy its breeding places in the barns and elsewhere. Keep the farm home premises absolutely clean. Prevent the flies from touching a single morsel of food—and to this end, the house must be well screened and the fly swatter brought into frequent play. Giving this kind of advice is a little out of my line—and I am doing it only for lack of someone who can deal with the subject more ably and because, so long as good health is granted to you and yours, the effect of drouths and other disappointments is, after all, only of passing consequence.

For one thing, let us be thankful that our Country is at peace—that, unlike the great and splendid nations of Europe, there is no roar of battle which reverberates through the hills and valleys by day and by night to bring sorrow and anguish to tens of thousands of homes from whence brave men have gone forth to return nevermore. After all, with the meadow full of hay stacks, is not our fate vastly more fortunate than that of these people across the seas—even though our corn fields show the effect of a summers pitiless sun?

On the contrary, let us hitch up our belts a notch or two and start to planning a big County Farmers Mass Meeting along the line of the appeal which appears elsewhere in this issue from the Farmers Marketing Committee and which every farmer in Missouri should read with profound thought. These frequent short crops only go to show that we cannot combat drouths, floods, the "Packers Combine" and the grain gamblers all at one and the same time. Either one of these influences is bad enough—but when they "double up" on us they overwhelm us. Now while we cannot control rain and sunshine, we can get together and by means of powerful farmer organizations compel a "square deal" in the market place—and this is the overshadowing issue which confronts every farmer in the land today. Again, if the farmers of your county will get in line on this organization program it means that you will be able to buy whatever feed you may need next winter at the prices which other farmers receive for it. So, also, the proposal to sell our surplus apples direct to Western farmers is a great step in the right direction. In other words, here is a constructive, practical program which will save thousands of dollars to the farmers of every county in the state if they will only "wake up" and get together.

The business of farming is the greatest business in the World—and once farmers are in position to demand a fair price for what they produce—when the parasites are no longer in position to rob both producer and consumer—then crop failures will be robbed of their terror because with the margin which now goes to a gang of great industrial vampires equitably divided between producer and consumer, the farmer will reap a reward which is in keeping with the natural law of supply and demand—and thus, while he will not make nearly so much during the lean years as during the fat ones, he will nevertheless be able to pull through without going backward.

William Hirth, Publisher.

GEO. B. ELLIS
MANAGING EDITOR

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WILLIAM HIRTH
PUBLISHER

"HOLDING UP" THE FARMER

By WILLIAM HIRTH

During the recent wheat harvest in Kansas, Nebraska and other Western States, the public press contained numerous dispatches dealing with the lawlessness of the I. W. W.—a labor organization of which the public has heard considerable in recent years. Droves of I. W. W. followers sought to compel every harvest hand to join their order and thus not only exact an exorbitant daily wage from the farmer but also to cut down the usual number of hours of work which farm hands have cheerfully rendered from time out of mind. When young farmers and college students who had, in many instances, left their homes in distant states in order that they might earn a little extra money in the Western harvest fields refused to do their bidding, they were beaten, kicked off moving trains and otherwise maltreated. In many towns the local police were utterly powerless against these lawless aggregations and the inhabitants lived in a state of terror day and night.

As a result, hundreds of decent, law abiding harvest hands who were perfectly willing to render an honest days work for an honest days pay, returned to their homes rather than incur the risk of bodily injury—and many farmers suffered tremendous loss because they were unable to get the necessary help in their wheat fields when they needed it. And thus, at last, the "reign of terror" with which every great American city and industrial center has been forced to contend from time to time in years gone by has finally reached the quiet and law abiding precincts of the farm, and the farmer has received a sudden and rude introduction to the "real article" in the modern way of "protecting the dignity of labor." It is not the intention of this article to place all the labor organizations of the Country in the same class with the I. W. W.—and yet, is there any essential difference in the methods which are employed in the average labor controversy? Do not nine out of every ten labor disputes finally rely upon the policy that "might makes right?" Is not terrorism and resort to force almost the invariable accompaniment of every labor strike?

If a farm hand is willing to work 10 hours per day for $2.50 in the harvest field, has any labor organization the right to beat and maim him because he refuses to demand twice as much for a less number of hours? Is this not a matter which should be left entirely to him and the farmer who employs him?

Surely the recent experience of these Western farmers should cause farmers throughout the Country to have a keener appreciation of the dilemna in which the Railroads find themselves at this hour with reference to the demands of the Railway trainmen who are asking for an 8 hour day and time and a half for overtime—a concession which would increase the operating cost of American railroads to the extent of $100,000,000 per year and which, in the end, would have to come out of the pockets of the farmer and the general public in the form of increased freight and passenger rates.

Back of this "rule or ruin" demand stand the four great Brotherhoods of Railway Trainmen comprising the conductors, engineers, firemen and brakemen of every railroad in the United States who are, relatively speaking, already the best paid workmen in the Country. The average yearly wages paid to railway engineers at the present time is $2067, conductors $1850, firemen $1203 and brakemen $1095—and as a matter of comparison it is pertinent to ask, how many farmers are there the Country over who can point to an assured annual income of this much? And mind you, unlike the average farmer, these men do not have thousands of dollars invested in land and farm equipment nor are they compelled to contend against crop failures, etc. Their money is as certain as the rising and setting of the sun regardless of whether the balance of the people are prosperous or depressed.

Under the present rules a conductor, engineer, fireman or brakeman receives a full days pay for whatever service he renders during a given day—whether that service constitutes five hours or ten hours work. Hence, at the recent conference between the Railway Managers and the Brotherhood chiefs in New York, the Managers for the carriers asked the tentative question whether, if the demands were granted, the trainmen would consent to do 8 hours work for 8 hours pay—to which the labor chiefs demurred on the ground that they could only discuss the concrete issue before them. That they would ever grant this eminently fair concession no one conversant with the situation believes for one moment. In other words, it is a case of holding all the unfair advantage which they now possess—and, under the threat of tieing up every railroad in the Country, grabbing as much more as they can. Is there anything fair about this? If the farmers of the United States were already paying their farm hands as much for 5 hours work as for 10 hours, would they not hotly resent being forced to pay at the rate of time and a half for the occasional hours of overtime?

The trainmen understand perfectly well that the railroads cannot establish an arbitrary 8 hour day—because, even if all the railroad divisions were rebuilt and relocated, unforseen delays due to weather and a hundred other causes make it impossible to operate a railroad train like a factory which begins and quits with the blowing of the whistle. Hence, the 8 hour day is merely a specious pretext by which these already highly paid employees expect, under the threat of a Nation-wide railroad strike, to extort an additional $100,000,000 per annum out of the railroads.

When the railroad executives proposed to submit the controversy to arbitration at the hands of the Inter-State Commerce Commission which cannot protect the public against an increase in rates unless it also has the power to protect the carriers against an unfair increase in the cost of operation, the Brotherhood Chiefs flatly refused. Then the proposal was made to arbitrate under the Newlands Act which was created for this specific purpose—and again the Brotherhood chiefs demurred and replied in substance that their demands were "just" and that there was therefore nothing to arbitrate.

As a result, the Railroads of the Country are fighting with their backs to the wall. If they stand for the "hold up," they will later on be compelled to shift the extra burden of $100,000,000 per year onto the shoulders of the people in the form of increased freight and passenger rates—a process to which there is no end and a responsibility which they have no right to assume except upon the authority of some power or tribunal which represents and has a right to speak for the American public. If, on the other hand they refuse to "deliver" and hold out for the great American principle of arbitration, they incur the risk of a strike which in point of disaster would be without precendent in the history of the Nation—which would send food prices souring in every village and city in the land and drive many communities

(Continued on page 10)

A Great Increase in Railroad Wages Means Higher Freight Rates and a Burden on Agricultural Prosperity

Do you think the railroads ought to increase the wages of their highly paid train employes $100,000,000 a year?

No great increase in railroad wages can be made without directly touching your pocketbook. Out of every dollar you pay the railroads 44 cents goes to the employes.

Compare the wages of these men (who have refused to arbritrate their demands for higher wages, and are threatning to tie up the country's commerce to enforce them) with those of other American workers—with yours.

On all the railroads in 1915 three-quarters of the train employes earned these wages:

	Passenger		Freight		Yard	
	Range	Average	Range	Average	Range	Average
Engineers - -	$1641 3983	$2067	$1455 3505	$1892	$1005 2445	$1526
Conductors - -	1543 3004	$1850	1353 2932	$1719	1055 2045	$1310
Firemen - - -	943 2078	$1203	648 2059	$1117	406 1633	$924
Brakemen - -	854 1736	$1095	755 1961	$1013	753 1821	$1076

You have a direct interest in these wages because the money to pay them comes out of your pocket.

Low freight rates have given American farmers command of the markets of the world.

With **two-thirds of the cost of operating railroads the wages paid labor,** any great increase in labor cost inevitably means higher freight rates.

A $100,000,000 increase in railroad wages is equal to a five per cent. increase on all freight rates.

The railroads have urged that the justice of these demands be determined by the Interstate Commerce Commission (the body that **fixes the rates you pay the carriers),** or by a national arbitration board. The employes' representatives have refused this offer and have taken a vote on a **national strike.**

This problem is your problem. The railroad managers, as trustees for the public, have no right to place this burden on the cost of transportation to you without **a clear mandate from a public tribunal.**

National Conference Committee of Railways

ELISHA LEE, Chairman.
P. R. ALBRIGHT, Gen'l Manager, Atlantic Coast Line Railroad.
L. W. BALDWIN, Gen'l Manager, Central of Georgia Railway.
C. L. BARDO, Gen'l Manager, New York, New Haven & Hartford R. R.
E. H. COAPMAN, Vice-President, Southern Railway.
S. E. COTTER, Gen'l Manager, Wabash Railway.
P. E. CROWLEY, Asst. Vice-President, New York Central Railroad.
G. H. EMERSON, Gen'l Manager, Great Northern Railway.
C. H. EWING, Gen'l Manager, Philadelphia & Reading Railway.
E. W. GRICE, Asst. to President, Chesepeake & Ohio Railway.
A. S. GREIG, Asst. to Receivers, St. Louis & San Francisco Railroad.
C. W. KOUNS, Gen'l Manager, Atchison, Topeka & Santa Fe Railway.
H. W. McMASTER, Gen'l Manager, Wheeling & Lake Erie Railroad.
N. D. MAHER, Vice-President, Norfolk & Western Railway.
JAMES RUSSELL, Gen'l Manager, Denver & Rio Grande Railroad.
A. M. SCHOYER, Resident Vice-President Pennsylvania Lines West.
W. L. SEDDON, Vice-President, Seaboard Air Line Railway.
A. J. STONE, Vice-President, Erie Railroad.
G. S. WAID, Vice-Pres. & Gen'l Manager, Sunset Central Lines.

The Missouri Farmer

VOLUME VIII AUGUST 15, 1916 NUMBER 16

An Appeal to the Farmers of Missouri

By the Farmers Marketing Committee

"In response to the demand of the Farmers Market Conference which was participated in by representative farmers from all over the state in Columbia last January, we, the Executive Committee of the said Conference make the following appeal to the farmers of Missouri:

We believe that the farmers of this Nation are confronted by the gravest crisis in the history of American Agriculture at this hour and that the time has come when we must organize and stand together as never before if we would save ourselves and our children in the years to come from conditions little better than that of Agricultural bondage.

Farmers Must Pay the Price

On the one hand, the manufacturers of all kinds of merchandise compel the farmer to pay a price for their wares equal to the production cost together with a substantial profit while upon the other hand when the farmer goes to market with his hogs, cattle, sheep, corn or wheat he is compelled to accept a price fixed by the Packers Combine and the dealers in grain futures who are in absolute control of the livestock and grain markets of the Nation and from whose manipulation under existing conditions there is no escape. In other words, the farmer is compelled to buy in a market governed by the law of supply and demand and to sell in a market in which an arbitrary price is placed upon the fruits of his year's sweat and toil—a price which utterly ignores the cost of production and in which condition of affairs is found the answer to the tremendous increase in farm mortgages recorded by the last Federal Census, the increase in land tenancy and the reason why thousands of boys and girls are being driven from the farm to the already overcrowded cities.

Manufacturers Prosper but What of Farmers?

The great manufacturing industries of the Nation find themselves in the midst of unprecedented prosperity at this time and New York rather than London promises to become the future financial center of the World. Every laboring man who is willing to work finds ready employment and through the power of Organized Labor sets a generous price upon his srevices—and although the American farmer furnished $1,600,000,000 worth of exports during the fiscal year of 1914 and 1915 as against $900,000,000 on behalf of our allied manufacturing industries, he is not permitted to share in the prosperity which abounds on every hand but, on the contrary, he was compelled to contend against one of the worst live stock markets in the history of the American farm last winter. Within the last 30 days, the Packers have again arbitrarily reduced the price of beef cattle $1.50 per cwt.—and this condition of affairs, which has existed for the last 25 years, is becoming more and more intolerable. That last winters prices for live stock were the result of deliberate manipulation is exemplified by the fact that, although our meat exports in 1915 were $100,000,000 greater than in 1914, the prices for cattle and hogs were much lower and entailed a loss of untold millions of dollars upon farmers throughout the Country.

Must Organize Now

That the hour has come when we must organize for our mutual wellbeing, and thus place ourselves in position where, like the manufacturer, the merchant, the banker and Organized Labor we can protect ourselves and demand what it costs to produce the great staples of the American farm together with a reasonable profit—upon this depends the future of every farm home in the land and the future of our children who will have to contend against these unbearable conditions when we shall have passed from the scene of action. Upon every hand it is admitted that the farmer could be the mightiest force in the land if he would co-operate and stand shoulder to shoulder with his neighbor—and at last we have reached a time when self preservation offers no other alternative—when organization, co-operation and real farm leadership are the only forces which can rescue our farm homes from the blight which rests upon them at this time, which can provide the pleasures for our loved ones to which they are justly entitled and preserve to the Nation a profitable American Agriculture which is the true source of its wellbeing and permanent prosperity.

County Mass Meetings

To this end, we hereby earnestly appeal to the farmers of every county in Missouri to begin immediate plans for the holding of a two days County Farmers Mass Meeting as soon as the necessary arrangements can be perfected and upon this occasion the undersigned Committee will actively assist in the organization of a strong County Farmers Ass'n through which the foundation of a Farm Club in as nearly as possible every School District in your county may be actively taken in hand. The College of Agriculture and the State Board of Agriculture will doubtless co-operate as far as possible by furnishing a number of able speakers upon Agricultural subjects while other men familiar with this great new movement will deal directly with the question of Farm Organization—and thus this occasion should be made the greatest two days farmers "Love Feast" and coming together of farmers that has ever assembled in the history of your county. Therefore, our good brother, when you have finished reading this appeal, call up your neighbors and direct their attention to it; then see that 15 or 20 of the leading farmers of your township are called together for a conference and notify the editor of the newspaper in which this article appears whether you are willing to get behind a big County Farmers Mass Meeting. As soon as he receives a report from a majority of the townships in your county a meeting of leading farmers from the various townships should be arranged and at this time definite plans can be made. No dates for the County Mass Meeting should be named however until you have advised with W. H. Thomson, Columbia, Mo., Secretary of the undersigned Committee—as the dates for the different county meetings will have to be so arranged as to enable the various speakers to reach from one meeting to another with the least expense and inconvenience. No meetings should be planned earlier than the latter part of August and from that time on it is our purpose to hold from three to five county meetings every week until the coming of winter weather.

A State Association to be Formed

As soon as 25 or 30 counties have been organized in this manner, a powerful Missouri Farmers Ass'n will be formed and thus for the first time in the history of our great commonwealth the farmers of Missouri will be in position to take in hand the grave questions which confront them at this time and upon the solution of which depends our happiness in the years to come. That the farmers of your county cannot afford to be indifferent toward this appeal will be plainly manifest when we tell you that arrangements have already been made to furnish wholesale prices on car load shipments of corn, bran, ship stuff, oats, coal, salt and fertilizers to the members of every Farm Club in the state and that at this time the farmers of the Central Western States are being canvassed for car load orders of apples at prices which will save thousands of dollars to the farmers of this state as well as enable these western farmers to buy more cheaply than after the apples have passed through the hands of various jobbers and commission firms.

Already the drouth which is largely prevalent throughout the state means that many farmers will be compelled to buy corn and hay—and it is our purpose to see to it that the farmers of every county who actively aid in this great movement be placed in position where they can buy this feed direct from farmers who live in the more favored communities and thus purchase it at the lowest possible cost. We will not be able to do this however unless you and your neighbors take immediate steps to form a County Farmers Ass'n as above outlined.

In conclusion, the members of the undersigned Committee are plain Missouri farmers like those to whom this appeal is addressed and at our own expense we have been willing to leave our homes and travel hundreds of miles in order that we might contribute our mite toward this great new movement upon which depends the paying off of the mortgages which hang like a dark cloud over thousands of Missouri farm homes at this hour. That you will not turn a deaf ear to our plea—that you will get together with your neighbors at once and plan a great County Mass Meeting which shall literally set your county on fire with the spirit of farmer organization

HOW DO YOU LIKE IT?

Some days ago, THE MISSOURI FARMER received a request from a Farm Club in the Western part of the state for 300 bushels of potatoes. We at once got in touch with the growers at Orrick, Mo., and found that the average grade of potatoes were being delivered in two bushel sacks in the car on the railroad tracks at 50c per bushel, or the choice grade at 60c. Upon inquiry in the local market here in Columbia we found that the average grade of potatoes were selling at $1.25 per bushel —or at a profit of over 100%. This is a sample of how our present marketing system "ham strings" both the producer and consumer. It is only another little side light on "What's the Matter with the Farm?" and the "high cost of living."

Last fall, the daughter of a farmer near McBaine, Mo., put this slip of paper in the top of a barrel of apples: "We sold this barrel of apples for 75c. Whoever buys them will please write and tell us what they paid"—and then she signed her name and address. In about two months she received a letter from a family living down in Tennessee, saying, "We have just bought your barrel of apples and paid $5.00 for it." And so it goes. And so it will continue to go until farmers exercise the ordinary common sense to organize and shorten the route from producer to cosnumer—thus realizing what their stuff is worth and also rescuing people who live in town from the "hold-ups" of the present system. In the meantime, why doesn't the average merchant get busy and help out? Why should he sit around sucking his thumb and permit a lot of jobbers and unnecessary commission concerns to get an unnecessary "rake off?"

William Hirth, Publisher,
THE MISSOURI FARMER.

and co-operation—that you will help us to write here in Missouri a new Declaration of Independence on behalf of American Agriculture and a "square deal" for the fruits of the farmers sweat and toil—this is our concluding wish and we trust every farmer in the state may take it profoundly to heart.

Anderson Craig, Chairman, Maryville, Mo.
W. H. Thomson, Secretary, Columbia, Mo.
W. A. Ferguson, Houstonia, Mo.
T. B. Ingwersen, Bowling Green, Mo.
Floyd Tuggle, Gallatin, Mo.
E. H. Bullock, Edina, Mo.
H. H. Weaver, Rush Tower, Mo.

That our readers may take this appeal to heart and act upon it without delay is the ardent hope of THE MISSOURI FARMER which has fought harder for farmer organization than any other farm paper in the Corn Belt. As we have stated in previous issues, two-day farmers picnics have already been arranged for in Lafayette and several other counties while similar arrangements are now in progress in Chariton County. There is, however, no time to lose because it will require at least a month or six weeks to prepare for a great County-wide Farmers Mass Meeting—for it means that a strong committee of farmers must be organized in each township to guarantee a big attendance. Again, the sooner your county gets in line the sooner you will be able to obtain four or five able speakers—and it will require that many for a two days program.

Organize for Immediate Advantage

Now what the Market Committee recommends in the above program is not only an organization of farmers sufficiently powerful to deal with the Combines which are crushing the life out of the farm—but a dollars and cents program of which farmers can take immediate advantage in the form of wholesale prices on car load shipments of many commodities which bear an unjust tribute at this time. Because of the drouth, thousands of farmers will have to buy corn and other feed—and here is a chance, if the farmers of your county will get enthusiastically behind this movement, to buy these commodities at the lowest possible cost. Again, if rain comes in time to save the fruit crop, the selling of apples in car-load lots direct to western farmers will mean a much better price than could possibly be obtained in the local markets.

So it means money to the farmers of your county to wake up and give an immediate and hearty response to this appeal. Call up a few of your good farmer neighbors and talk matters over. Then help to arouse the adjoining townships. When you are ready to act, put a notice in your weekly newspapers and ask the farmers from every section of the County to unite with you. In the meantime, as soon as you and your neighbors are ready to act, write to Sec'y Thomson of the Market Committee, Columbia, Mo., and tell him that your "hat is in the ring." This will enable him to put you in touch with other farmers in your county who have written him to the same effect. There is no time to lose. This is a fight for our farm homes—for the right to honest prices for farm products and a chance to save money on corn, hay, bran, ship stuff, fertilizers, salt and coal—and an opportunity to get what your surplus apples are worth this fall. Unless you and your neighbors get together at once, nothing will be done. Clearly, the matter is up to every farmer who reads this appeal.

THE STORY OF AN OLD FARM

Editorial Note.—If any reader has not read the previous articles in this series by Mr. Lyon he had better hunt them up and read them now to get the full benefit of what he has to say on keeping up the fertility for one hundred years. "It is interesting to note" says Sam Jordan" that while Lyon's farm has been in cultivation for over one hundred years there is no worn out land on it. Yet the hills are so steep that I would not know how to go about it to farm them. His system has and is producing gratifying results."

NUMBER III.

It was my fathers practice to box stall all the farm stock, use an abundance of bedding, and haul the manure to the fields once a year, always applying it to the plowed land just before planting.

This practice was kept up until a very few years ago, or until the keeping of four to six dairy cows, as well as a horse or two more than we kept fifty years ago, made the box stall system too large a proposition for our stable room.

We have wasted hundreds of loads of manure on this farm by applying it too freely, as in years gone by, it was nothing unusual to use twenty good two horse loads of stall manure per acre on tobacco, or ten loads per acre on corn land, while we get as good, or better, results now, by using half or less of that amount.

I do not think, that in the fifty-five or more years that I can look back over, that we ever allowed half a dozen loads of manure to lay out, exposed to the rains, for as much as ten days.

The idea has always been, to run as much rough material, straw, corn fodder and the like, through the stables, as was possible, increasing the bulk of manure to make humus, as well as to absorb the urine, and to keep the stock clean.

Once, perhaps thirty years ago, we undertook to compact the manure with a lot of moldy straw, with the result that the whole mass overheated, and we seriously damaged perhaps twenty loads of good manure.

Manure was always spread directly from the wagon, never thrown out in piles, and we always aimed to harrow or cultivate it into the soil as soon as possible after hauling it.

Under our present system, and the use of the manure spreader, we clean the stables as often as it is convenient to do so, or as they need it, applying the manure to the land that is to come under plow next, but allowing as much as possible to accumulate from the middle of March to May for use on top of plowed land.

If I could have the farm munare put on the land just when I think it will do the most good, not only to the land but to the coming crop, I would have it done a week or ten days before planting and have it thoroughly cultivated into the soil.

For the coming crop, I think I can get more good out of ten loads used in this manner, than out of fifteen used in any other way, and as for the benefit to the soil, considering the greater area covered, I think that it will be just as much.

In this series of articles, I want to give as much history of the land as is possible, and it is not too late to say, that the use of farm made manure, in earnest, began with the coming of people from foreign lands, in our case with the Germans, and father has often told me, that their first real manure campaign was made sometime about 1847, being organized by a German who was working for them as a hired man.

In writing, as well as in institute lecturing, I often favor the permanent pasture, and for over thirty years have kept one, but still this feature in farm practice has a disadvantage, in that this tract of land gets an undue share of the droppings of the farm stock.

Of course this pasture needs reseeding in a long term of years, and ours, having laid in blue grass and white clover for twelve years, will be broken in 1917, a crop grown, and the land reseeded.

Coming back to the manure question proper, we stack our straw close to the barns, having small lots for the young stock to run in, use the straw heavily in bedding in the stables and let the young stock work the rest down.

On clay lands, we get more good out of the straw stack manure than from that made in the stalls, this being especially noted where the soil has been washed away. In such cases we apply the wet half rotten straw before plowing and turn it under, the favorable results being less marked in the corn crop following, than in the wheat, and the grass and clover seeding.

Now as to turning under green crops for manure, our experience has been limited, yet it has always been favorable to the practice. In 1865, and in 1877, and again in 1900, we turned under heavy crops of green clover in early May, planting the land to corn and tobacco with the most favorable results.

Again, in 1884, I turned under a heavy crop of rag weed in late July, seeding the field to wheat, with a resultant crop of 44½ bushels per acre.

If I had to begin with a badly exhausted soil, I would not resitate to make the first steps toward its upbuilding, by sowing cowpeas to turn under to furnish humus to the soil.

As I have indicated elsewhere, we have found commercial fertilizers invaluable in crop growing, they enabling us to get better stands of grass and clover on the thinner parts of the farm, this one benefit from them being enough to justify their use, even if they did not repay their cost from tree to ten times, on all crops they were used under.

Even with our land built up to its present good state of fertility, the use of any standard fertilizer on wheat, at the rate of 100—150 pounds per acre will be repaid in the better grass stand alone, to say nothing of the extra amount of wheat.

In corn, fertilizers not only repel insects, but they favor an early development of a good root system to the plants, enabling them to better withstand adverse weather conditions.

In my next article I wish to take up our system of breaking land and cultivation of crops, and if any reader has any comment or any questions, they may be sent to me direct, or to the Editor of THE MISSOURI FARMER.

C. D. Lyon.

"WHY ARE FARM MORTGAGES INCREASING?"

Farm mortgages are increasing because the farmer takes the other fellow's price for everything he produces on the farm, while the other fellow sets the price on everything that the farmer has to buy. The farmer feeds 85 cent corn to his cattle, hogs, sheep and other live stock and puts in fourteen hours per day caring for them, but when he is ready to sell, Mr. Packer sets the prices that he wants the farmer to get for said stock. Frequently, if he can get as much as 50 cents per bushel for the corn which he has fed and little consideration for his time, he is fortunate.

This same farmer goes out to buy. Upon anything from a calico dress to a threshing machine, the merchant or manufacturer tells him that the cost of labor and material has increased to such an extent that Mr. Farmer will be compelled to pay an advanced price for what he needs. In other words men who FILL the Bread BASKETS of the world, men (whom, if they should go on a strike would soon cause increased want in our cities or nations to starve) continue to work humbly and steadily at their tasks, allowing the other fellow to dictate the price of everything that he either produces or has to buy.

We live in a day of ORGANIZATION—a day of great business. Men following the most humble trades today are organized but here is this great agricultural class, which, up to this time, has not realized the proper hold within its grasp nor the influence it could wield in the State and in the Nation if it would but organize—get together.

If, to the duties of our State Board of Agriculture we might add a department—A Farmers' Selling Organization—the return to the farmers of this state would be incalculable. He in turn would put it into better roads, better schools, better churches and distribute it across the counters of our banks and stores.

In advocating a great organization of this character we are working a hardship upon no one but endeavoring to lift a great burden from the producers—a burden which is becoming almost unbearable.

James A. Houchin,
Jefferson City.

FIGHT DROUTH IN THE ORCHARD

The Department of Horticulture of the University of Missouri finds in investigation work carried on during recent drouth years that proper orchard management can largely off-set the effects of drouth in our apple orchards. Everybody recognizes in a general way that a well managed orchard will stand drouth better than a neglected one. The reasons why this is true are not fully understood by most orchardists. If they were fully understood and appreciated, a larger number of orchardists would make a greater effort to bring their apples to full size and maturity.

Dead and dying limbs should be pruned out close to the tree and the wounds painted. Many people suppose that once a limb on a tree is dead that it dries out and does no essential harm. As a matter of fact a dead or dying limb evaporates large quantities of moisture from the tree. Cutting off a dead limb and painting the wound save a large quantity of moisture for the remaining living limbs, leaves and fruit.

Canker wounds or sun-scald areas where the growing limb beneath the bark has died ought to be scraped clean up to a layer of healthy growing tissue and the wound painted. Cleaning and painting these wounds will destroy many insects which are sheltered behind the shelly bark of the wound, which feed on the growing layer and prevent it from healing over the wound, and the painting will save loss of water from the dead and spongy wood.

Water sprouts and surplus limbs not needed by the tree ought to be pruned out now. All wounds more than ½

inch in diameter made in pruning should be painted with common paint to save evaporation from the wound. This is particularly desirable during the present year, on account of the exceedingly moist cool spring the trees made rank growth and a very large leaf surface. This most abundant growth occurred during the month of May. Now that drouth has occurred suddenly the trees have a larger leaf surface than can adequately be supplied with water. Reducing this evaporating surface, pruning out surplus growth, leaves just that much larger water supply for the fruit, leaves and limbs which remain.

Investigations during recent years at the Experiment Station show that this point is of special importance. It has been found that in a dry time the fruit is the first part of the tree to suffer from lack of water. This is because when water supply is inadequate the leaves have the power of drawing out of the adjacent fruits. The sap in the leaves is more concentrated than that in green fruit so the sap of the leaves draws water from the apples. This point can be tested by cutting off two branches from an apple tree, each containing a similar number of fruit and leaves. Hang them up in a dry place, pick all the apples off one of the limbs. The leaves on the branch having no apples to supply water will turn brown, dry and brittle within 24 hours. The leaves on the branch containing apples will keep green for days until the water is drawn from the apples and the latter are dried and shriveled. In a similar way cucumber or melon vines, containing large watery fruits, have their leaves remain green until the cucumber or melon is entirely shriveled, while a similar vine containing no fruit will have the leaves begin to wilt as soon as the vine is cut off.—J. C. Whitten, Missouri Agricultural Experiment Station.

THE SIRE AND THE STOCK MARKET

In the market for any kind of manuactured goods uniformity is demanded. The man who went to an implement dealer for a corn grinder like the one that did so well for his neighbor would object strongly if told that no other machine like it had ever been made but that there was one in the market that day that weighed about as much and looked very much like it. He would want a machine that would give exactly the same results. Of course, this is not quite possible in case of corn and cattle but we can come much nearer uniformity than we do.

We have well-defined breeds within which uniformity and standardization are established facts. They do not provide quite the uiformity of the manufacturing world but come near enough to it for all practical purposes. Part of the market trouble is that carloads of stock do not come on the market, each made up of uniform animals of some one of these breeds. The breeder has too often used a scrub sire whose offspring lack uniformity or was uniformly inferior. In many more cases he has bought feeders rather indiscriminately from the owner of scrub sires and pure-bred sires of various breeds.

The use of the pure-bred sire is part of the remedy. If the rest of the herd is very inferior, it will take a number of years of "grading up" to bring the best results but there will be marked improvement every generation if breeding is wisely done. As good pure-bred sires of the same breed are used on a farm year after year, that farm will send better stock and more uniform stock to market and the shipper will be in a better position to demand high prices. In this grading up, the sire is often said to be half the herd. As a matter of fact, he is more than half because the good pure-bred animal is so much more prepotent or able to impress his own good characteristics upon his offspring than the grade animal upon which he is crossed.

The man who cannot afford a pure-bred sire of his own can often co-operate with one or more of his neighbors in securing one, and whether he owns co-operatively or not, he should combine with as many others as possible at the same shipping point in securing similar good sires of the same breed in order to secure uniformity in mixed shipments, or in lots bought from various men in the vicinity to be fed by one of them.

The live stock industry of the middle west is undergoing a building process in both quality and numbers but it has only begun the improvement which must come in the near future if this section is to fulfill the demands of the markets, maintain its position in the live stock industry, and demand profitable prices. This section has some of the best flocks and herds to be found anywhere but the general average is far too low. This average must be raised and we may fairly expect a corresponding rise in price.

S. T. Simpson,
Missouri College of Agriculture.

HOW TO GET THE MOST OUT OF FARMERS' INSTITUTES

How to make most effective the work of farmers' institute lectures and other agricultural extension field men is a problem difficult of solution. Apparently the question is one that is more and more claiming the attention of officials whose duty it is to direct this important work. Results, good as they have been, are not altogether satisfactory to those in charge.

Frequently, lecturers paid by the state or national governments travel considerable distances to hold meetings where large crowds are expected, but where only a few of the faithful are in attendance. Why? How is the work to be popularized? And, what is of vastly more importance, how are more of the practical truths as taught to be put into practice?

So many things enter into the success or failure of a farmers' institute or similar meeting that it is difficult to enumerate even the most important. The qualifications of the speaker are perhaps of first consideration—and first of all this speaker must be one who "rings true" and who deals in facts. The average farmer will not stand for "four flushing" and is capable of detecting a fakir or grandstander almost at sight. The farmer's long and intimate association with nature has apparently made it possible for him to distinguish the genuine from the counterfeit. It is the wise institute worker who bears this fact in mind.

Then, the speaker must possess a broad sympathy and a personality that is reasonably pleasing, and must be able to present his subject in a popular and easily understood manner. In other words, he must be able to hold his audience. This does not mean that he must be an orator and a painter of rose-hued pictures. Far from it. Much less does it mean that he must be able to qualify as a capital story teller. What it does mean, though, is that from his store-house of information, the result of study and research, or from his actual experiences he is able so to present his subject that his hearers will not fail to follow. Naturally, this means talk that is clear-cut and convincing and easily followed because so simple and easily understood. Only the amateur uses the big word where the little one in more common usage will do.

The subject, too, has much to do with the success or failure of the lecture. It is not enough that it be well presented; it must be timely. We all listen to talk in which we are interested, and we are interested in different subjects at different seasons. Right now, for instance, the average farm audience would be very much more interested in a discussion of the methods of selecting seed corn than in a talk that had to do with testing and planting it. "Ice for the Farm Home" or "The Selection of a Farm, Either for Rent of Purchase," will soon be of interest, the latter because many farm leases date from March 1. "Varieties of Winter Wheat" or Fighting the Hessian Fly" would be timely subjects. Just now "Silage and Silos" are of interest. There is need too, of discussions looking to substitutes for corn as a feed. Next winter or spring will be the time to discuss treatment of oats for smut.

Subject selection, then, is important and may help increase both interest and attendance. In this connection it should be said that the subject fit the community as well as be suited to the season. It would not everywhere be profitable to talk dairying, or truck farming.

How to get the people out is always a problem. Undoubtedly, advertising will help. Every farm meeting held costs money and the per capita cost for the people reached decreases just as the attendance increases. Sometimes, we suspect, farmers fail to attend the institute because they are not in sympathy with the local leader, who may be personally unpopular. This fact, however, should deter no one from attending. Maybe this leader, who, after all, is really doing his best, would be glad to relinguish his duties if anyone would assume them. Or it may be that the leader has no capacity for leadership, is really selfish, and has not the good of the community at heart. If so, it is the duty of that community to chose another leader rather than suffer loss because of lack of proper leadership.

W. L. Nelson.

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On and after that date spreader prices must advance. Malleable castings cost more, steel costs more, all materials entering into construction of Galloway Manure Spreaders have advanced and we are forced to raise the prices September 1st when new material contracts begin.

That's why I say if you need a spreader in the next three months, six months, twelve months or longer, you should buy now. The saving is worth making! Remember at the end of twelve months if a Galloway Spreader has not paid for itself, provided you have hauled out a hundred loads of manure or more, and has not proven everything I say for it, I AGREE TO TAKE IT BACK, pay freight both ways and return your money, no matter on which of my six selling plans you buy. Could I make this offer if the Galloway SPREADER DID NOT back up everything I said for it--if I were not sure that my spreader would please--would pay for itself on your farm? My new steel beater and wide spreading V-rake pulverizes and tears the manure to shreads--WORTH $15 EXTRA ON ANY SPREADER--costs you nothing on the Galloway. My invincible patented roller feed--an exclusive feature on the Galloway--makes it superior to all others, the secret of its light draft--A FEATURE WORTH $25 ALONE ON ANY SPREADER--costs you nothing extra on the Galloway. These and other features fully explained and illustrated in the second edition of my big free catalog. DON'T BUY A SPREADER of any make or kind until you have tried a Genuine Galloway AT OUR RISK.

THE WM. GALLOWAY CO., 599 Galloway Sta., Waterloo, Iowa

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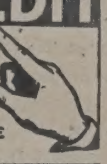

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WHY DO YOU NOT GROW MORE ALFALFA?

Alfalfa is Arabic in origin and it means the best fodder. I think a more appropriate name could not have been suggested for this most valuable plant. Just take a trip out into the country these hot August days and along the dusty roads you will see fields of brown prairie and scorched vegetation everywhere. But when you happen to pass a field of alfalfa what a change! The refreshing green is pleasing and restful to the brown-tired eyes for alfalfa will hold its green even during the most severe drouth. The deep growing roots enables it to do this and make it one of the most profitable crops as well as the "best fodder" and helps to put the balance on the right side of the ledger for any progressive and fortunate owner who has had the good foresight to put his faith in alfalfa.

I think alfalfa is grown in almost every county in every state in this great country of ours. The old saying that "alfalfa will not grow here" is all bosh. I have heard that so long I might be a believer myself if it were not for the real fact that I see alfalfa growing successfully all around me. Alfalfa will not only grow but will acually do well on most of our Missouri soils if conditions are made right—that is all you have to do to insure success—make the conditions right.

Alfalfa prefers a lose, sandy or gravelly soil but will grow and do very well on most any kind of soil but it is necessary to make the right conditions in that soil before you can hope for success. You must supply your soil with what the alfalfa plant lives on, nitrogen, phosphorus, potash and lime. If these are not in the soil then you must put them there. The field for Alfalfa must be well drained and if not naturally so then it must be tiled. Land that never grew alfalfa before should be inoculated. The commercial cultures will give good results in inoculation when properly handled but I think soil from an old alfalfa field showing plety of nodules on the roots is the safer plan. In most sections this inoculated soil can be obtained without very much trouble or expense.

For my section (Lawrence County) spring sowing is not to be recommended for it very seldom gives good results. Conditions are generally, by far, better for fall seeding and it seldom fails if rightly managed. Cultivation is absolutely necessary for the surface of our soil will pack and crust and the surface becomes so solid that alfalfa will not do well unless this is broken up by cultivation. Then the blue grass, white clover and other undesirable mixtures will get started and crowd out and eventually destroy the alfalfa if they are not cultivated out.

A cultivated surface has numerous advatages but I think they are so well understood that it is not worth while to enumerate them here. It is claimed by some that cultivation is injurious. Well, once in a while a plant is cut off by cultivation so as to be killed, particularly when a sharp disk is used but I have found it better to lose a few plants than to let it go without cultivation and lose it all.

I was born and raised in a county where alfalfa grows exceedingly well and I have been growing it here for 20 years, I have exhibited it at the big fairs and have brought home the blue ribbons so I do not think you can say this is all hearsay with me. I am not a native of Missourian but I have been here long enough to "show you" that alfalfa can be successfully raised on our soil.

Simon Baumgartner,
Lawrence County.

THE VALUE OF MANURE AS COMPARED WITH CHEMICAL FERTILIZERS

By C. H. THORNE, Director, Ohio Experiment Station.

The complete fertilizer used on Plot 11 in the Ohio Experiment Station's 5-year rotation at Wooster has carried 76 pounds of nitrogen in nitrate of soda, 20 pounds of phosphorus in acid posphate and 108 pounds of potassium in muriate of potash for each 5-year period. The cost of this application has been computed at $23.50, or at 19 cents per pound for the nitrogen, 13 cents for the phosphorus and 6 cents for the potassium. The 20-year average value of the increase produced by this fertilizer, as shown in Circular 144, has been $39.28, corn being valued at 40 cents per bushel, oats at 30 cents, wheat at 80 cents, stover at $3 per ton, straw at $2 and hay at $8. On these valuations for fertilizers and produce, $1 expended in fertilizers has produced $1.67 in increase of crop.

Plot 17 in the same experiment has received 38 pounds of nitrogen, 30 pounds of phosphorus and 108 pounds of potassium, costing $17.60 for each rotation, and has produced increase to the value of $35.23, or $2 in increase for each dollar expended in fertilizers.

Plot 18 in this experiment has received 16 tons of barnyard manure, 8 tons each on corn and wheat, taken from the open barnyard in the spring and in August, and being plowed under for corn and spread on the surface after plowing for wheat.

The manures used in the Station's special manure tests were anaylyzed for 5 years by J. W. Ames and his assistants, and were found to contain on the average the following elements per ton:

	Nitrogen	Phosphorus	Potassium
Yard manure, lbs.	9.0	2.0	6.0
Stall manure, lbs.	13.3	2.3	10.0

If we assume that about 20 percent of the nitrogen in the stall manure had escaped before it was plowed under, as seems probable from late investigations, and use the same valuations employed for the chemical elements in nitrate of soda, acid phosphate and muriate of potash, the nitrogen, phosphorus and potassium in a ton of yard manure would cost $2.33 and in a ton of stall manure, $2.85, if purchased in these carriers. The cost of the chemicals carried in the 16 tons of yard manure used on Plot 18 would therefore be $37.28. The value of the increase on this plot has been $40.40 for each 5-year period, or nearly $1.09 for what would have cost $1 if purchased in chemical fertilizers.

Plot 20 in this test has carried only half as much manure as that given to Plot 18, and has produced increase to the value of $24.54, or nearly $1.32 for each dollar in chemical values.

In the special manure test, which has been running since 1897, the 16-year average value of produce for 8 tons of untreated yard manure has been $20.80, while from 8 tons of stall manure it has been $26.24, or approximately $1.12 for one dollar in chemicals in yard manure and $1.15 in stall manure.

Where the manure has been treated with acid phosphate in this test, the value of the produce, after deducting the cost of the acid phosphate, has been $33.77 for 8 tons of yard manure and $39.12 for 8 tons of stall manure, or $1.81 for each dollar in chemicals in the yard manure, and $1.71 in the stall manure. In this calculation, however, no credit is given to the acid phosphate beyond the returning of its cost, whereas all our experiments show that acid phosphate is sure to return much more than its cost when properly used.

Apparently there has been no great difference in the effectiveness of the chemical elements in the two manures, the greater total effect of the ton of stall manure over the ton of yard manure being chiefly due to the larger total quantity of elements contained in the stall manure.

The lesson to be drawn from these results is that the man who is purchasing fertilizers cannot afford to pay quite as much for the pound of nitrogen, phosphorus or potassium spread on his fields in barnyard manure, as he would pay for the pound of the same elements in nitrate of soda, acid phosphate and muriate of potash also laid on is fields; or, to put it in another form, open-yard manure of good quality should not cost him more than about $2 a ton, and manure fresh from the stable not more than $2.50 a ton, spread on his fields, as compared with nitrate of soda at $60 a ton, 16 percent acid phosphate at $18 and muriate of potash at $50 properly compounded and spread on the field.

On the other hand, the man who can produce and spread on his farm annually 100 tons of manure from well-fed animals may safely assume that that manure properly cared for, used in systematic rotation of crops and supplemented with acid phosphate, bonemeal or raw phosphate rock, may be expected to produce, as an average for a long term of years, as large an increase of crops as he would obtain from an annual expenditure of $200 to $250 in chemical fertilizers.

JORDAN'S SENSE AND NONSENSE

The public good is your good unless you are wrong.

* * *

Wasn't that a big overflow on August first, of "Salt River?"

* * *

How would we manage it if we were set back in all things just thirty years?

* * *

I went to one place on my vacation, and the first thing offered me was a bath.

* * *

Anyway its a good time to be alive even if the boys do have to give Mexico a "lickin'."

* * *

I have had a really fine time the last two weeks even though I got lots of chiggers on my vacation.

* * *

I went fishing one day. The fish did not bite so well as did the mosquitoes, and I got stung on my return by a bumblebee.

* * *

My brain has been on a strike ever since dog-days, and just refuses to move. That's the reason there's no sense to this nonsense.

* * *

If a fellow makes you a present of a new kind of soap, don't take offense. Take the soap, it may be for your good.

* * *

The "Swat the Fly" fight has surely brought results. It does not seem in most places that there is one fly now for every thousand we saw a few years ago. Let the good work go on.

Will L. Jr., was telling about his little friend E. A. Jr. and he was asked if they ever had any fights, Will L. Jr. said "yes, sometimes." The next question was, "Well, who whips?" to which Will L. Jr. made answer, "Our mammas."

* * *

Mexico don't know how it would civilize them to be whipped. If the fellows down there just knew how we wanted to civilize them, they would no doubt say, "Come on fellers and lick ———out of us, we need it."

* * *

After I had made up my mind as to the date of starting home after my vacation the folks tried to get me to change my mind and stay longer, but the weather was too hot to make the effort. One mean man told me he thought my mind was so small that a change would be easy.

* * *

Did you read about that Mrs. Castle who went into half mourning because of the death of her houn-dog? The paper said she was prostrated. If it had only been known in Columbia there are from four to six dirty curs, that work the corner of Hitt St. and University Ave. by chasing teams, autos, bicycles, etc., from sunrise to sunset, to the annoyance of neighbors, and danger of those with teams and riders of motor and bicycles. So far as many are concerned, Mrs. Castle could have all these houn dogs, and save her the cost of "gloom rags." There are also a lot of lonesome cats in this town that she could have by catching them. If she could not love old man Castle good and proper she might run onto a loving and affectionate alligator. A dear woman just must love something.

* * *

"What to do" is a question often asked when a farmer's club is organized. Too many things are often undertaken, but just one thing might be mentioned, and that is "Let us put an end to gambling in grain." The farmers' vote can "make or break" and Congressmen will listen if farmers' clubs wake up. If this one thing could be done all efforts would be worth while, and I do not see that the gamblers would be really hurt, as they could gamble on the "direction of the wind" and the betting would be just as good, and the results just as sure, and the betting would be fairer since no set of men could control it and that would be true sport. Their fun then would in no way damage the farmer. If all the farmers would unite for only the one thing "Stop Grain Gambling" it would be stopped in short order.

RATIONS AND ROTATIONS

Rations and "rotations" have come to be big words in farm life. For a good many years we have been discussing "balanced rations" for live stock, and now we are talking balanced rations for men and women and boys and girls. This is the human hour and because it is we are not limiting to food alone our discussion of balanced rations for human beings. There comes the problem of the "balanced ration" of work and play, and even a balanced ration of riches. The farmer is as never before giving thought to the matter of spending money. He is trying to arrive at true values. Along with the added "eighty" and the necessary farm equipment he is considering the things which will insure to him and to his more of the "durable satisfactions of life."

The idea of rotations as the word

is commonly used, is old. Xenophon speaks of a two-year rotation of wheat and fallow, while the alternate culture of grains and legumes is mentioned by Cato and Virgil. Here in America as our soil becomes depleted by constant cropping we realize more and more the importance of correct rotations. In arriving at what constitutes the best rotation we would perhaps have in mind the maintenance of soil fertility, economy of labor, ample provision for live stock, and general cost of production in proportion to the profits accruing. But these are facts generally familiar to every good farmer.

There are other "rotations," some of them not so good. We have had too much "rotation" with reference to renters and to country preachers and teachers. The one-year farm lease system is wrong. It is an injustice to the soil and to the man who works it. Followed up, it means, with rare exceptions, that both will be poorer. Just so does too much rotation in the schoolroom mean a poor school. All else being equal, the best teacher is the one who best understands his pupils, who knows the environment in which the child lives, and who is in fullest sympathy with those whom he serves. Why not, then, a "teacherage"—a home for the teacher—for some of our good country schools?

And if the country school suffers because of too much "rotation" what shall we say of the rural church? Surely there is need of a parsonage and of a resident pastor. It will be a fine thing also if this pastor can feel that his parish is his home and that he can have a part in a community upbuilding that makes for permanency. His zeal in the saving of men's souls will be none the less if perchance he is also interested in the farms of the neighborhood and in the saving of the soil. In the pulpit at least, there may be too much "rotation" in religion. A reasonable degree of permanency it would seem, ought to make more profitable a pastorate.

So one way to promote a better country life is to see to it that the rations and rotations are right.

W. L. Nelson, Columbia, Mo.

COST OF GROWING BEEF CATTLE IN THE CORN BELT STATES

That cattle in most cases add to the income in the corn belt is indicated by the results of a recent investigation conducted by the U. S. Department of Agriculture as part of a comprehensive study of the meat situation in which its specialists have been engaged for some time. The direct profit from the raising of calves in this section, the averages seem to establish, is usually small, but the investigators point out that there are other factors which make the practice more advantageous than would appear at first sight.

Among these advantages are the fact that live stock on the farm provide a home market and a means of utilization of farm roughage, some of which might be wasted if not fed, and the use of pastures which could not be employed profitably in any other way. Live stock also afford a ready home market for certain other crops, which at times would have to be hauled considerable distances to be sold. Finally, the presence of live stock on the farm gives productive employment throughout the year to labor which at certain seasons might otherwise be idle. Live stock also gives some interest on capital invested on equipment which would produce nothing if not utilized at all seasons. The fertilizing value of manure also must be considered. When these factors are taken into consideration, even though there appears to be little or no profit as shown by cost figures, it is believed that in most instances the farm income is greater because of cattle having been kept on the farm. The keeping of live stock, therefore, is to be recommended on farms having large quantities of cheap roughage available or having land which can be best utilized as pasture.

Summary of Results

The figures of costs cited by the investigators are purely averages based on actual farms and herds investigated. The investigators obtained in 1914 and 1915, 596 records from farms in Indiana, Illinois, Minnesota, Iowa, Missouri, South Dakota, Nebraska and Kansas. These records dealt with 14,634 cows, 621 bulls and 12,591 calves produced from them, of which 2,023 were classed as baby beef.

Classification of Records

These were arranged in six groups based on six distinct practices followed by the farmers of this region. These are:

(1) Beef—Farms where all the cows are kept strictly for beef (except baby beef), in which there is no sale of milk and butter.

(2) Baby beef—Farms devoted to the production of high-grade calves fattened and sold at from 12 to 18 months of age.

(3) Dual purpose—Farms on which all the cows are milked and the calves weaned at birth and raised on skim milk.

(4) Mixed—Farms where the best cows are milked, their calves being weaned at birth, while calves from other cows run with their dams. This is a combination of beef and dual purpose.

(5) Partially Milked — Farms on which calves are not weaned but on which a part of the milk is drawn from the cow, the calf taking the remainder.

(6) Double nursing — Farms where some of the cows are milked and their calves given to other cows.

Summary of Results

The following summaries are based on these six classifications and are given as averages from the records of the farms and live stock actually reported. The conclusions are averages for the entire section studied and the reader must bear in mind that there are wide divergences in cost in the several States. For this reason the report, after considering the general problem, deals in great detail with the range of costs in the several States and the averages for the several sections. The following are the more important facts cited in the summary:

In discussing the different costs the investigators point out that the difference between the net cost and the gross cost for the different groups is partly due to credit for manure and largely to credit for milk products from the cows that were milked. The high cost of maintenance of bulls where baby-beef calves are produced is largely due to the fact that breeding bulls of high quality are necessary. The bull charge is determined largely by the number of calves produced per bull. While the cow charge for raising a calf was lowest in the dual-purpose group, the addition of the cost of feed and labor for the skim-milk calves makes the cost of the calf somewhat greater than in the double-nursing group. Winter feeding costs indicate that there is comparatively little difference in the cost of keeping calves in the five groups other than the baby-beef after weaning time. The "credits" for baby-beef calves, amounting to $7.53, include an allowance for manure and pork. Beef calves, though the most valuable as yearlings, cost so much more than the others that, according to averages, they were the least profitable. The cost of production exceeded inventory value by $15. All calves, except those of the baby-beef group, were inventoried just before being turned on pasture at a time when the cost of the calf is greatest as compared with its value. It is believed that if the records had included data on the calves until the following November that the difference betwe- the cost and value would have been much less. The calves in the dual-purpose group, although the poorest in quality, seem to rank second in point of profit.

The cost of production was lowest for calves in the double-nursing group, and as these animals are relatively of good quality they showed the greatest profit. Although there were but 22 farms in this group, the results seem, to the investigators, significant.

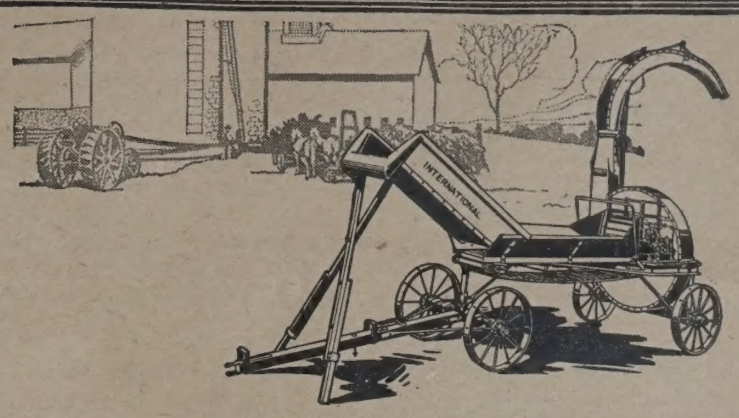
SUMMARY TABLE SHOWING FOR THE SIX GROUPS THE VARIOUS FACTORS THAT MAKE UP THE COST OF PRODUCING A YEARLING (a)

ITEM	Beef	Baby Beef (a)	Dual Purpose	Mixed	Partially Milked	Double Nursing
Numbe of farms	230	66	110	102	65	22
Average number of cows per farm	31.50	34.56	12.75	23.47	14.29	17.32
Cost of maintaining the breeding herd:						
Gross cost of maintaining a cow	$35.12	$36.77	$55.14	$43.95	$42.75	$46.50
Credits other than calf	4.79	5.39	49.07	24.72	21.43	33.26
Net cost of maintaining a cow	30.33	31.88	6.07	19.23	21.32	13.24
Net cost of maintaining a bull	42.27	53.26	37.51	46.79	34.14	40.53
Calf crop:						
Percentage of cows raising calves to weaning time	48.90	90.7	83.90	87.50	90.10	92.10
Number of calves per bull	20.90	25.30	10.70	18.50	12.60	15.00
Cost of raising a calf to weaning time:						
Cow charge	35.47	34.50	7.34	22.29	23.71	14.53
Bull charge	2.26	2.29	4.02	2.91	3.35	3.02
Feed	.01	.00	9.35	4.48	.02	.26
Feed	.00	.00	2.56	1.11	.00	.01
Total cost at weaning time	$37.74	$36.79	$23.27	$30.79	$27.08	$17.82
Cost of raising a yearling:						
Number of farms	190	67	99	96	57	22
Average number of calves per farm	24.43	30.20	10.57	18.46	11.16	14.23
Cost at weaning time	(*)38.20	(*)37.01	(*)23.64	(*)30.61	(*)26.39	17.82
Winter-feed cost	12.32	35.02	9.93	12.01	12.21	10.24
Other charges	4.62	6.02	4.92	4.72	4.66	3.86
Gross cost	55.14	78.05	38.49	47.34	43.26	31.92
Credits	1.60	7.53	1.89	1.48	1.54	1.67
Net cost	53.54	70.52	36.60	45.86	41.72	30.25

(a) The statement for baby-beef group gives figures on the calves until they are marketed at approximately 15 months of age.

(*) The change in the number of farms on which the tabulation of cost of producing yearlings is based causes the figures on cost of calf at weaning time to change in this part of the table.

The figures in bold face type call attention to the fact that the baby-beef animal is carried somewhat beyond the yearling stage.



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AN **International** ensilage cutter, Type A, filled a Pennsylvania silo 110 feet high and 27 feet in diameter, said to be the highest silo in the world. This machine has tremendous capacity. It pours a stream of ensilage into the silo at the rate of 16 to 25 tons an hour, cutting as fine or as coarse as may be desired. This is our largest cutter. Type B cuts 12 to 16 tons; Type E, 10 to 12 tons; and type F, 3 to 6 tons per hour. On all models knives and blower are attached to the flywheel, the simplest arrangement and the one that uses the least power. The knives can be adjusted to absolute accuracy, and, once set, are held firmly in place. Their clean shear cut begins at the outer edge, throwing most of the work close to the center, where the power is greatest. No power is wasted.

International ensilage cutters are safe. All working parts are carefully housed. The lever that starts, stops, and reverses the machine is so placed that a man cannot reach his hand as far forward as the knives without stopping the machine.

The power cost is low. The machine will fill any silo. The operators are carefully protected from injury. Here are three good reasons for seeing the machine at the local dealer's place of business, or writing to us for full information.

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SWAT THE HESSIAN FLY

Pointers from the Missouri College of Agriculture

Plow early.

Bury the fly.

Destroy all volunteer wheat.

Sow on or soon after fly-free date.

Use oats or rye as fall pasure. The fly can't eat oats and it cares little for rye.

Deep plowing of wheat stubble buries the fly and a good harrowing makes it harder for him to escape.

Starve the fly till about the middle of October then sow and you'll have no Hessian fly next year if all your neighbors do the same. If one of them sows early or lets volunteer wheat stand, his fly crop will probably get your wheat next year.—T. J. Talbert.

Sheep Die from Maggots

Much injury from maggots on sheep is reported this season. In ordinary years these maggots bother only the lambs, especially following docking and castration, when sores are exposed. The maggots develop in the clotted filth in the wool and work well over the hind quarters if not checked. If undisturbed they become so bad that serious injury and death frequently result. Under favorable conditions the maggots develop in twenty-four hours.

The Nebraska College of Agriculture says hat each sheep should be carefully examined, and enough lysol or some other strong dip of practically full strength at the first application should be poured on the maggots. Apply as many times as is necessary to be effective. Then examine frequently, and when the maggots are all killed apply a healing salve so that the skin will keep soft and the wool will grow again.

THE MISSOURI FARMER

Devoted to Better Farming, Better Farm Homes and Better Citizenship.

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William Hirth - - - Publisher
Geo. B. Ellis - - Managing Editor

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Agents Wanted. We want some one to represent us in every community and make up clubs for which we will pay liberal commissions. Write us for terms and sample copies.

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To render service is our aim and we will endeavor to answer all pertinent questions or have them answered by competent authority. When answer is desired direct always inclose stamp.

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WHAT ABOUT A SILO?

Several thousand silos have now been in use in Missouri for a period of one year to many years and so far as we have been able to ascertain practically all of them have given satisfaction. There have been a few failures where the silos were not properly built; some have failed because they did not know how to fill them and now and then a man has built a silo who did not have enough live stock to make it pay but all of these make only the exception to the rule that a well built silo is about the best investment a farmer can make.

The conditions this year seem to be favorable for making the silo pay. Much of the corn has been cut short so much by drouth that there will be little profit from it unless it is put into the silo. THE MISSOURI FARMER has published frequent statements from farmers who put their corn in the silo in the drouth years of 1911 and 1913 and many of them state that a poor crop siloed is worth about as much as a good crop when the grain only is saved.

After a drouth the chances are that there will be a great deal of fall rain at least this seems to have been the rule in the past, and the immature, sunburned fodder that is put into the shock is easily spoiled by the rain. In such seasons if a part of the fodder can be fed in the early fall and winter and the silage saved for late winter and spring and in that way prevent the heavy loss that occurs where the fodder stands in the shock all winter.

The man who owns his farm can well afford to look to the permanency of the structure when contemplating building. So far as the keeping of the silage is concrened it has been found that in this climate the cheaper forms of silo will do as well as the more expensive ones provided they are made "air tight" but the cheaper forms are more easily twisted out of shape or blown down by the wind and must be rebuilt after only a few years use.

The more permanent silos, particulary those built of hollow tile or cement will last indefinitely, are seldom ever injured by lightning or wind storms and when once built the owner need have no further worry about a place to save his corn crop.

A smaller acreage of corn grown along with more alfalfa, clover, soy beans and other legumes and the raising of more sheep and cattle in Missouri will mean a greater conservation of soil fertility as well as more permanency and more profit to those farmers who follow this system.

When the corn is cut early and put in the silo it leaves the field in good shape for seeding to rye or wheat and there should be very much more of this done than is now the practice. Farmers generally have come to a full realization of the value of these crops for fall and winter pasture and also for the great benefit to the soil which is afforded by a winter cover crop. With favorable weather through fall and winter a field of early sown rye or wheat will save a great many bushels of corn and the succulence of the pasture is just what is needed to go along with the dry feeds. In an open winter calves and other young stock can be very largely wintered on a rye or wheat pasture supplemented with a light feed of hay and they seem to grow off much better the next spring when turned on the grass than dry-fed stock.

These drouths come most too frequently but that is a matter we can not control but we can change our methods of cropping so as to prevent and overcome the damage usually wrought by a drouth to the ordinary corn growing farmer.

HOW TO GET A FARM LOAN

A farmer from Nodaway County writes that he desires to get a farm loan under the Federal plan for rural credits and asks how he shall proceed?

In answer let us say that no one can tell now just how long it will take to organize the Federal land banks. At this time the Federal farm loan board has been organized and the first step will be to divide the United States into twelve districts and a Federal land bank will be organized in each district. Branch banks may be organized on the approval of the Federal board. As soon as the twelve districts are formed a city will be designated in each district for the location of the bank and a temporary board of directors of five members will be appointed by the farm loan board and this board will proceed to organize the bank. The minimum capital of the bank is to be $750,000 and if the stock is not taken by private individuals the Secretary of the U. S. Treasury is authorized to subscribe for the stock.

The bank will not loan directly to you but if you want a loan you must organize in your community what the law names, a national farm loan association. This farm loan association must consist of ten or more natural persons who are the owners, or about to become owners of farm land. Each member must be an applicant for a loan of not less than $100 nor more than $10,000 and the aggregate of all the loans must be not less than $20,000. If then your association by its members wants a loan of $20,000 after your association is formed you must first subscribe for stock in the Federal land bank of 5 per cent of the loan asked for, in this case $1000 of stock must be subscribed for. The details of this organization, blanks, etc., will doubtless be furnished by the Federal land bank as soon it is organized.

No one except a borrower can become a member of one of these farm loan associations and each member must subscribe for stock to the amount of five per cent of his desired loan. If our inquirer should apply for a loan of $5000 he must first subscribe for $250 worth of stock in the farm loan association and this must be paid in cash when the loan is granted.

After the association is organized new members are taken in only on two-thirds vote of the directors but he must subscribe for the necessary shares of stock to equal 5 per cent of the loan desired.

It will probably be several months before a bank is organized in Missouri but the farmers of any community who desire to take out loans under this plan would do well to get together and form a farm loan association and be ready when the bank is organized.

ALFALFA INSURANCE

Two tons of hay to the acre, a crop of seed worth $15 or $20 and still a chance for another cutting of hay is not a bad return for an acre of good upland in a drouth year like the present season has been. In our June 1 number we gave an account of a Boone County piece of upland which had produced one ton of cured hay to the acre on May 15. The second cutting was ready for harvest June 25 and now on this date, August 14 there is a fair seed crop just beginning to ripen. This crop was grown on just good average upland soil which had been treated with barn-yard manure. After this seed crop is saved there will be time for considerable pasturage or another light cutting of hay. We think this yield of two tons or more of alfalfa hay and a seed crop that now looks good for at least two or three bushels per acre will give the owner a better return than most farmers will get from any other crop.

For the man who contemplates seeding alfalfa this year there is no time to lose because it takes some time to get a good seed bed. The soil should be plowed deep, thoroughly fined and compacted to the bottom of the furrow and the seeding should be preferably done in August or early part of September. The young plants must have time to make a good start to give the necessary winter protection. It is not the purpose of this article to give details of seeding or cultivation but we would have our readers know the great value of alfalfa as an insurance against drouth as well as its value as a soil building crop. Better try at least a few acres of alfalfa this year if you are not already growing it on your farm.

SHALL MISSOURI FARMERS ORGANIZE?

We want to urge every reader of THE MISSOURI FARMER to turn to page 3 of this issue and read the "appeal" made by the committee of farmers who were appointed under the authority of the Farmers' Conference held during Farmers' Week in Columbia last January. Then after reading that "appeal" if you think there is room for improvement in the marketing of what you produce and in buying some of the things you need to buy, we want to appeal to you to take the matter up with your neighbors and see if you can not organize a farmers club in your school district or township and when several townships are organized a county association should be formed with a view of soon completing the organization of a state association.

The detailed plans for the organization are yet to be worked out but when the farmers of several hundred districts are organized, delegates can be selected and entrusted with the working out of the plan.

A number of farm clubs were organized last winter at the suggestion of THE MISSOURI FARMER and a number of them saved enough in buying binding twine to make a good working fund for the club for some time. Clubs reported a saving of from $50 to $200 on this one item alone. We want to warn our farmer friends of the dangers of failure when farmers seek to enter the retail business as the experience of the past with the Grange and Farmers' Alliance has shown but in the buying of heavy articles which may be handled without waste there is no reason why farmers should not buy in car lots and make a considerable saving. On account of the drouth considerable feed will have to be bought this year and if farmers can make a saving of $2 or $3 a ton on alfalfa or on mill feed, or five or ten cents a bushel on corn, is not that worth while? In buying coal and fertilizers a saving can be made by buying direct in car lots that would amount to $200,000 or $300,000 a year. Do you not think that is worth while?

Aside from the business reasons for organizing farm clubs there are many social and educational advantages to be gained. Better schools, better churches, good roads and a better environment all round for the enjoyment of life will come with a complete organization of farmers.

SHALL WE SOW WHEAT?

The above question has been asked us a number of times within the last few weeks and we think it represents a very general feeling among farmers of Missouri and surrounding states. Only yesterday a man who has had extensive work among the farmers of Missouri for the last two years came to us and said, "You ought to be urging your readers to sow all the wheat they can this fall. It looks to me like the price is going to be very high and I think farmers ought to get ready to sow a big acreage of wheat this fall." It takes more knowledge than the writer claims to have to forecast with any certainty the prices on any crop a year ahead but we do know that the United States will produce very much below an average crop of wheat this year. Canada will also produce a decreased crop and it now looks like there will be very little surplus over and above what we will need at home including a reasonable carry over. The world's wheat prices do not depend all together on the crop of this country but as we produce about one-fourth of the total, a shortage of more than one-third in this country should make some difference in prices. Industrial conditions can make a very material difference in the amount of wheat consumed and with the great European war likely to close by another year no one can forecast just what effect that will have on our industries. But with all these uncertainties it is a safe guess that wheat will maintain a fair price level for the year at least.

We would not sow wheat unless we could sow it on well prepared land. We think much of the failure of last year's crop was because most of the wheat was sown late and sown on land that had been recently plowed with a rank growth of weeds turned down which did not have time to decay. This always makes a poor seed bed. Weeds plowed down green will

soon decay and furnish food for the growing wheat, but mature weeds plowed under in September furnish little available material for the wheat besides it leaves the land in the very worst possible condition for the winter. This was one of the principal causes of the winter killing of the wheat last year.

The farmer who is planning to sow wheat this year should lose no time in getting the ground plowed and worked into a good seed bed for experience has demonstrated that wheat must have a good, fine and compact seed bed in nine years out of ten to produce a profitable crop.

The Hessian fly makes it necessary to sow wheat later in the season than we used to think best and to overcome the late sowing it is best to sow more seed per acre and to use plenty of fertilizer. The late seeding will not tiller so well and hence the need of more seed, and the late plants require the fertilizer to push them along in the spring and to hasten the ripening and get the crop out of danger from rust, chinch bugs and other pests.

There is no money in growing a half crop of wheat and to grow a full crop requires a good soil, well prepared seed bed, reasonably good season and two of these are entirely under the farmer's control.

BARNYARD GOSSIP

To introudce the subject I want to write about this week by way of explanation let me say that Butler is the county seat of one of the largest counties in the state, Bates which is situated about 60 miles south of Kansas City. Hudson is the name of a farm community some 16 miles from Butler. Now this from the Butler Times:

"Among the most pleasing numbers of the 1916 Chautauqua was the Hudson Township Orchestra Monday afternoon. The orchestra is composed of some of the best musicians in this part of the country. Their leader is James Kupke, a finished musician, who received his musical education in Europe. The other members of the orchestra are: Violins, Burl Browning, Claude Stephenson and Ernest Browning; Cornet, Bruce Pheasant; Trombone, Ellis Smith; Drums, Dee Brown; Horn, Lewis Deweese; Piano, Mrs. Ben Baskerville. The orchestra is the outgrowth of the Hudson Home Improvement Club and their playing was better than many of the professional organizations traveling over the country charging larger prices to hear them play. It is to be hoped that they may be induced to play a return engagement in Butler at some future time."

Then here is another item about this country district, from Appleton City Journal, that will help the reader get an idea of what a neighborhood can do to put itself on the map:

The Girls' Agricultural Club of Hudson held their annual picinic at the home of their leader, Mrs. Cora A. Chapin. After partaking of the elegant dinner out under the trees, they went to the house and had a program consisting of readings, piano solos, duets and songs. They had two guests from Oklahoma, who were visiting cousins here. They had a great time practicing drinking out of a Cuban Water Jug and playing various games that girls enjoy.

One of these girls has four achievement buttons. These buttons are sent out by the extension department of the Missouri State University, College of Agriculture for work done and reports made.

Recently these girls made a poultry survey of Hudson school district. At the time of year when the most chickens are found on the farm there are 10,000 chickens, both old and young, in the Hudson school district.

Have you caught the idea, dear reader? I happen to know about the work in this country community for it was my home for nearly 25 years. A few years ago every thing seemed dead, so to speak. The little old school house was poorly suited to the needs of the district. The Sunday-school had only a struggling existence for the summer months. There were practically no social activities for young or old and on Sundays or evenings the boys would seek the town four miles away for their entertainment. There seemed to be no community spirit yet it was a fairly good community, made up mostly of farmers, who owned their land and individually were good citizens. One day a few years ago, it dawned on some of these good people that there was something lacking to make life what it ought to be in that school district.

In short a get-together-meeting was held—a Farm Home Improvement Club was organized and the above are only incidents of what has been accomplished. A modern school house has been erected,—a fine piana the property of the club is in the school house for use on all occasions when needed. An annual Harvest Home fair and picnic is held and premiums amounting to $150 to $200 are awarded for home products and activities—mostly going to the young people. This was purely an educational and social movement but it has paid and paid well in many ways.

There is not a school district in the state that can not do what this one has done. Is it worth while? Do you want your boys and girls directed toward the better things of this life and do you want to enjoy some of these good things yourself or are you satisfied to just let things drift with the current? If you do not find some place for your young people to spend their time in useful, interesting and healthful work they will find a place and a way that may bring you and them to sorrow. These are some of the reasons why THE MISSOURI FARMER would like to see a good farm improvement club in every district in the state.

AS I LOOK AT IT

Better "dig" than "soar."

A mud hole in the road is worse than the hole in a doughnut.

Organization on the part of the farmer is the best kind of preparedness.

A good way to keep the boy on the farm is to make it to his interest to stay there.

Not every politician who "has an axe to grind" is willing to turn the grindstone.

Wool is now selling for practically twice what it did five years ago, but dog hair shows no advance in price.

The best Missouri songs are those for which the accompaniments are played on corn planters and self binders.

Well may Missouri bluegrass make the people of other states turn green with envy. "Knee deep in June"—in Missouri.

You and your farm are a part of your community. What are you doing to help the community? Are you a lifter or a leaner?

So you "haven't time" to help the wife and daughter with a few flowers? Too busy making money with which to buy the things they want? Well, now, isn't it just barely possible that a few flowers would bring to the entire family more of pleasure than would be possible from the purchase of any article that could be bought with the money earned in the hour or two devoted to the flowers? Figure it out.

Apple growers who last season sold 350,000 barrels of apples recently met in St. Louis and organized the National Commercial Apple Growers' Association. The purposes of the association are to create greater publicity, larger apple consumption, to collect statistics on crop conditions and market reports, to investigate and perfect systems of cold-storing apples, to obtain a uniform distribution and supply to produce an average scale of prices, and to obtain economy of distribution More and more are the workers in every field of agriculture coming to appreciate the value of organization. "Going it alone" means loss and often destruction.

"Yes sir-ee, we always plant root crops in the dark of the moon and other crops in the light of the moon, and we always have good crops." The statement we believed to be true, for the speaker, an excellent farmer, was just as careful to put his seed in a good seedbed, as "in the moon."

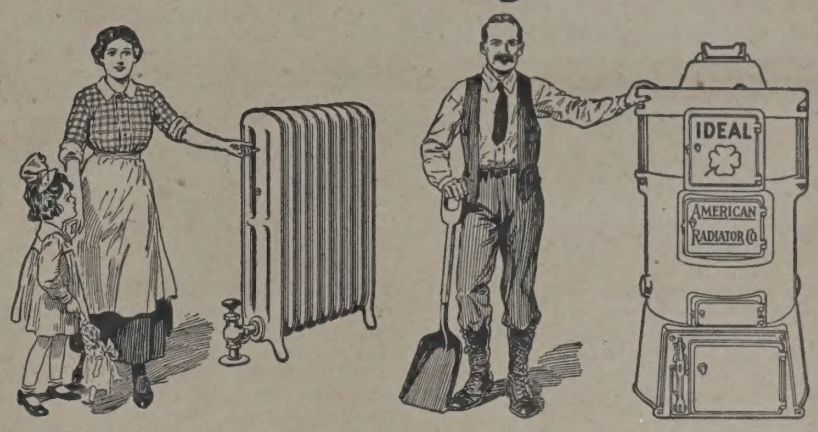
Another tells of how he always plants a certain crop on St. Patrick's Day—March 17, and aother on Good Friday. "And I never have a failure," said he. Now this farmer, like the first, is a believer in preparedness—soil preparedness. The preparation of his potato patch practically approaches perfection. Naturally, then, he has potatoes when anybody does.

Faith in the moon, in signs or in certain days is all right for such farmers. It is hurtful, though, to the farmer who fails first to look to the fields, who neglects to provide a good seedbed and to plant good seed.

W. L. Nelson.

THE MISSOURI FARMER has made arrangements with several Fertilizer manufacturers to supply fertilizers at the wholesale-price in car load shipments to Farm Clubs and also to those of our readers who succeed in making up a neighborhood order. This will affect quite a saving and those interested should therefore get in immediate touch with us.

Prepare! For old man winter is coming!



IDEAL Boilers are easier to run than a stove and the heat can be regulated to suit the weather—mild for chilly days or warmer to defeat the blizzard

Make up your mind to have this greatest of farm comforts and equipment right away. Don't put it off another day before finding out all about it and making arrangements for putting it in your house. Not necessary to have running water or a basement. The IDEAL Boiler can be placed in a side room or in a "lean-to;" even a well boarded up summer kitchen will answer the purpose.

AMERICAN RADIATORS & IDEAL BOILERS

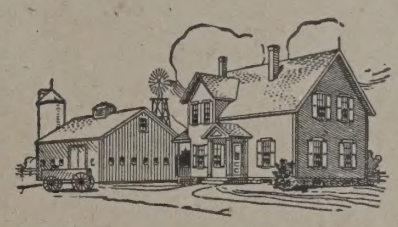
But above all things, *have IDEAL - AMERICAN heat this winter.* A properly heated home is more important than automobiles or farm machinery.

Keep dampness and chill—(those half brothers of sickness) out of your house entirely. Give your family and yourself genuine comfort, pleasant health-giving warmth. IDEAL heating is the most successful and most profitable investment you can make—yielding big returns in comfortable living, health and happiness for the whole family.

Hot water supply for home and stock

Our little Hot Water Supply Boilers are fine for the home that has running water—domestic hot water always on tap for the use of the family or can be piped out to the water trough for tepid drinking water for the stock in winter.

Fuel: IDEAL Boilers will burn most anything—hard or soft coal, lignite, screenings, wood, and they produce the full heat to distribute to the AMERICAN Radiators placed to warm all parts of the house.



A No. 4-19-W IDEAL Boiler and 270 ft. of 38-in. AMERICAN Radiators, costing the owner $200, were used to heat this farm house. At this price the goods can be bought of any reputable, competent Fitter. This did not include cost of labor, pipe, valves, freight, etc., which vary according to climatic and other conditions.

Ideal heating best for farm house

Turn old Winter out and keep him out! Money spent in IDEAL-AMERICAN heating comes back in good living, health, happiness, savings in fuel and the big increased value that your property gets by this, the most important equipment of the farm home. Bankers and real estate men will almost invariably lend money for installing IDEAL-AMERICAN heating for they know that the security is sound and never less in value.

Write today for "Ideal Heating" and get this big book of information free. Investigate now before the winter rush and while prices are so attractive!

Sold by all dealers. No exclusive agents.

AMERICAN RADIATOR COMPANY

Write to Dept. F-32 Chicago

David Dunne

A Romance of the Middle West

By BELLE KANARIS MANIATES

CHAPTER VIII

At two o'clock on the day after David Dunne had been elected governor by an overwhelming majority, he reined up at the open gate at the end of the maple drive. His heart beat faster at the sight of the regal little figure awaiting him. Her coat, furs, and hat were all of white.

He helped her into the carriage and seated himself beside her.

"Have you been waiting long, and are you dressed quite warmly?" he asked anxiously.

"Yes, indeed; I thought you might keep me waiting at the gate, so I put on my furs."

The drive went on through the grounds to a sloping pasture, where it became a rough roadway. The day was perfect. The sharp edges of November were tempered by a bright sun, and the crisp air was possessed of a profound quiet. When the pastoral stretches ended in the woods, David stopped suddenly.

"It must have been just about here," he said, reminiscently, as he hitched the horse to a tree and held out his hand to Carey. They walked on into the depths of the woods until they came to a fallen tree..

"Let us sit here," he suggested.

She obeyed in silence.

An early frost had snatched the glory from the trees, whose few brown and sere leaves hung disconsolately on the branches. High above them was an occasional skirmishing line of wild ducks. The deep stillness was broken only by the scattering of nuts the scurrying squirrels were harvesting, by the cry of startled wood birds, or by the wistful note of a solitary, distant quail.

"Do you remember that other—that first day we came here?" he asked.

She glanced up at him quickly.

"Is this really the place where we came and you told me stories?"

"You were only six years old," he reminded her. "It doesn't seem possible that you should remember."

"It was the first time I had ever been in any kind of woods," she explained, "and it was the first time I had ever played with a grown-up boy For a long time aterward, when I teased mother for a story, she would tell me of "The Day Carey Met David."

"And do you remember nothing more about that day?"

"Oh, yes; you made us some little chairs out of red sticks, and you drew me here in a cart."

"Can't you remember when you first laid eyes on me?"

"No—yes, I remember. You drove a funy old horse, and I saw you coming when I was waiting at the gate."

"Yes, you were at the gate," he echoed, with a caressing note in his voice. "You were dressed in white, as you are to-day, and that was my first glimpse of the little princess And because she was the only one I had ever known, I thought of her for years as a princess of my imagination who had no real existence."

"But afterwards," she asked wistfully, "you didn't think of me as an imaginary person, did you?"

"Yes; you were hardly a realit until—"

"Until the convention?" she asked disappointedly.

"No; before that. It was in South America, when I began to write my book, that you came to life and being in my thoughts. The tropical land the brilliant sunshine, the purple nights, the white stars, the orchids, the balconies looking down upon fountained courts, all invoked you. You answered, and crept into my book, and while we—you and I—were writing it, it came to me suddenly and overwhelmingly that the little princess was a living, breathing person, a woman who mayhap would read my book some day and feel that it belonged to her. It was so truly hers that I did not think it necessary to write the dedication page. And she did read the book and she did know—didn't she?"

He looked down into her face, which had grown paler but infinitely more lovely.

"David, I didn't dare know. I wanted to think it was so."

"Carey," his voice came deep and strong, his eyes beseeching, "we were prince and princess in that enchanted land of childish dreams. Will you make the dream a reality?"

"When, David," she asked him, "did you know that you loved, not the little princess, but me, Carey?"

"You make the right distinction in asking me when I knew I loved you. I loved you always, but I didn't know that I loved you, or how much I loved you, until that night we sat before the fire at the Bradens'."

"And, David, tell me what mother said that day after the parade?"

"She told me I had her consent to ask you—this!"

"And why, David, did you wait until to-day?"

"The knowledge that you were coming back here to Maplewood brought the wish to make a reality of another dream—to meet you at the place where I first saw you—to bring you here, where you clung to me for the protection that is henceforth always yours. And now, Carey, it is my turn to ask you a question. When did you first love me?"

"That first day I met you—here in the woods. My dream and my prince were always realities to me."

CHAPTER IX

The governor was indulging in the unwonted luxury of solitude in his private sanctum of the executive offices. The long line of politicians, office seekers, committees, and reporters had passed, and he was supposed to have departed also, but after his exit he had made a detour and returned to his private office.

Then he sat down to face the knottiest problem that had as yet confronted him in connection with his official duties. An important act of the legislature awaited his signature or veto. Various pressing matters called for immediate action, but they were mere trifles compared to the issue pending upon an article he had read in a bi-weekly paper from one of the country districts. The article stated that a petition was being circulated to present to the governor, praying the pardon and release of Jud Brumble. Then had begun the great conflict in the mind of David Dunne, the "governor who could do no wrong." It was not a conflict between right and wrong that was being waged, for Jud had been one to the prison born.

David reviewed the series of offenses Jud had perpetrated, puishment for which had ever been evaded or shifted to accomplices. He recalled the solemn promise the offender had made him long ago when, through David's efforts, he had been acquitted—a promise swiftly broken and followed by more daring transgressions, which had culminated in one enormous crime. He had been given the full penalty—fifteen years—a sentence in which a long-suffering community had rejoiced.

Jud had made himself useful at times to a certain gang of ward heelers and petty politicians, who were the instigators of this petition, which they knew better than to present themselves. Had they done so, David's course would have been plain and easy; but the petition was to be conveyed directly and personally to the governor, so the article read, by the prisoner's father, Barnabas Brumble.

By this method of precedure the petitioners showed their cunning as well as their knowledge of David Dunne. They knew that his sense of gratitude was as strong as his sense of accurate justice, and that to Barnabas he attributed his first start in life; that he had, in fact, literally blazed the political trail that had led him from a country lawyer to the governorship of his state.

There were other ties, other reasons, of which these signers knew not that moved David to heed a petition for release should it be presented.

Again he seemed to see his mother's imploring eyes and to hear her impressive voice. Again he felt around his neck the comforting, chubby arms of the criminal's little sister. Her youthful guilelessness and her inherent goodness had never recognized evil in her wayward brother, and she would look confidently to "Davey" for service, as she had done in the old days of country schools and meadow lanes.

On the other hand, he, David Dunne, had taken a solemn oath to do his duty, and his duty to the people, in the name of justice, was clear. He owed it to them to show no leniency to Jud Brumble.

So he hovered between base ingratitude to the man who had made him, and who had never before asked a favor, and non-fulfillment of duty to his people. It was a wage of head and heart. There had never been moral compromises in his code. There had ever been a right and a wrong—plain roads, with no middle course or diverging paths, but now in his extremity he sought some means of evading the direct issue. He looked for the convenient loophole of technicality—an irregularity in the trial—but his legal knowledge forbade this consideration after again going over the testimony and evidence of the trial. The attorney for the defense had been compelled to admit that his client had had a square deal. If only the petition might be brought in the usual way, and presented to the pardon board, it would not be allowed to reach the governor, as there was nothing in the case to warrant consideration, but that was evidently not to be the procedure. Barnabas would come to him and ask for Jud's release, assuming naturally that his request would be willingly granted.

If he pardoned Jud, all the popularity of the young governor would not screen him from the public censure. One common sentiment of outrage had been awakened by the crime, and the criminal had been universally repudiated, but it was not from public censure or public criticism that this young man with the strong under jaw shrank, but from the knowledge that he would be betraying a trust. Gratitude and duty pointed in different directions this time.

With throbbing brain and racked nerves he made his evening call upon Carey, who had come to be a clearing house for his troubles and who was visiting the Bradens. She looked at him tonight with her eyes full of the adoration a young girl gives to a man who has forged his way to fame.

He responded to her greeting abstractedly, and then said abruptly:

"Carey, I am troubled to-night!"

"I knew it before you came, David. I read the evening papers."

"What!" he exclaimed in despair. "It's true, then! I have not seen the papers to-night."

She brought him the two evening papers of opposite politics. In glowing headlines the Democratic paper told in exaggerated form the story of his early life, his humble home, his days of struggle, his start in politics, and his success, due to the father of the hardened criminal. Would the governor do his duty and see that law and order were maintained, or would he sacrifice the people to his personal obligations? David smiled grimly as he reflected that either course would be equally censured by this same paper.

He took up the other journal, the organ of his party, which stated the facts very much as the other paper had done, and added that Barnabas Brumble was en route to the capital city for the purpose of asking a pardon for his son. The editor, in another column, briefly and firmly expressed his faith in the belief that David Dunne would be stanch in his views of what was right and for the public welfare.

There was one consolation; neither paper had profaned by public mention the love of his boyhood days.

"What shall I do! What should I do!" he asked himself in desperation.

"I know what you will do," said Carey, quickly reading the unspoken words.

"What?"

"You will do, as you always do—what you believe to be right. David, tell me the story of those days."

So from the background of his recollections he brought forward vividly a picture of his early life, a story she had heard only from others. He told her, too, of his boyish fancy for Janey.

There was silence when he had finished. Carey looked into the flickering light of the open fire with steady, musing eyes. It did not hurt her in the least that he had had a love of long ago. It made him but the more interesting, and appealed to her as a pretty and fitting romance in his life.

"It seems so hard, either way, David," she said looking up at him in a sympathetic way. "To follow the dictates of duty is so cold and cruel a way, yet if you follow the dictates of your heart your conscience will accuse you. But you will, when you have to act, David, do what you believe to be right, and abide by the consequences. Either way, dear, is going to bring you unhappiness."

"Which do you believe the right way, Carey?" he asked, looking searchingly into her mystic eyes.

"David," she replied helplessly, "I don't know! The more I think about it, the more complicated the decision seems."

They discussed the matter at length, and he went home comforted by the thought that there was one who understood him, and who would abide in faith by whatever decision he made.

The next day, at the breakfast table, on the street, in his office, in the curious, questioning faces of all he encountered, he read the inquiry he was constantly asking himself and to which he had no answer ready. When he finally reached his office he summoned his private secreary.

"Major, don't let in any more people than is absolutely necessary to-day. I will see no reporters. You can tell them that no petition or request for the pardon of Jud Brumble has been received, if they ask, and oh, Major!"

The secretary turned expectantly.

"If Barnabas Brumble comes, of course he is to be admitted at once."

Later in the morning the messenger to the governor stood at the window of the business office, idly looking out.

"Dollars to doughnuts," he exclaimed suddenly and confidently, "that this is Barnabas Brumble coming up the front walk!"

The secretary hastened to the window. A grizzled old man in butternut-colored, tightly buttoned overcoat and carrying a telescope bag, was ascending the steps.

"I don't know why yo uthink so," said the secretary resentfully to the boy. "Barnabas Brumble isn't the only farmer in the world. Sometimes," he added, pursuing a train of thought beyond the boy's knowledge, "it seems as if no one but farmers came into this capitol nowadays."

A few moments later one of the guards ushered into the executive office the old man carrying the telescope. The secretary caught the infection of the boy's belief.

"What can I do or you?" he asked courteously.

"I want to see the guvner," replied the old man in a curt tone.

"Your name?" asked the secretary.

"Barnabas Brumble," was the terse response.

He had not read the newspapers for a week past, and so he could hardly know the importance attached to his name in the ears of those assembled. The click of the typewriters ceased, the executive clerk looked quickly up from his papers, the messenger assumed a triumphant pose, and the janitor peered curiously in from an outer room.

"Come this way, Mr. Brumble," said the secretary deferentially, as he passed to the end of the room and knocked at a closed door.

David Dunne knew, when he heard the knock, to whom he would open the door, and he was glad the strain of suspense was ended. But when he looked into the familiar face a host of old memories crowded in upon his recollection, and obliterated the significance of the call.

"Uncle Barnabas!" he said, extending a cordial hand to the visitor, while his stern, strong face softened under his slow, sweet smile. Then he turned to his secretary.

"Admit no one else, Major."

David took the telescope from his guest and set it on the table, wondering if it contained the "documents in evidence."

"Take off your coat, Uncle Barnabas. They keep it pretty warm in here!"

"I callate they do—in more ways than one," chuckled Barnabas, removing his coat. "I hed to start purty early this mornin', when it was coolike. Wal, Dave, times has changed! To think of little Dave Dunne bein' guvner! I never seemed to take it in till I come up them front steps."

The governor laughed.

"Sometimes I don't seem to take it in myself, but you ought to, Uncle Barnabas. You put me here!"

As he spoke he unlocked a little cabinet and produced a bottle and a couple of glasses.

"Wal, I do declar, ef you don't hev things as handy as a pocket in a shirt! Good stuff, Dave! More warmin' than my old coat, I reckon, but say, Dave, what do you s'pose I hev got in that air telescope?"

David winced. In olden times the old man ever came straight to the point, as he was doing now.

"Why, what is it, Uncle Barnabas?"

"Open it!" directed the old man laconically.

With the feeling that he was opening his coffin, David unstrapped th telescope and lifted the cover. A little exclamation of pleasure escaped him. The telescope held big red apples, and it held nothing more. David quickly bit into one.

"I know from just which particular tree these come," he said, "from that humped, old one in the corner of the orchard nearest the house."

"Yes," allowed Barnabas, "that's jest the one—the one under which you and her allers set and purtended you were studyin' your lessons."

David's eyes grew luminous in reminiscence.

"I haven't forgotten the tree—or her—or the old days, Uncle Barnabas."

"I knowed you hadn't, Dave!"

Again David's heart sank at the confidence in the tone which betokened the faith reposed, but he would give the old man a good time anyway before he took his destiny by the throat.

"Wouldn't you like to go through the capitol?" he asked.

"I be goin'. The feller that brung me up here sed he'd show me through."

"I'll show you through," said David decisively, and together they went through the places of interest in the building, the governor as proud as a newly domiciled man showing off his possessions. At last they came to the room where in glass cases reposed the old, unfurled battle flags. The old man stopped before one case and looked long and reverently within.

"Which was your regiment, Uncle Barnabas?"

"Forty-seventh Infantry. I kerried that air flag at the Battle of the Wilderness."

David called to a guard and obtained a key to the case. Opening it, he bade the old man take out the fla

With trembling hands Barnabas took out the flag he had followed when his country went to war. He gazed at it in silence, and then restored it carefully to its place. As they walked away, he brushed his coat sleeve hastily across his dimmed eyes.

David consulted his watch.

"It's luncheon time, Uncle Barnabas. We'll go over to my hotel. The executive mansion is undergoing repairs."

"I want more'n a lunch, Dave! I ain't et nuthin' sence four o'clock this mornin'."

"I'll see that you get enough to eat," laughed David.

In the lobby of the hotel a reporter came quickly up to them.

"How are you, governor?" he asked, with his eyes fastened falcon-like on Barnabas.

David returned the salutation and presented his companion.

"Mr. Brumble from Lafferton?" asked the reporter with an insinuating emphasis on the name of the town.

"Yes," replied the old man in surprise. "I don't seem to reckleck seein' you before."

"I never met you, but I have heard of you. May I ask what your business in the city is, Mr. Brumble?"

The old man gave him a keen glance from beneath his shaggy brows.

"Wal, I don't know as thar's any law agin your askin! I came to see the guvner."

David, with a laugh of pure delight at the discomfiture of the reporter, led the way to the dining room.

"You're as foxy as ever, Uncle Barnabas. You routed that newspaper man in good shape."

"So that's what he was! I didn't know but he was one of them three-card-monty sharks. Wal, I s'pose it's his trade to ask questions."

Barnabas' loquacity always ceas entirely at meal times, so his silence throughout the luncheon was not surprising to David.

"Wal, Dave," he said as he finished "ef this is your lunch I'd hate to hev to eat what you'd call dinner. I never et so much before at one settin'!"

"We'll go over to the club now and have a smoke," suggested David. "Then you can go back to my office with me and see what I have to undergo every afternoon."

At the club they met several of David's friends—not politicians—who met Barnabas with courtesy and composure. When they returned to David's private office Barnabas was ensconced comfortably in an armchair while David listened with patience to the long line of importuners, each receiving due consideration. The last interview was not especially interesting and Barnabas' attention was diverted. His eyes fell on a newspaper which he picked up carelessly. It was the issue of the night before, and his own name was conspicuous in big type. He read the article through and returned the paper to its place without being observed by David, whose back was turned to him.

"Wal, Dave," he said, when the last of the line had left the room, "I used ter think I'd ruther do enything than be a skule teacher, but I swan ef you don't hev it wuss yet!"

David made no response. The excitement of his boyish pleasure in showing Uncle Barnabas about had died away as he listened to the troubles and demands of his callers, and now the recollection of the old man's errand confronted him in full force.

Barnabas looked at him keenly.

"Dave," he said slowly, "it ain't no snap you hev got! I never knowed till to-day jest what it meant to you. I'm proud of you, Dave! I wish—I wish you hed been my son!"

The governor arose impetuously and crossed the room.

"I would have been, Uncle Barnabas, if she had ot cared for Joe!"

"I know it, Dave, but you hev a sweet little gal who will make you happy."

The governor's face lighted in a look of exquisite happiness.

"I have, Uncle Barnabas. We wil' go to see her this evening."

"I'd like to see her, sartain. Hain't seen her sence the night you was elected. And, Dave," with a sheepish grin, "I'm a-goin' to git spliced myself."

"What? No! May I guess, Uncle Barnabas—Miss Rhody?"

"Dave, you air a knowin' one. Yes, it's her! Whenever we set down to our full table I got to thinkin' of that poor little woman a-settin' down alone, and I've never yet knowed a woman livin' alone to feed right. They allers eat bean soup or prunes, and call it a meal."

"I am more glad than I can tell you Uncle Barnabas, and I shall insist on giving the bride away. But what will Penny think about some one steppi in?"

"Wal, Dave, I'll allow I wuz skeered to tell Penny, and it tuk a hull lot of bracin' to do it, and what do you suppose she sed? She sez, "I've bin wantin' tew quit these six years, and now, thank the Lord, I've got the chance.'"

"Why, what in the world did she want to leave for?"

"I guess you'll be surprised when I tell you. To marry Larimy Sasser!"

"Uncle Larimy! She'll scour him out of house and home," laughed David.

"We'll hev both weddin's to the same time. Joe and Janey are a-comin', and we'll hev a grand time. I hain't much on the write, Dave, and I've allers meant to see you here in this great place. Some of the boys sez to me: 'Mebby Dave's got stuck on himself and his job by this time, and you'll hev to send in yer keerd by a nigger fust afore you kin see him.' but I sez, 'No! Not David Dunne! He ain't that kind and never will be.' So when I go back I kin tell them how you showed me all over the place, and tuk me to eat at a hotel and to the air stylish place where I wuz treat like a king by yer friends. I've never found you wantin', Dave, and I never expect to!"

"Uncle Barnabas," began David, "I—"

His voice suddenly failed him.

"See here, Dave! I didn't know nuthin' about that," pointing to the newspaper, "until a few minutes ago I sed tew hum that I wuz a-comin' to see how Dave run things, and ef ther disreptible associates of Jud's air a-gittin' up some fool paper, I don't know it! Ef they do send it in, don't you dare sign it! Why, I wouldn't hev that boy outen prison fer nuthin'. He's different from what he used to be, Dave. He got so low he would hev to reach up ter touch bottom. He's ez low ez they git, and he's dangerous. I didn't know an easy minute fer the last two years afore he wuz sent up, so keep him behind them bars fer fear he'll dew somethin' wuss when he gits out. Don't you dare sign no petition Dave!"

Tears of relief sprang into the strong eyes of the governor.

"Why, Dave," said the old man in shocked tones, "you didn't go fer to think fer a minute I'd ask you to let him out cause he wuz my son? Even ef I hed a wanted him out, and Lord knows I don't, I'd not ask you to do somethin' wrong, no more'n I'd bring dishonor to that old flag I held this mornin'!"

David grasped his hand.

"Uncle Barnabas!"

His voice broke with emotion. Then he murmured: "We'll go to see her, now."

As they passed out into the corridor a reporter hastened up to them.

"Governor," he asked, withimpudent directness, "are you going to pardon Jud Brumble?"

Before David could reply, Barnabas stepped forward:

"Young feller, thar hain't no pardon ben asked fer Jud Brumble, and what's more, thar hain' a-goin' to be none asked—not by me. I come down here to pay by respecks to the guvner, and to bring him a few apples, and you kin say so ef you wanter!"

When Carey came into the library where her two callers awaited her, one glance into the divine light of David's deepening, glowing eyes told her what she wanted to know.

With a soft little cry she went to Barnabas, who was holding out his hand in welcome. Impulsively her lips were pressed against his withered cheek, and he took her in his arms as he might have taken Janey.

"Why, Carey!" he said delightedly, "Dave's little gal!"

THE END.

OUR BOYS AND GIRLS

Some of our boys and girls have been doing well in the way of making a little money and we hope others will write and tell what they have done.

Remember you can choose your own subject to write about. If you have had no experience in money making may be you can write a story about a fishing party, a birth day party, or about some interesting thing that has happened in your neighborhood. If your school is better than those around it may be you could tell us why it is better. There are a lot of things boys and girls know and if they would get in the habit of writing stories it would improve their writing, their thinking and expression which are all very important. Do not try to imitate some one else but try to write in your own way.

If we think it worth while after a little more interest is manifested we may offer prizes for the best letters.

The Editor.

How Marie Made $45.50

To the Editor:

I like to hear how other boys and girls are trying to make some money for it may help me in my efforts to do the same thing. When I was ten years old an old uncle gave me a dollar and said that if I would use it so as to make more money that when I was fifteen years old he would then give me as much more as I had made out of the dollar and for my own work.

Mother advised me to buy a setting of Rhode Island Red eggs to start with and from that start I raised 10 chickens. Three were culls, I sold for market and I sold 3 others for one dollar each, leaving me $4.50 in money. I have paid for the food eaten except what they picked up and when I w fifteen years old last April I had $35.50 to my credit and a pen of 10 nice chickens valued at $10.00.

Uncle Ben said that was fine and he gave me $50 to go with my $35.50 which makes my account now $85.50 and the pen of chickens.

Now I would like for some one to tell how to invest the money to get the most out of it. I will keep on with the chickens but I can not keep very many because mother raises chickens.

Marie Hanley.

Ruby Raises Chickens to Buy Christmas Presents

To the Editor:

I live on a farm in Vernon County, in Southwest Missouri. We take THE MISSOURI FARMER and I am reading the splendid story "David Dunne." I like all the characters except Jud, but, of course David is the hero. I was very much disappointed because Janey did not marry David instead of Joe. David you know loved Jany so much and wanted to marry her.

I am twelve years old and the youngest and only girl of the family. I have two brothers, one of whom is twenty and the other is sixteen. I have twenty chickens all my own. I will sell them this fall but do not know just what I will do with the mor but I think I will buy Christmas presents with part of it.

I am always anxious for the next paper to come. Ruby Gist.

How Eva Bought a Cow

To the Editor:

I am a little girl eleven years old, and live on a farm of 160 acres, in Moniteau County. I am very fond of good stock on a farm. My father has a saddle mare, which I enjoy riding very much.

I have a cow and calf of my own, and will tell you how I came by them. When I was very small friends gave me nickles and dimes, these I saved until I had fifty cents, I first bought a pair of bantans, raised ten and sold them for $1.50. With this money I bought a pig, fed it well for a few months and sold it for fourteen dollars. I have bought and sold pigs and calves since until I now own a fine short-horn cow and calf.

Eva Henry.

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In answering advertisements, please mention THE MISSOURI FARMER.

"HOLDING UP" THE FARMER

By WILLIAM HIRTH

(Continued from page 2)

to the point of starvation—which would cause the shutting down of thousands of manufacturing enterprises big and little—which would make it impossible for the farmer to get to market with his grain and live stock and otherwise utterly demoralize the commerce and industry of the Country as never before.

In view of what recently took place in the Western harvest fields and this threatened calamity which looms up more ominously every hour, should not the American farmer to whom Congress will listen as to no other force in the land, take a hand before it is too late? Should not every farmer sit down at once and write to his Congressman and the Senators from his state and demand in no uncertain terms that Congress meet the issue fairly and squarely—that it send an ultimatum to both the Railroads and the Railway Brotherhoods that there shall be no strike and that this dispute shall be arbitrated by the Inter-State Commerce Commission which is the highest tribunal on transportation matters in the Nation and which must have the power to keep down unnecessary increases in the cost of railroad operation if it is to retain the power to keep down unnecessary increases in railroad rates?

We leave the matter to our readers. That a tremendously grave crisis confronts the Nation there is not the slightest question—and a personal appeal from tens of thousands of citizens direct to Congress is the only power which can avert the impending calamity.

LYON'S PRACTICAL FARM PAPERS

By the time I see a printed copy of this I will be sixty years old, and not having been at all well since March, I really feel that old.

I recall some events of 1859, one the making of sorghum syrup by my father, who was a pioneer in that work here, and of "Granddaddy" Crabb, the local veterinary, who sat on the woodpile and showed me his watch, an old "bullseye," and the only one in the neighborhood, also that Granddaddy got "tight" one day, eating dried peaches that came out of a whiskey barrel.

There were two buggies in the school district and one piano; father was "squire," and in addition to the dozen law books of his office had perhaps twenty-five other books, a large library for the time.

The custom of furnishing whiskey in harvest had just passed away, although a few farmers still set out the bottle at dinner time, and it was some years later, when the custom of a drink all around at barn raisings, went out.

We had a Ketchum one-wheel mower, the only one in the township, but in 1860 father bought a two-wheeled machine, a Wm. Anson 1 hood, and a man four miles north a Buckeye, the first improved mowers in the county.

Every town had several saloons in it, and there was also a saloon at every important cross roads, all well patronized as the records of peace warrants and assaults and batteries, in fathers old criminal docket show.

The farming outfit of a 100 acre farmer here in 1865, consisted of a breaking plow, a nineteen tooth A harrow, small turning plow, one double shovel and a single shovel plow, wagon, sled, two or three hoes, and a mattock, neither more or less, all costing about $150.

Perhaps I had better include grain craddle, scythe and a pitchfork or two, and in an entire neighborhood there were always two or three spades and shovels, a crowbar or two, and as many sledge hammers, these always for loan to those who did not have them.

Up to 1875 most of the grain was cut with cradles, and from the time I was 17 I was a first class cradler, but I never could make a full hand at binding.

Combined mowers and croppers sold at $200 up to 1874 when the Grange movement brought them down to about $125, and while we had tried out an unsuccessful combined mower and self rake in 1873, we bought a mower and cropper in 1875.

In 1877, I cut 130 acres of grass and grain for neighbors, charging $1 for grass, $1.25 for grain, and this money put me through six months at college. Up to 1870, no live hogs were shipped to market, the plan being to dress them, and deliver to the packing houses, one of which was in each river town. Pipley, Ohio, eight miles east of us, had several packing houses, and while the town was of only 2000 inhabitants, from 1850-1868, it packed as many hogs per year as Cincinnati does now.

Until 1861 all the wheat of the country was made into flour, principally by water mills, the flour loaded on flat boats and floated south, but the war put a stop to that, and the five big water mills on the creek a mile west of me, all in a space of five miles, have been dismantled for years. Previous to 1836 wheat was tramped out with horses or flailed out and cleaned with a fanning mill.

In 1836 a man bought a machine called a "ground hog" thresher from Pennsylvania, which threshed, but did not clean the grain; in 1846 a rude cleaning thresher was made at Pipley; in 1876 a first class separating machine came into the country, all these being operated by horse power, and in 1886 the first machine with tracto, engine, was operated here.

We are two miles from the Ohio river, and forty or fifty years ago there was a magnificent fleet of steamboats on that river, three or four great side-wheel boats each way stopped at our landing every day in the year, besides more than that many smaller craft, these boats all loaded with freight and passengers, and bound for all poits between Cincinnati and Pittsburg.

Now a double track railroad along the river has sent the big boats to the "bone yard," and three or four dinkey little stern wheelers are all that are left. C. D. Lyon.

THE MISSOURI FARMER has made arrangements with several Fertilizer manufacturers to supply fertilizers at the wholesale-price in car load shipments to Farm Clubs and also to those of our readers who succeed in making up a neighborhood order. This will affect quite a saving and those interested should therefore get in immediate touch with us.

Open The State Fair to the Boys and Girls

There is no work that our Home Makers Conference or any club in the state can do that is more worth while than that of helping our boys and girls. As the time for our State Fair draws near and great plans for its success are being consumated our thoughts go out to our young people in whom we are so much interested and who should have the benefit of this great educational institution.

With this thought in mind I am asking every club in the state to take an interest in the effort to have our fair board make Monday of Fair Week. Children's Day and admit every child fifteen years of age and under free of charge.

Our fair is a state institution for the benefit and education of the people but there are many children who are deprived of its privileges because of the expense attached. We have seen boys standing outside the gates looking longingly across upon the scene of attraction but were denied admittance because they lacked the required entrance fee and yet as they stood there they saw men of wealth and influence with their families pass in without money and without price.

In this day of automobiles people come long distances with their families and doubtless more would come if their children could enter free.

We ask that every club become interested at once and write to the President or Secretary of the fair making this request thereby helping our boys and girls to this educational treat.—Mrs. Harry Sneed, President Missouri Home Makers Conference.

We Second the Motion

We heartily approve of Mrs. Sneed's suggestion to open the State Fair one day free to all the children of the state who can come. Of course the benefit will be largely to the children of Pettis County but it will do the fair no harm and will do the children some good.

The State Fair is a great educational institution and a day or two for any boy or girl spent at the fair if under proper guidance will be worth a month's time in school.

Yes, cut out the free passes, every one of them and admit the boys and girls free.

THE FLOWERS OF MISSOURI

By Miss Laura Arnots, R. F. D. 2, Polo, Ray County, Missouri.

Spake full well, in language quaint and olden,
One who dwelleth by the castled Rhine,
When he called the flowers, so blue and golden
Stars, that in earth's firmanent do shine.

Flowers "toil not, neither do they spin", yet all down through the ages they have been influencing mankind just by what they are and not by what they do.

In the creation of this good old world, God in His great love, wisdom and kindness to the human family, gave us the lovely, gorgeous, splendid flowers for our pleasure, joy and gladness for the human heart yearns for the beautiful in all ranks of life.

"Flowers, music, and poetry", the ancients said, "form a trinity of which flowers is the elder brother and individually or togeter they are the universe manifesting itself to the better nature of man by appealing directly to the heart."

Flowers, or dream-smiles as the poet called them, have an indisputable influence upon human kind. The graciousness and loveliness they radiate has ever made for sweetness and light, for right living and wholesome thinking, for cleanliness and order.

Flowers, fresh and pure as just from the hand of God, are a tonic and inspiration. They delight and refresh the weary, care-worn traveler on the road of life, not only in being pleasing to the eye, but unconsciously calling the anxious down-trodden, discouraged heart away from care, worry and trouble.

And how the heart of the invalid is gladdened by the sight of flowers, and beautiful floral tokens from friends!

Flowers have a very refining, ennobling influence and minister to the finer instincts and best attributes of higher civilization.

With a flower garden attached to it, the merest shelter from wind and weather—a rude hut it may be—becomes a home.

We are glad in our hearts that more rural homes in Missouri are recognizing the beautiful and fascinating side of country life. While those living in the narrow confines of the city spend their money that they may enjoy nature's delicate gifts, should not those living in the country revel in her lavishness!

Much pleasure and supreme joy are derived from flower gardening. Most mothers and daughters of the farm home have a passionate love for flowers, and it is to be hoped that they may be given the necessary assistance and encouragement in their endeavors to beautify the home surroundings, where all members of the family alike can enjoy and admire the loveliness and beauty.

Beauty counts much toward making life seem worth while. It makes glad the heart while we are striving and toiling for the material things of life necessary for our existence.

The cultivation of the aesthetic taste and a love for the artistic side of life uplifts us from the pure worldly and sordid, and kindles a high and holy reverence for the beautiful adornment provided by nature for our enjoyment and inspiration to better and nobler things than mere existence for a few fleeting years.

Missouri has numerous and varied kinds of flowers. Here in the middle of the continent, half way between the rugged pines of the North and the orange blossoms of the South, with no extremes of climate, it is favorably situated many months of the year for a large procession of different kinds of flowers. We can't have the fragrant magnolia and sweet jasmine blossoms of the sunny Southlands, neither can our roses be so ever-blooming, mammoth, and magnificent as on the Pacific slope, but we can successfully grow enormous varieties of elegant floral plants rich in blossom and fragrance. In the early spring, scarcely before the blue birds and robins have arrived, and the trees have put forth many leaves, we have the beautiful, brilliant and gorgeous blooms of the crocus, tulip, hyacinth, daffodils, narcissus, Easter lily, then as the season advances come the flowering shrubs of many varieties among the more common and beautiful are the sweet purple and white lilacs, flowering, almond and snow-balls. Then closely follows bleeding heart, the flags in varieties of blue, yellow and white, and the aristocratic white, pink and red peonies.

In the springtime wild flowers grow in profusion along te roadside and in the meadow and woodlands—the yellow dandalions blossom. Sweet William, wild honeysuckle and Jack-in-the-pulpit, thousands of modest blue violets, and along the streams in the moist earth grow dutchman's breeches and lovely little ferns and mosses.

In the early summer comes the rose, loved by all the world, with its sweet breath of perfume like incense from an altar. The lovely rose from earliest time has figured in poetry and song. Among the many varieties of beautiful and elegant roses are the climbing and garden roses, the Dorothy Perkins, American Beauty, crimson and pink ramblers. The white and purple clematis, the fragrant honeysuckle and various other pretty vines now beautifully adorn the dooryards and arbors and porches with their masses of brilliant colors.

Now we have reached the season of wonderful luxuriance—so many flowering plants are blossoming in midsummer in Missouri—the lawns and gardens are in glorious splendor with many-hued pansies, pinks, poppies, phlox, sweet peas, verbenas, nasturtiums, feverfew, candytuft and some of the old-fashioned blossoms our grandmothers loved—the glorious hol-

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lyhock, zinnias, marigold, and larkspurs. Then follows the gladiolus, dahlia, canna, golden glow, snap dragon, asters, chrysanthemums, and cosmos. We have the geraniums and various potted house plants with us all the time.

Oftentimes we notice a "sea of loveliness" along the counry roadsides in our Missouri State. We glory in the wild rose made famous in story and song. We love and admire the wild daisies and purple asters, the beautiful blue bells, black-eyed Susans, the yellow golden sunflower, the pink thistle blossoms, the white elders, and the silk weed blossoms are pretty and a haunt for the beautiful plumed mammoth butterflies. Yes, the golden rod, everywhere present in Missouri, is near and dear to us. We native Missourians love the golden rod. It is wonderfully beautiful, tall, slender, carrying its golden plumes, and stands as if conscious of its beauty.

There is much beauty for admiration in the blue alfalfa blossoms, the white red and sweet clover which sends out its sweet fragrance.

While we recognize and value the material worth, the great pink heads of the clover are flowers to me. I ever am reminded of James Whitcomb Riley's "Knee Deep in June" when I get out in a red clover field in full bloom. And Mr. Riley tenderly says in his sweet little clover poem,

"And so I love clover, it seems like a part
Of the sacredest sorrows and joys of my heart,
And wherever it blossoms, oh, there let me bow
And thank the good God as I'm thanking Him now,
And I pray to Him still for the strength when I die
To go out in the clover and tell it goodbye
And lovingly nestle my face in its bloom
While my soul steps away on a breath of perfume."

So let us ever preach the gospel of flowers. They grow for the rich and poor, for the city and rural homes. They give to us uplifting thoughts, and a taste for the beautiful. They inspire us to higher, holier, cleaner and purer living by awakening the spiritual part of humanity.

Oh, Missouri, our grand old imperial State, our homeland, how beautiful, how gorgeous, how divinely lovely are thy blossoms of all hues of the rainbow and all the combinations of the colors of those seven tints. We all love them supremely. How the universal heart of mankind blesses flowers! We gladly use them on occasions of greatest rejoicing and deepest sorrow. They are wreathed around the marriage altar, the cradle and the tomb. Longfellow beautifully says:

"In all places then and in all seasons,
Flowers expend their light and soul-like wings;
Teaching us by most persuasive reasons,
How akin they are to human things.

"And with childlike, credulous affection
We behold their tender buds expand;
Emblems of our own great resurrection,
Emblems of the bright and better land."

BUCKSHOT BY THE PROFESSOR

All I've got to say to the rival candates is to "go to it." I hate peace anyway.

* * *

They say that fiddlers are thick in Hades—but they'r not a marker to the "also rans" that sailed up Salt River this time.

* * *

The man who don't cuss in the kind of weather we'v been having for the last six weeks is entitled to an annual pass to Paradise.

* * *

Yes, I am back once more. But I haven't got energy enough to raise a fuss. I've worn it all away moppin' sweat and fightin' flies.

* * *

If there's a bright boy in your family, have him take advantage of the splendid free gilt offer which appears elsewhere in this issue.

* * *

We never appreciate sunshine until the floods descend and likewise it takes a withering drouth to make us realize the beneficence of the thunder storm.

* * *

Old Chas. A. Dana once said that there are three kinds of lies. Ordinary lies, d—— lies and statistics. We will hear a pile of all three varieties from now until Nov.

* * *

After all, I'd rather be swatting flies here in the U. S. A. and cussing the weatherman than to be dodging bullets as big as a washtub over in France and Belgium.

* * *

The "After Thought" man asks me to say that he will be with you again soon—that he wants to wait until everybody gets cooled off and in a real humor to read once more.

* * *

There never was weather hot enough to suppress that "Jim" Riley person. In fact, nothing can suppress him. He's so anxious to see that old red and purple nose of his in the paper that he turns up in every issue—and he thinks he's so funny.

* * *

Things have come to a great pass in this country when a lot of railroad trainmen can demand a one hundred million dollar increase in salaries per year and then refuse to submit their demands to just and honorable arbitration. The day isn't far off when this policy of "might makes right" is going to cause trouble—and very serious trouble at that.

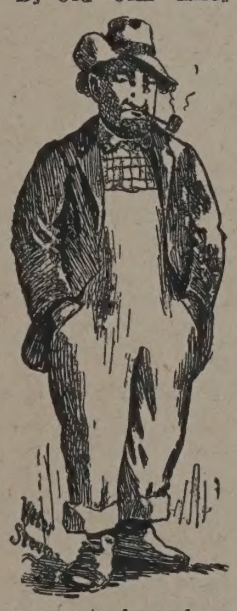
* * *

Don't miss reading "Sam" Jordan's "Sense and Nonsense"—for there's a pile of mighty good sense in it. Old "Sam" is just about as useful a citizen as we have in this great state. If the Publisher gave us a little more Jordan and a little less "Jim" Riley, it would suit me a whole lot better—but some Publishers have about as little taste as they have money.

* * *

They say that Agriculture is the greatest business in the World and that the farmer is the greatest fellow in the World—but did it ever occur to you that we haven't sent a farmer to Congress from Missouri during the last 25 years? Why if a great big farmer with four times the brains of a little cross-roads lawyer was to announce himself for governor, the politicians would have heart failure. And yet if we farmers were to stand together we could name every state officer and every congressman outside of the cities of St. Louis and Kansas City. Isn't it time we gave this matter a little thought.

By Old "Jim" Riley



There seems to have been a slight misunderstandin' between "Dock" Hicks and old Jupiter Pluvius. "Dock" said old Jupe was goin' to cut loose an' rain on things to beat th' band along about th' second of August—but th' only thing that's bin moist around in my neck of th' woods is Bevo—and that costs 15c a bottle—and it aint got no "kick" in it at that.

Auto-Oiled Windmill

ALL WORKING PARTS INCLOSED

and flooded with oil from the supply in the gear case, which needs replenishing only once a year.

Put your old Aermotor wheel and vane on this self-oiled motor, and have an up-to-date outfit at small cost.

Thousands of Auto-Oiled Aermotors have replaced other makes of windmills on their old towers. An Aermotor with a short stub tower can easily be put on "any old tower." It is worth the price to get rid of the continual climbing.

THEY NEED ATTENTION BUT ONCE A YEAR.

Write for Folder-Hanger. It tells all about Auto-Oiled Aermotors and Easy-To-Build-Up Towers.

AERMOTOR CO., 1143 S. Campbell Ave., CHICAGO

Wanted 30,000 Men

FOR HARVEST WORK ON IMMENSE CROPS OF

Western Canada

Wages $3.00 Per Day and Board

Cheap Railway Rates From Boundary Points

Employment bureaus at Winnipeg, Regina, North Portal, Saskatoon, Ft. Frances, Kings Gate, B. C.; Coutts, Calgary, Alberta,

No Conscription—Absolutely no Military Interference

For all particulars apply to the following Canadian Government Agent

GEO. A. COOK

2012 Main Street, Kansas City, Mo.

Home Made Grape Juice

All containers should be sterilized in boiling water before use. To 2½ pounds grapes, without stems, add 1 pint water and cook until soft. Drain through a jelly bag and add 1 pound of sugar to this juice, then bring it to boiling and boil for five minutes and bottle at once, hot. Be certain to fill the bottles within an inch or two of the stopper. This juice should keep an indefinite length of time and may be diluted to suit taste when serving. A small piece of lemon added to each glass may improve the taste.

Grape juice may be made by the so-called cold process by adding 1 gallon of sugar to each gallon of juice. See that the bottles are perfectly clean, and well sealed when filled, as in the previous method.

Prepared by either of these methods, the juice should contain no alcohol.—Chas. K. Francis, Okla. Agr. Ex. Sta.

Intestinal Worms in Poultry

Intestinal worms from infested poultry may be plainly seen in the droppings. For treatment, prevent the spread by removing all droppings in reach of the birds. Spray with a disinfectant.

Lime the infested yards, and plow. Place the poultry on fresh ground. For individual treatment, give each bird one teaspoonful of turpentine and one ablespoonful of Epsom salts. For 100 birds, dissolve 5 pounds of Epsom salts in warm water and mix in a wet mash.—College of Agriculture.

Water Chickens Often

It is surprising how much water a chicken will drink, particularly in hot weather. At this time fresh water is necessary to the rapidly growing chick and good producing hen. Water chicks in shallow dishes in the shade at least three times a day, preferably after each feed. A chicken wants a drink the last thing at night and the first thing in the morning, and it will not drink stale water.

August Sweet Clover Seeding

If sweet clover is to be seeded in the fall, it should be doen early in August. The early fall seeding will permit sufficient growth to prevent winterkilling, according to Extension Bulletin No. 22 of the Nebraska Experiment Station. In general, the same preparation of the seed bed should be given for sweet clover as for alfalfa. The rate of seeding is 20 to 25 pounds of the hulled seed per acre, and at least 5 pounds more of the unhulled seed should be used. The seed may be sown broadcast and covered with a smoothing harrow set rather slanting or else with a grain drill with grass seed attachment. In either case the seed should not be covered more than about three-fourths of an inch deep.

Fertilizers for Wheat

Wheat yields at the Ohio Experiment Station at Wooster during 22 years have been increased eight bushels by the use of 320 pounds of acid phosphate in the five-year rotation. The addition of potash has caused an annual net increase worth 45 cents an acre, but this would be a loss this year because of prices caused by the European war. Applications of nitrogen in commercial form have increased yields, but the cost in nearly all cases has decreased the net returns. Hence soil fertility experts at the Experiment Station suggest that farmers buy only acid phosphate and steamed bonemeal for their wheat crops, and rely upon manure and clover to supply nitrogen and potash.

Enlarging College Building

Workmen have started adding a fourth floor to the Main Building of the Chillicothe Business College which when completed will house the Telegraphy Department. It is expected to have the work completed in time for the Fall Opening, Sept. 5th. With this end in view, as many workmen are being engaged as possible and everything is being done to prevent delays. The new quarters of the Telegraphy Department will be more than double the present quarters and will give the college capacity for 500 telegraphy students annually. It was the intention of the college to get along with its present quarters, at least for the approaching year, but the big mails which the college is receiving assures a much greater enrollment than the past year and caused the school authorities to contract for the extensive addition at this time.

Live Stock Notes

R. P. ROYCE, Fieldman

AMERICAN ROYAL LIVE STOCK SHOW

The prospects for exhibits and visitors for the American Royal Live Stock Show, Kansas City, October 2 to 7, are so good that already the arrangements have had to be expanded. Some of the breeding stock will be stabled in Convention Hall. The temporary quarters on vacant property across Thirteenth street from the hall, will be built of lumber instead of canvas as had been originally planned, and the tabernacle used by Billy Sunday during his revival services will be used. There will be additional ground on which tents will be erected for nurse cattle.

C. A. Davis, who will be remembered by exhibitors and many visitors for his official part in many previous Royals, has been appointed assistant secretary. W. H. Weeks, secretary, has opened Royal offices at 539 Live Stock Exchange, Kansas City, Mo., with Mr. Davis in charge.

Inquiries about the Royal have been coming for several weeks, from all parts of the United States. One of the oldest breeders of purebred cattle who has moved to the state of Washington wrote recently, saying that he wanted to bring an exhibit, and that other breeders of Washington would visit the Royal this year. Similar letters have come from numerous other distant states, and it is certain that a wider district than ever before will be represented, in the exhibits and by the visitors.

GREAT SHOW OF SADDLE HORSES FOR STATE FAIR

In the present year, September 23rd to 26th, at Sedalia, there will be gathered together 25 or more of the greatest saddle horses in America. The Directors of the Missouri State Fair have hung up Twenty-five Hundred Dollars ($2,500) in cash to be divided between the winners of the Senior Saddle Stake, and Five Hundred Dollars ($500) to winning entries in the Junior Saddle Stake. This three thousand dollars has caused the stakes to fill quickly by the entry of America's greatest saddle horses. Missouri, Kentucky, Illinois and Colorado will be represented by some of the greatest saddle horses ever produced upon American soil. Time was when a great horse was mentioned our thoughts naturally fell upon Kentucky as its place of nativity, but today Missouri can lay claim to the breeding and training of some of the finest on earth. This feature of the great State Fair should be sufficient in itself to bring every lover of a fine horse to Sedalia fair week.

FEEDS FOR HOGS

Probably no state in the United States has so large an area of bluegrass pasture as Missouri. Certain advantages in this state have led many men who farm, and particularly those controlling large bodies of land, to follow grazing on permanent pastures. When the price of land was low and the value of grain less than at present, bluegrass farming was more profitable than rotative farming. A change of conditions makes more skillful handling of grass lands necessary.

Investigations carried on at the Missouri Experiment Station for five years, comparing bluegrass with ten other rotations, including the best forage crops known for Missouri, show that the average return per acre which can be accredited to bluegrass forage for fattening ogs is $22.50 per acre, estimating pork at 6 cents a pound, and corn fed at 60 cents a bushel. A rotation of rape, clover, and corn yielded an annual income of $22.42 per acre. A succession of corn in which cowpeas were planted at the last cultivation gave an annual income per acre of $19.48.

The figures indicate that it is not necessary for men who farm to plow up all the land devoted to bluegrass pastures in order to make it pay a good income even on the basis of high land values now prevailing.—F. B. Mumford, Missouri College of Agriculture.

A HOG HOUSE FOR MISSOURI

On some farms a permanent hog house is desirable, and the Missouri College of Agriculture has prepared a plan for a 24x50 ft. house to fit such conditions. This house makes it possible to do the most work in the least time and permits the production of two litters a year and the marketing of pigs at the most profitable time. It consists of seven 8x7 ft. pens on one side and four pens of the same size on the other side, as well as a feed storage and mixing room. An eight-foot alley running through the center of the house allows room enough to drive a wagon through to aid in cleaning the house. The doors are so arranged that they may be swung open as single doors and the upper half of each is so constructed that it will swing open, admitting light and air while the lower half is closed.

The arrangement of the pens provides for an outside lot for each pen, if this is desired. A concrete feed trough is recommended, but lumber may be used if desired. Woven wire partitions are desirable as they let light and air into the pen, thus drying out the bed litter. The sows are also able to see each other and the attendant, when he approaches and are not so likely to become frightened and kill the young pigs as a result of the sudden appearance of the attendant.

A moderately rough concrete floor is best, as it will help prevent the sows from slipping. On the other hand the surface should not be too rough, as too much moisture would be absorbed. A board overlay and plenty of bedding should be provided for each pen, so as to prevent the cold concrete from absorbing too much heat from the body. A concrete floor is not considered objectionable when plenty of bedding is used.

Another type of floor which is now coming into use is made of hollow tile the same as those commonly used in other farm buildings. The tile are laid flat on the ground on a good level, firm foundation, and a good bed of gravel beneath the tile is desirable. The tile may or may not be covered with concrete. Concrete floors are easier to clean. This type of floor is not so cold as the ordinary concrete floor.

A window, hinged at the bottom so that there will be no direct draft on the sow and her pigs, is provided for each pen. The house has a semi-monitor roof which furnishes more window space. These upper windows are hinged at the center and aid in ventilating the house. They may be closed or opened from below by a rope and a few pulleys.

A tank which makes it easy to dip the hogs frequently if necessary is set in the middle of the alley. When not in use, it is kept covered with planks. This makes a convenient location for the dip but it can be easily constructed on the outside if so desired. Plans for building a concrete tank will be sent free to farmers of Missouri who ask for them.

M. A. R. Kelley,
Missouri College of Agriculture.

BETTER LIVE STOCK—MORE PROFIT

"Use pure-bred sires" is the slogan used by workers at the Missouri College of Agriculture as a partial reply to stockmens' questions as to how they can make profits on increasingly expensive land, labor, and feed. These three factors will remain high and the quality of the live stock and efficiency of the methods used must be correspondingly improved if the live stock industry is to survive.

The slogan of the pure-bred sire is being sounded by Dean F. B. Mumford and others of the Agricultural Experiment Station and College in the field and feed lot, from the chautauqua platform and on farm to farm trips through various counties.

For use in these campaigns a "red headed" poster bulletin has been printed. That head says in red type, "Use Pure-Bred Sires" and underneath this head are brief statements of the careful tests of the Experiment Station and the common experience of Missouri farmers which agree absolutely on this point. The station got much bigger profits by using a fair pure-bred mutton ram such as any farm sheep-raiser could afford instead of a scrub ram. They were used on western ewes which were equally good so far as the best judges could tell. From such a ewe the fairly good pure-bred mutton ram got a good lamb which weighed 60 pounds and sold for $7.35 when three months old, but the scrub ram got from a similar ewe a poor lamb which weighed 56 pounds and sold for $4.50 when four months old. Fletcher Smart of Harrisonville, Missouri, used a good pure-bred boar on some average sows and got sixty good pigs which reached an average weight of 270 pounds and topped the Kansas City market at eight months.

The Pure-Bred Sire Means—
1. Uniformity.
2. Individual superiority.
3. Early maturity.
4. More marketable stock.
5. More money for your feed.
6. Credit to the owner.
7. Bigger profits.

The Scrub Sire Means—
1. Lack of uiformity.
2. Mongrels and misfits.
3. Late maturity.
4. Poor market demand.
5. Less money for your feed.
6. Discredit to the owner.
7. Loss and dissatisfaction.

These are some of the facts indicated by the poster which explains why a survey of the live stock producers shows that those who are producing the good stock are the ones who stay in business when so many others are dropping out.

From the breeding standpoint the important steps are (1) the use of tried pure-bred sires, (2) proper feeding of breeding animals, (3) careful culling of barren and poor-breeding females, and (4) replacing culls with the best females in each season's produce.

Since it costs little or no more to produce an 8-cent steer than it does to produce a 5-cent steer, the profits to be derived from producing live

POLAND CHINAS

Smooth Columbus
THE BOAR THAT PUT MISSOURI ON THE MAP. HEADS OUR HERD

SMOOTH COLUMBUS BLOOD has held the record in Missouri for two years—it will do it again next year. Fall pigs, either sex, by this great boar, now offered for sale.
BENNETT BROS. R. 5, LEE'S SUMMIT, MO.

Spring Boars by the Grand Champion
A desirable lot of early spring boars by The Giant, acknowledged to be one of the greatest young Poland China boars of the breed. Prices within reach of all.
WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

Poland Chinas & Shorthorns
Bred sows and gilts. The real big kind with bone and quality. A few serviceable boars. Several extra good young bulls and heifers. Satisfaction guaranteed.
H. S. Williamson, Route 6 Centralia, Mo.

BAKER'S REAL BIG-TYPE POLANDS
We have a number of extra good spring boars sired by Big Look that we are offering worth the money. Need the room and must sell.
W. A. BAKER & SONS, BUTLER, MO.

Linhardt's Polands
I have a choice lot of extra good fall gilts sired by outstanding boars. Customers in 26 states. GIANT MAMMOTH 68375 and CHIEF BIG BONE 75856 in service. Priced for farm trade.
H. O. LINHARDT, LOHMAN, MO.

DOOLEY'S SPOTTED POLANDS
Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pair and trios no relation. Also registry furnished. Send check with first letter.
EDGAR DOOLEY, - Etterville, Mo.

DUROC JERSEYS

Durocs With Size and Bone
I am offering a choice lot of early spring pigs with unusual size, bone and quality. Bred right and priced right. Visitors welcome.
A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

Adenhill Duroc Boar and Gilt Bargains
I can supply readers of this paper with choice yearling gilts bred for fall farrow. Also extra good spring boars. My Durocs are noted for size and quality. Satisfaction guaranteed. Inquiries gladly answered.
R. L. (BOB) HILL, ADENHILL FARM, - - COLUMBIA, MO.

Classified Advertising

Shetland Ponies for Sale.—I am closing out my herd. Geo. Aid, Gallatin, Mo. 2-t

THRIFTY HOGS
Are the money makers. They can not be thrifty and have worms. The worm preventative recommended by the College of Agriculture sells for only 3c per pound.
JESSE J CULP, - Warrensburg, Mo.

DUROC HERD BOAR!!
We offer for sale our herd boar sired by Weller's Example and out of a Whiskey & Faith sow. Also a few September boars. Booking orders for spring pigs.
J. C. Garrard & Son, McBaine, Mo.

Hazelwood Durocs
Seventy choice spring boars and gilts sired by HAZELWOOD CHIEF, by CRIMSON COL., and out of OHIO CHIEF bred sows. Get our prices.
E. P. POWELL & SON, Maryville, Mo.

80 O. I. C. Spring Pigs
Guarantee and pedigree accompanies each sale. This herd has been exhibited at World's Fairs and State Fairs for years. You are sure to get prizewinning blood from us. Prices reasonable. Write us today. Address
S. D. & B. H. FROST, Kingston, Mo.

HAMPSHIRES

BROOKVIEW HAMPSHIRES
Herd headed by GEN. TIPTON and SIR BROOKVIEW, both grand champions. Spring boars and gilts of choice breeding and individuality. Prices reasonable.
ISOM J. MARTIN, - Kahoka, Mo.

RED POLLED

RED POLLED CATTLE
Herd established 16 Years
Young stock for sale. Young bulls sired by LOGAN 13500; Calves sired by KNOCKER 23791. Bred for milk and beef. Also offer spotted Poland China hogs and Rieds Yellow Dent seed corn.
M. L. SNYDER. - - POLO, MO.

ANGUS CATTLE

ANGUS CATTLE
Herd founded 1904
Young stock sired by Dean's Eric 139686. Also offer splendid herd bull for sale. Every one the right kind and priced to sell.
V. E. LAWRENCE, SALISBURY, MO.

Aberdeen-Angus
I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.
J. D. Blackwell - Fayette, Mo.

stock on corn belt farms is limited by the quality of the animals. Good sires must be secured and the herd must be carefully culled.

Last but not least, the marketing problem must be carefully handled. Co-operation with neighbors is often essential if purchases and sales are to be made to the best advantage. For this purpose breeders' and feeders' associations are desirable in many cases.

S. T. Simpson,
Missouri College of Agriculture.

WIRE CUTS AND OTHER WOUNDS

First aid is most important.

Quick healing leaves smaller scars.

Don't use dust or lime to stop bleeding.

Bleeding that can be stopped with powders will soon stop itself anyhow.

Frequent washing irritates wounds, prevents prompt healing, and may cause proud flesh.

Small concealed stab wounds such as those from nails are the most likely to cause death. Find them and keep them clean and well disinfected.

Swab out deep cuts with pure tincture of iodin as soon as it can be secured and they will take care of themselves then if the normal pus discharge is removed.

A long continued discharge from a wound indicates an abcess pocket, a bone injury, or the presence of a snag or something else that should not be in the wound. Call a veterinarian.

As soon as bleeding has been stopped, wash the wound with a pint of warm water to which two teaspoonfuls of creolin, lysol, carbolic acid, or some similar disinfectant has been added.

A wound should be healed in about three weeks. If it is doing well the swelling will gradually go down, and the discharge will be odorless, thin, and bloody at first, and thicker and whiter later.

Antitoxin will prevent lock jaw after nail or other puncture wounds. If not so prevented, very few of the lock jaw cases ever recover. The hard crust lime forms over the surface of a wound favors lock jaw by shutting out the air.

Bleeding from a leg can always be stopped by tying a small rope loosely about the wound, then twisting it wi a stick or small rod. Tighten till bleeding stops. Apply bandages and remove the cord if possible. If bandages cannot be applied, prevent serious bleeding by pressing the fingers against the cut blood vessels until a veterinarian can be called.—L. S. Backus, Missouri College of Agriculture.

SILOS SAVE SUMMER SUCCULENCE

In order that the farm stock may do their best, either in the production of milk as in the case of dairy cows, or in putting on flesh in the case of fattening cattle or sheep, it is necessary that succulent feed be furnished as a part of the ration. No ration is complete, unless, in addition to supplying the right amount and proportion of digestible nutrients, it also includes some feed which, in its composition, approximates that of green grass. This fact has long been recognized by intelligent feeders everywhere.

The silo furnishes the best means for storig the natural juices of green plants for fall and winter use. Not only is ensilage fully the equal of grass as feed for stock to supply succulence, but it also is the cheapest form of succulent feed that can be grown under average conditions in the north and central west.

Corn is the standard crop for silage purposes and where this crop can be fairly well matured it is undoubtedly best for the purpose. Other crops higher in protein, such as soy beans and second crop clover, are frequently put in the silo with corn as a mixture, thus saving the succulence in those crops and increasing the feeding value of the ensilage as well. In certain sections where corn does not matu well, peas and oats are often grown for ensilage with good success.

A large dairy farmer known to the wr'ter has filled his concrete silo with such a mixture for three successive seasons with very satisfactory results. Pea vines from the canning factories can also be utilized for the purpose of making silage.

In 1913 clover was successfully ensiled at the Rusk County demonstration station, the Spooner branch station and the Ashland branch station. At the Rusk County station, corn and clover were first put in together in the silo, then when the corn ran out the silo was filled to the top with clover. Considerable water was used in packing the second crop of clover which was quite ripe at the time it was put in. The ensilage proved to be very satisfactory as the miexd corn and clover. The results at the Ashland and Spooner stations also corroborated the results at Conrath. At Ashland rye and clover was ensiled and also millet. The rye and clover made fair ensilage but much water had to be used on account of the hollow stems in the rye. Timothy and clover made very good ensilage and proved one of the best combinations since the timothy approaches corn in composition and the stems are not very hollow. The millet silage was not satisfactory at Ashland—probably because it was very immature at the time it was put in the silo. Oats and peas at Superior yielded nine tons per acre and the cost of production was about one-half that of corn. All these grasses and legume crops for the silo should be cut in the same manner as corn, and plenty of water used so as to make the ensilage pack well.

The up-to-date progressive live stock raiser of necessity must make use of the silo in which to preserve the natural juices of our best forage plants for use after pasturage is no longer available.—E. J. Delwiche, Agricultural Experiment Station, Wisconsin.

DEVELOPING DRAFT FILLIES

In the "Percheron Review" J. L. Edmonds of the Illinois experiment station, says the importance of good feeding, commonly referred to as the "corn-crib cross," is well understood by successful producers of draft mares. Such feeding, coupled with abundant exercise, results in desirable thriftiness, which is not found in the underfed or overfed. The part which good pastures play in development is quite generally appreciated. The judicious feeding of some grain, however, along with pasture, and the use of green corn during the dry spells common to late summer, are not practiced to as great an extent as would be profitable.

During seasons when pasture is not available, good growth may be secured on timothy or prairie hay, provided enough oats and bran are fed with them. On the other hand, good quality legume hays, such as alfalfa and red clover, may be used to advantage. When such roughage is fed, less grain, and grain in which the nutrients cost less, may be fed; a part of the grain ration may well be corn. Furthermore, consideration of this latter type of ration and results obtained from feeding seem to show that there is little need of feeding purchased protein concentrates, because the rations abundantly supply the muscle and bone-building elements needed for growth. Again, by relying, to a considerable extent at least, upon such feeds, we are making use of the crops which are most desirable to grow on corn-belt farms. In this conection, a brief consideration of the growth made by Percheron fillies now being fed at the Illinois experiment station may prove of some interest.

A lot of ten weanling fillies wa started on feed late in the fall of 1914. Four of these fillies were produced by the college mares, six were purchased from Illinois breeders, two from A. L. Robinson & Sons, three from George Frerichs & Sons and one from G. W. Weyrich. These fillies are registered in the Percheron Society of America.

The fillies were fed well-cured alfalfa hay, corn one-half, oats one-half, proportioned by weight. The corn and oats were ground during the first winter and afterward were fed whole: the corn, however, was shelled, in order to insure the fillies having equal opportunity for getting their share. At no time were they fed more than would prevent their polishing the mangers clean. During pasture season they ran on eight acres of good blue grass, and in addition they were fed approximately half grain ration. On this fare the fillies have made a good growth of frame and have carried enough condition for thrift. For shelter, the lot had a shed space forty feet by sixteen feet, open on one side This shelter was not sought except at feeding time and during storms.

The average weight of the fillies at the beginning of the trial was 823 pounds; the average weight on the day they were one year of age was 1,112 pounds; the average weight of the lot on March 14, 1916, was 1,445 pounds. They were at no time fat, but are well grown in bone and muscle. At that time most of the fillies were not yet two years of age, there being two March foals, one June and one July, and the balance April and May foals.

UNSOUNDNESS IN STALLIONS

Reports received from 13 of the states having laws regulating the public service of stallions show the following percentage of unsoundness in stallions out of 2,640 reported cases:

	Per cent
Sidebone	35
Laryngeal hemiplegia (roaring)	12
Bone spavin	11
Defective or curby hocks	7
Periodic ophthalmia	6
Cataract	4
Spavin (not classified)	3
Bog spavin	6
Ringbone	*
Stringhalt	3

The remaining nine per cent consisted of such defects as chorea, general unsoundness, faulty conformation, and scattering imperfections.

These figures do not represent individual stallions, but indicate the number of cases of unsoundness. For instance, a single stallion may be affected with two or more physical defects and others with but one. A report from all the states having stallion license laws could not be secured, as in several no record is kept, but the figures given may be accepted as reasonably offering an index to the most common physical defects among public-service stallions.

In some of these states certain diseases and unsoundnesses disqualify a stallion for service, while in others the stallion may stand, but the condition of soundness must be noted on the license certificate, a copy of which is required to be posted at the place where the stallion is being stood for service.—U. S. Dept. of Agr.

PRICES FOR WOOL

Unusually high prices prevail for wool. The average price paid to producers of the United States for unwashed wool in the past month was 28.7 cents per pound, which compares with 23.7 cents, 18.4 cents, 15.6 cents, 18.7 cents, 15.5 cents, and 19.5 cents, respectively, in June of the past six years. These estimates are based upon reports of crop correspondents of the Bureau of Crop Estimates.

The average weight of wool per fleece this year is about 6.92 pounds, which at 28.7 cents a pound is worth to producers $1.99, or practically $2 per fleece. The number of fleeces shorn in recent years has been between thirty-six and thirty-seven million yearly.

The weight of wool per fleece this year, 6.92 pounds, is the heaviest ever recorded in the United States. Last year the average was 6.84 pounds, and the average of the past ten years is 6.74 pounds.

It is interesting to observe how the production of wool per sheep has been steadily increasing in the past 70 years. The average weight per fleece reported by the census of 1910 was 6.84 pounds, and by each of the preceding censuses from 1900 to 1840, respectively, the average weights were 6.66 pounds, 5.57 pounds, 4.80 pounds, 3.52 pounds, 2.68 pounds, 2.42 pounds, and 1.85 pounds. Similar improvement in wool production per sheep is observed in the wool statistics of Australia.—U. S. Dept. of Agr.

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One two-year old and five yearlings. Priced to sell and sold on approval. Description and prices sent upon application. Address,

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JERSEY CATTLE

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ONE THOUSAND MISSOURI FARMER BOYS

to **make good** on this great offer. If you take good care of the gilt and her litter of pigs they will start you in the pure bred hog business and enable you to make a lot of money. You can go "halvers" with your Father in the profits—or maybe he will let you keep them all and soon you will have a nice bank account which will enable you to pay your way through College later on or build up a "nest egg" with which to buy a farm of your own some day. Now I am mighty serious about this proposition. The farmer boys of today will be the farmers of tomorrow. Upon their shoulders will rest the responsibility of citizenship—and therefore the sooner you have definite aims in life the better for yourself and for the great Country of which you are a part and which has a right to expect you **to become a real man and play a man's part in the World's work.** That's why I want you pitch in and win one of these fine gilts—for it will give you a greater interest in your Father's farm **and teach you how to become a business man in your own right.** Now just think how fine it would be to have a bank account **of your own** so that when you want to buy something which will add to your happiness you will not have to ask someone else for the money!

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To Our Subscribers: If there is a boy in your family please call his attention to this splendid offer. If there is not, then I will take it as a great personal favor if you will bring this to the attention of some bright farmer boy in your neighborhood. It is a chance to do good.

WILLIAM HIRTH, Publisher,

THE MISSOURI FARMER

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At the head of the greatest bank in New York City—which means that it is the greatest individual banking institution in the World—stands a man who fought his way up from the obscurity of an humble farmer boy to his present eminence which, financially speaking, is second to that of no other man in the United States. His history is only another one of those romances for which our land is famous—which has given us a race of Titans who began at the bottom of the ladder—who cared naught for hardship or opposition—who have proven time and again that the birth right of the "golden spoon" is a handicap rather than an advantage and whose herculean accomplishments, daring and keen foresight have made us the most envied people in all the World.

Seated behind a desk to which few men gain access, this big financier directs the destinies of a number of gigantic institutions aside from his great banking house and deals in sums which run into billions of dollars during the course of the average year—and in addition to all this, there is perhaps nowhere a more careful student of National and World events than this man who mingles a broad and philanthropic citizenship with the hard and harsh rules of the dollar world.

But it is of his philosophy rather than of the man himself that I wish to write in this article—and I trust that every boy or young man who chances to read these lines will ponder them well. The other day a magazine writer went to him and said: "I understand there are a number of men in your institution who receive a salary of $25,000 per year and I wish you would therefore tell me how you make your selections—what qualifications must a man have before you are willing to pay him that kind of a salary?" In substance the big banker replied as follows: "A man of that kind must know the work for which he is chosen thoroughly. In other words, he must be splendidly capable. He must be morally clean. His word must be as good as his bond and of course he must be scrupulously honest." And now listen! "I am not looking for "smart," "sharp" or "cute" men, for we don't want that kind in this institution—and more than one applicant has ruined his chances for employment by telling me how cleverly he had turned some deal in the past. We want cler-eyed, clean, capable men who are good to their families—and when you find a big man of this kind he is certain to generously earn any salary we pay him."

The point in this story which I want to drive home is that when this man who heads the greatest financial institution in the land gets ready to hire a man for some responsible position, he looks, not for brilliancy or cleverness but for just plain, clean, capable, every day, sterling manhood. And how vitally important it is for every young man to hug this great truth to his heart! Often some young man in a community gets the reputation for being "brilliant" and his fond parents and friends prophesy great things for him in the years to come. By and by the young fellow becomes impressed with the idea that he is a sort of superior human being. He begins to strut and pose and considers the ordinary things of life beneath his dignity. But as a rule he never "lands"—and down deep in his heart he thinks it is because he "isn't appreciated." Then there is the young fellow who prides himself on being smooth and clever—in outwitting the other fellow by some act of sharp practice—and he also is finally left stranded amid the debris of human failures when it is forever too late for him to retrace his steps or change his methods. In the meantime, the boy to whom nobody has paid any particular attention—who is neither brilliant nor clever but who quietly builds physical and moral strength for the future—who woesn't waste time looking for a royal path to success—who comes again with a smile when fate has knocked him down—who loves work for its own sake—who fights hard and plays a square game—he is the kind the big banker is looking for.

—By the Author of After-Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VIII SEPTEMBER 1, 1916 NO. 17

WILLIAM HIRTH
PUBLISHER

LYON'S PRACTICAL FARM PAPERS

Since the morning of August 4th up to August 11th, I have set 600 strawberry runner plants, Beder Wood and Dunlap and in looking over them today, August 17, I do not think I lost two plants.

In setting strawberries, I break every rule laid down by writers on the subject, setting any kind of plants and any time the ground is not frozen, and I seldom lose a plant, that is, if I dig and set it myself.

I regard the cultivation of strawberry plants, of a great deal more importance than the time of setting, and I would cultivate my little patch twice a week during the entire season if I could do so.

Since the rains have come, I never saw as great an improvement in the condition of crops in so short a time, and corn and tobacco that seemed entirely ruined will make a full crop.

The real early corn was past help, but we had none of that kind, and as for our tobacco, I think I could show our friend Sam Jordan a better crop than our fine one he saw last year, and this year we could not show him any weedy corn.

Last year we suffered some damage from soil washing, not a great deal but more than we like to see, this year, with four acres of our steepest land in tobacco, no loss at all as we had no dashing rains until the crops had filled the soil with roots.

There is a heavy August pig crop here, and no losses reported so far, neither is there any hog disease, although some is reported thirty or forty miles north.

The chautauqua and the primary election are over. The first was not as fully attended as usual, and the same is true of the other, it costing taxpayers an even dollar a vote to see who would get the offices, in other words, 2650 votes were cast, at a cost of $2585, in one county 27,560 votes, cost $30,308.

It is said that lots of whiskey and some money was used, and while of course the officials will not prosecute "because it might hurt the parties," I find that other forces are on the trail, and it does look as if somebody might get punished this time.

THE MISSOURI FARMER is not a political paper, nor am I a politician or political writer, so I may say that the events of the past ten years here so disgusted me, that were it not for trying to get half decent men into local offices, I am not sure that I would ever attend an election again.

The trend is toward more offices to fill and in this respect our state (Ohio), is cursed more than any other, the offices being created to furnish jobs, not for men who are qualified to fill them, but for men who have assisted to elect the higher officials.

In 1905 I left the political party I had voted with since 1877, simply because of this tendency in it to make more offices, and hang me, if the party I changed to, did not "out Herod Herod."

It simply made itself odious in this respect, and in 1914 my old party got back in power, (without my help) under promise to abolish a whole lot of offices, a promise which of course was not kept, for it was not intended to be kept.

It costs $6,000 per year to hire five men to supervise our country schools, and the schools are no better than before we had the supervisors, and a nice young man, with practically no training, gets $2,000 a year for road supervising and our roads are in worse shape than ever before.

People do not stick to party lines here as they used to do, and that is one good sign, but still the men who get into power manipulate affairs to suit themselves. We pay our officials entirely too much salary, for excepting surveyor and judge of the courts, no office in the county requires any more technical training than is given in a country school, and the best Probate Judge our county ever had, was a blacksmith who had taught two terms of school.

The weather is still rainy and hot with everything, even weeds, making up for lost time in July. The Sudan-rape-cowpea patch of an acre, is making the hogs grow very fast, but the rape part was not fully a success, owing to the cabbage aphis.

I notice that this bunch of hogs eat the Sudan and the rape before they eat the cowpeas, but last year the result was just opposite, as the cowpeas were eaten to the roots before the rape was touched.

The second brood of tent caterpillars has made its appearance, and today I took more than 100 small tents from forty young apple trees. Nearly all these tents were small, not involving more than four or five leaves, and I find it easier, and cheaper, to pick them off and stamp on them, than to spray the trees with arsenites.

Fearing that I may mislead someone in planting strawberries, let me say, that unless there is lots of rain it is not safe for the novice to set plants later than September 10, and ten days earlier is better. For commercial planting, April and early May is the only time to plant, but as I indicated before, for home use, one can, by using a little extra care, set almost any time.

C. D. Lyon.

Co-operative shipping associations will do nearly eighteen million dollars worth of business this year. They save farmers from $20 to $50 a car on the stock shipped and get a price according to what the animal is really worth.

HIRING MONEY ON THE FARM

How to hire money on the farm, and make the hiring profitable, is a problem which has been coming up as regular as the sun. So much has been said and written upon the subject that the main points have often been obscured in a mass of words.

No doubt that some such legislation as that embodied in the proposed rural credits measures is in line with agricultural progress; but if you were to go to any successful farmer today you could get from him the solution of the problem without a moment's hesitation. He would tell you on the instant that how to hire money is automatically solved by knowing how to make it pay. There is not a banker in any community who does not welcome the opportunity to "farm out" capital "on shares," to use a farm phrase, and at a just rate to the farmer who uses it. But the honest banker, who is entrusted with the investment of surplus capital in the community must first know that the man who is going to work it on shares knows how to make it pay. Learning how to hire money and make it pay is therefore the farmer's problem, and if he expects to obtain money upon a sound basis, he must learn the lesson before he starts to town to see his banker.

An illustration of how to hire money and make it pay is found in the case of a farmer living near Ballinger, Texas. He went to a local banker and requested a loan to buy a certain number of cattle. He thought he had figured out just how he could take that amount of capital and make it pay. The banker listened to his plans and declined to make the loan.

"But" said the banker, "here is what I will do. I'll let you have the money to build a concrete silo, and with the money you save on your feed bill, after paying me back, you can buy more cattle. In that way you'll have the cattle you want, and a permanent investment in your silo, which will go on making money for you every year in the saving it will make in your feeding costs."

The farmer accepted the banker's suggestion, built the silo and his problems worked out just as the banker had prophesied. Today that farmer has two silos. He found in that particular case how to hire money and make it "earn its own rations" in the form of principal and interest for the banker and a profit for himself.

There is perhaps no more interesting development on the farm today than the silo. Undoubtedly it is one of the most profitable investments the farmer can make. It requires no financial wizardry to see that if you have on the farm a permanent structure in which you can store corn and other silage crops in their succulent, green state, you have provided one form of insurance against the hot dry months of summer and the cold of winter when natural pasturage fails or is unavailable.

It requires no great wizard in finance to see that such an investment will soon repay its cost in maintaing maximum power in preparing cattle for market, whether the weather be wet or dry. Not only are these advantages apparent but a silo is especially valuable in preventing the loss of soft corn and in increasing the usefulness of drought-hurt crops.

These silo facts have been coclusively established in many counties throughout the United States. In Marion County, Missouri, for instance, I. F. Gillmor, County Agent for the Missouri College of Agriculture and the Marion County Farm Bureau, made a careful silo survey of his county. He found 200 silos, of which 118 are wood stave, 29 solid concrete, 27 flooring stave, 6 vitrified tile, 6 concrete stave, 4 pit, 2 brick, 2 concrete block, 1 modified Gurler and 1 stone.

The stone silo was the first of the lot built. It was erected in 1893 and is still in good condition. But aside from this one, the more permanent silos were largely built in 1914. Prior to that time, the less durable materials, had been used, but during 1914 more than one-third of the silos constructed were of material other than wood, 21 being solid concrete, 6 cement stave, 5 tile, 2 concrete block, 1 brick, and 4 pit. Of the 94 silos built in 1914, prior to August 1, all were of solid concrete and 75 per cent of all the silo owners interviewed stated that if they were building again, their choice would be solid concrete. The silo has proved itself a success under Marion County conditions and the builders have decided that permanence is now the important consideration, and they have planned accordingly.

Building permanent concrete silos is therefore one of the sure ways in which farmers may profitably solve the problem of how to hire money and make it pay.

RYE FOR FALL PASTURE

After six weeks of severe drought and intense heat, blue grass and most other pastures are so dry that they will furnish no pasturage until late in the fall even with the aid of the usual late summer and early fall rains. The man who has much livestock on hand will find it necessary to provide temporary fall and winter pasture. For this purpose there is no better crop than rye, according to C. B. Hutchison of the Missouri Agricultural Experiment Station.

Rye may be seeded any time during September or October and is not attacked by the Hessian fly so it will not endanger fall wheat. It may be sown just as early as the seed bed can be put into proper condition on stubble land or after corn has been cut for silage or fodder.

A bushel and a half is enough for early sowing but two bushels should be used later, or a mixture of 30 or 40 pounds of rye and 15 or 20 pounds of vetch will give good results if sown late in August or early in September.

Small fields of such cover crops furnish a great deal of pasture at little expense and leave the soil in better condition than if they had not been grown. The vetch is a legume which adds nitrogen and the fine roots of rye protect the soil against washing which is more serious between growing seasons than most people realize. Next spring the rye may be turned under as a green manuring crop before corn planting time.

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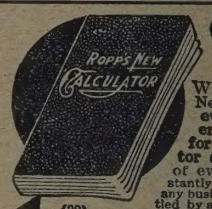

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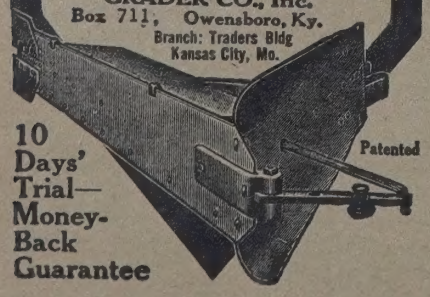

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The Missouri Farmer

VOLUME VIII SEPTEMBER 1, 1916 NUMBER 17

A Taste of Real Competition

By William Hirth, Publisher

How has the price of cattle and hogs suited you during the last several weeks? Cattle selling as high as $10.75 and hogs at $11.30 sounds pretty good, doesn't it? You think the Packers have a heart after all—that maybe they are not as bad as we thought they were along in the latter days of 1915 when they had hammered the bottom out of the hog and cattle market? Or, maybe you think they have been "seeing things" because of the threatend investigation in Washington? Well, if you have been thinking any of these things with reference to the present market you have got another guess coming. But just the same, there never was a time when every farmer should sit up and take notice as much as now because the present situation is a mighty interesting one.

In the first place, get it out of your head that the Packers have had a change of heart or that they are playing the role of a "Lady Bountiful." They are the same old gang they were back in November and December of last year and have the same fondness for buying the farmers hogs and cattle at their own price. Nor have they gotten scared at the Borland resolution which, for some mysterious reason, is quietly sleeping in the Committee in Washington and which, for "lack of a quorum" has thus far not seen the light of day. On the contrary, the Packers started in to "smash the market" several weeks ago and did actually pound down the price of cattle $1.50 per hundred—and had the drouth continued we wouldn't have seen cattle selling at $10.75 as they did at Kansas City some days ago. But when the rains came the run which had set in from Kansas, Oklahoma and many other sections suddenly stopped and scores of Cattlemen turned up at the different yards anxious for feeders—and so anxious were they to get back into the feeding game this fall that they fought the Packers, big and little, for everything except the finished stuff and as a result, feeders have sold for as high as 9c per lb. at the Kansas City Stock Yards within the last couple of weeks. Hence, we have witnessed the unusual spectacle of cattle feeders fighting the Packers for every car load of cattle which did not come into the yards in a finished condition.

The Independent Packers

But this is merely an incident of a very interesting story. When the Packers made their great raid on the market back in November of last year, they had their safes full of meat contracts running into the tens of millions of dollars for the Allies in Europe. About this time, a group of Canadian Packers as well as a similar group of small Packers in the United States, sat up and began to take serious notice. They had been left "out in the cold" on the foreign meat contracts, but once they had time to carefully look the situation over, they concluded to "buy a stack of chips" and "sit in the game." They went to the agents of the Allies and said, "Why not inject a little competition into this situation? Why not give us a chance at some of your contracts?" To make a long story short, the agents of the Allies listened and the small Packers came away with a substantial bunch of orders—and no sooner had the negotiations been concluded, when the aforesaid Canadian Packers turned up at the Union Stock Yards in Chicago with "blood in their eyes"—and those of our readers who remember the sharp upturn of the market back in last January and February and who didn't understand it at the time can here find the answer. Most of us said it was because the big Packers had the lions share of the winters supply of hogs and cattle in cold storage and that therefore they could afford to throw out a little "sop" in the form of increased prices. But the real reason was the advent of these Canadian "invaders" who commenced to give the "Big Five" a "run for their money" and who have kept it up merrily ever since.

A Real Fight

Had the drouth continued and had the markets become glutted, the Packers would undoubtedly have pounded the market to pieces during the last few weeks—for then the over supply would have rendered the performance more easily possible. In confirmation of this fact, I recently talked to a friend who perhaps has as intimate an insight into conditions "behind the scenes" as any man in the Corn Belt. He is feeding about 1000 hogs at the present time and was formerly in the employ of one of the big Packers. Naurally he has been keenly concerned about the market. Like all other thinking feeders, he was expecting the "bottom to drop out" and was about to load his hogs and ship them. About this time—or a day or two before the drouth was broken—he ran into a representative of one of the Canadian Packers at the Union Stock Yards in Chicago and frankly asked him his opinion of conditions and the man from Canada answered substantially as follows: "Unless this drouth continues and literally overwhelms the markets, I look for stiff hog and cattle prices for soemtime to come and for this reason: The Canadian Packing companies as well as many small packing companies in the Unied States have substantial war orders for foreign meat and in order to fill our contracts we've got to have the hogs and cattle. The big Packers have a lot of orders also—so it means a fight to a finish." As a result of this conversation, the friend referred to above held onto his hogs in order to finish them before he ships them to market.

The longest end of the foreign orders outside of those held by the big Packers have been captured by the Canadian contingent—and so substantial are these contracts that they have sub-let many of them to the smaller American Packers. No doubt they said to the English agents, "As loyal subjects of His Majesty, we think we are entitled to first consideration at your hands—and that this argument as well as the prices which they offered commanded attention is manifested by the first real fight which has taken place in our live stock markets for many a day.

What it Means

Had the Canadian Packers not been caught "asleep at the switch" a year ago, the Packers would not have had things their own way last fall and winter—and to these influences is due absolutely the splendid prices which have prevailed in recent weeks—supplemented by the sharp bidding for feeders to which I referred in the first part of this article. Of course this latter factor was only temporary and no doubt its influence is already spent. But the Canadian people and our own small Packers are after finished cattle just as they are after the available supply of hogs. These things show what farmers would have received for their live stock last winter had the market been honest—and likewise they show the tremendous importance of destroying for all time the monopoly which the "Big Five" exercise over the markets at this time. The great European war has introduced an unusual phase into the situation and the reason why the little Packers have suddenly become an important factor in the market is undoubtedly due to the fact that they have offered to fill foreign orders at a lower price than that exacted by the "Big Five." When the war comes to an end the latter will no doubt be able to dominate the situation as completely as before—but the history of the few months should show live stock producers what real competition in the live stock markets would mean and that the time has come when the farmers of the entire Nation should arise as one man and smash this monopoly completely and permanetly. Only in this way will we be able to emancipate ourselves from a system of thievery which has robbed the live stock producers of the Country out of untold millions of dollars in recent years.

ARE YOU SATISFIED?

Aside from the fact that you realize as a farmer that you are not getting a "square deal" in the Market Place for the things produced by your sweat and toil—that you are compelled to pay for the things you buy what is demanded of you while when you get ready to sell you are compelled to humbly accept what the "other fellow" offers—aside from this intolerable condition of affairs which is driving the smiles from the faces of thousands of hard working farmers throughout the land, don't you feel that tomehow or in some way we ought to put more interest and more sunshine into farm life in general?

That, like the manufacturer and the others who are organized we should place ourselves in position to demand what our products are really worth instead of being compelled to accept what the buyers are pleased to offer—this is a condition which ordinary intelligence and self respect should persuade us to bring about without further "drifting with the current." We have the power. We need but to assert it. We have always had it—but we have proceeded on the theory of "everybody for himself and the Devil take the hindmost."

But aside from this overwhelming duty of the hour, don't you believe that a fine Farm Club at the little district school house would be a splendid institution in many ways? If you could get together with your neighbors to "talk things over" a couple of times every month, wouldn't it add a new zest to life? We are living in a remarkable period crowded full with some of the greatest problems that have ever confronted mankind. Are you contributing your full share toward their solution? Are you living the fullness of a real man's life? Do not your brain and heart and soul need an occasional stimulus other than that of the fields and feed lots? Could you not, in fact, go back to them with greater zeal and joy after a splendid discussion with your friends and neighbors the evening before? And then there are your wife and children and the wives and children of your neighbors. Do they not need a little community entertainment which you can share with them once in a while? Do they not need a little relief from the dull monotony which makes yesterday, today and tomorrow the same—forever and always the same? Could we not—if we really tried—put vastly more enjoyment into farm life? Are you satisfied with life on the farm as you are living it today? Doesn't it need a little more joy and heart and soul? William Hirth.

Saving Money to Farmers

We have just issued a new Farm Club Program which means the saving of a lot of money to the farmers of any community on the buying of coal, bran, shorts, cotton-seed meal, fertilizers, salt, corn, hay and potatoes. We will also try to help you find a market for your surplus apples. If you are interested write at once to

THE MISSOURI FARMER when we will be glad to send you suitable Constiution and By-Laws and other necessary information for organizing Farm Clubs. Please inclose stamp for reply. On coal alone we can save farmers as much as one dollar per ton in many communities. Write at once. There is no time to lose.

MISSOURI FIRE INSURANCE CO-OPERATION

By Jewell Mayes, Secretary of the Missouri State Board of Agriculture.

You so often have heard and continue to hear it said that "Missouri farmers won't work together" that one is delighted to call the turn on that old gag which never was wholly true, yet in too many instances it has been partly true!

The Missouri farmer has a strong disposition to want to be "shown"—and isn't he right in going slow unless he feels certainly safe? The Missourian is conservative to a reasonable degree, but he is willing to go anywhere that warrants more than a fifty-fifty chance for legitimate profit or satisfactory saving!

The "county mutual farmers' fire insurance company" plan is the finest example of co-operation among farmers in Missouri.

Each and every county in Missouri should have county mutual fire protection well organized. Our farmers' institute lecturers will do right in preaching the gospel of fuller co-operation among farmers for fire protection. The Missouri farmer has proven his ability to handle his own farm fire insurance—and handle it better than the great insurance organizations of Big Business!

It is two stories, how the county fire mutuals organized as a protest against the unreasonable rates of the old-line stock companies of the east and the wild-cat western created for "milking" purposes, verily the one undesirable form of "dairying". The first county mutual recorded as organized on a permanent basis was the "Maries County Lois Aid Association", still in existence. It began its organization in the midst of the opening days of the Civil War, in 1861. The second was organized in Lafayette County immediately following the war, in 1867—and it had a name typical of the times, "Freedom Benevolent Association".

There are an even 100 County Mutual Insurance Companies in the State of Missouri. It is conservative to conclude that they protect the hearthstones of nearly one-fourth million country homes, whose inhabitants sleep in the serene satisfaction that they have the most perfect of fire insurance and yet at the lowest price!

If 200,000 of the 277,000 farm homes and barns are carrying their own fire insurance on a co-operative basis on about one-fourth of the old-line cost—organized officered and managed by farmers—is that not answer enough against the charge that "Missouri farmers can't co-operate"?

Let it be said to the credit of Missouri that the Legislatures have been loyal and faithful to this form of co-operation among farmers, and the laws now on the statute books are liberal, reasonable and just, whereas in certain states the legislation has been unfavorable to this type of county mutuals organized not for profit.

In the after the war period the county mutuals fought a long and finally successful battle to prove their worth to the rural communities. For example, William H. Fitch of Ray County (now State President) is said to have carried the records of the Ray County company one year in his coat and that his wife made a second pocket on the inside of the left side of his coat—one pocket was "New Business" while the other was "Settled Business". However, he kept the records rightly and well, and won!

The Mutuals had a further struggle to overcome prejudice and to prove their stability. The average citizen had to be shown that they themselves were able to furnish their own protection at cost, thereby eliminating agent's commission, high salaries and dividends.

One of the favorite excuses against the Mutual Fire Insurance Company has been that nobody could know in advance just what it would cost. The lowness of cost was what always bored the old-line agents.

Risks carried by "Farmers Mutuals" of Missouri and the average cost of $1,000.00 insurance for 1909 to 1914 were as follows:

1909	$117,237,371	.....	$2.02 per $1,000
1910	131,551,943	.....	2.44 per 1,000
1911	146,563,825	.....	2.32 per 1,000
1912	157,163,426	.....	2.35 per 1,000
1913	173,095,529	.....	2.56 per 1,000
1914	185,772,086	.....	2.32 per 1,000

$150,897,363.00, $2.33½ General average per year. To add 50 cents per $1,000.00 for operating expenses would make the total cost $2.83½ per $1,000.00, or a total cost of $427,794.12 to the patrons of the Mutual Fire Insurance Companies of Missouri, while the same amount of insurance in the Old Line Companies at the usual rate of $1.00 per $100.00, would have cost $1,508,973.63 per year.

The Mutuals of Missouri saved their patrons an average of $1,081,179.00 per year for the six years or $6,487,077.00—more than six millions in six years—or enough to build about 1,500 miles of rural rock road and have a nice balance left over!

In 1909 there were eighteen Mutuals carrying insurance amounting to over $2,000,000.00, and three Mutuals carrying insurance amounting to over $4,000,000.00 each.

In 1914 there were thirty-seven Mutuals with risks to the amount of over $2,000,000.00 each, and ten Mutuals with over $4,000,000.00 insurance in force.

The report of the 1915 Association showed insurance in force to the amount of $185,772,086.00 and a cash balance of $111,254.02.

The growth and success of the Farmers Mutuals of Missouri is attributed by State Secretary Will Russell to the following:

(1).—Simplicity of all the details, in connection with the management of the business.

(2).—By furnishing the kind and class of insurance needed and that at actual cost.

(3).—By knowing the patron and also the property.

(4).—By prompt and equitable adjustment of all claims, ever mindful of the modern Golden Rule, "Giving your neighbor the same square deal that you would expect of him."

The millions of dollars saved the patrons of the Missouri County Mutual Insurance Companies have contributed a wonderful share toward the development of the rural communities of this commonwealth.

The golden age for the Mutuals of Missouri has just begun to dawn—to become acquainted with the Farmers Mutuals is to become an enthusiastic patron!

The time and place for the 1916 convention of the State Association of County Mutuals is Nevada, November 15-16.

Sheep for Profit

William Merritt Golding, Maryville, Mo. Breeder of Pure-Bred Percherons, Short-Horns, Mammoth Poland-Chinas, and Shropshires.

The "Golden Fleece" will put the best of clothing on a poor man's back. Never has there been so much interest manifested in sheep as at the present time. Everybody is talking sheep. Those who have none are going to buy some, while those who have sheep are going to buy more. And why not when every farm can support from ten to forty ewes, according to size of farm, on what would otherwise be wasted. For the number to fit your farm you would have the wool and lamb or mutton crop, all for profit. These are soaring and the outlook is that they will continue high for years to come.

The decimation of flocks all over the world is due to varied causes. In the United States drouth and consumption of mutton have alarmingly reduced our flocks to a minimum. The great war in Europe has practically annihilated the sheep industry there. Australia, the greatest sheep land in the world, has only about two-thirds as many sheep now as there were twenty-five years ago. South America, only, seems to be little more than holding her own. So, the statement that high prices will prevail for a number of years yet to come is well founded.

How pleasant as well as profitable it is to gather corn in a field into which the spring lambs have been turned and they have been fattened on the grass and weeds and corn blades below the ears! This useless vegetation has been converted by the lambs into fertilizer and trampled into the ground to enrich the soil for your next year's crop.

This method of harvesting is putting money into your pocket and infusing new life into your land by no other means so easily and quickly done.

It requires at least 30 bu. of corn to make a 300 pound hog. (And, by the way, hogs require the cream of the soil.) At 10c per pound the hog would bring $30 on the market. Thirty bushels of corn at 70 cents per bu. would be worth $21. The feeder would, therefore, receive $9 profit.

Now 30 bu. of corn will supply at least ten breeding ewes with sufficient grain to produce their ten lambs which will weigh at least 75 pounds by mid summer, or an aggregate of 750 pounds.

Selling at 10 cents per pound would mean $75 for their owner. Interest and taxes on the amount invested in their dams would probably amount to about $8 which added to the value of the corn, $21, leaves the sheep owner $46 for his profit on the amount of corn required for fattening one hog. The wool "crop" from the ten ewes will bring more than enough to pay for the shepherd's service and the additional roughage consumed by them during the winter.

If you have any worn out land seed it to alfalfa and clover. Divide the latter into pastures for your sheep to graze upon and feed them alfalfa in winter and you will soon have fertile land and many dollars. The "Golden Fleece" will put the best of clothing on a poor man's back. Go to the fairs this fall: Buy at least five first class ewes, the better the quality the more they make for you, and start now. In purchasing foundation stock always consider quality and not price. However, may it be said that no class of live stock responds so readily to improvement in quality of offspring as do ewes when mated to a pure bred male. Lambs sired by a registered ram and from the scrubbiest sort of dams are fairly respectable. Give your sheep the little care and attention they require and you will not regret your venture.

PLANNING A SHEEP BARN

It is impossible to suggest any very definite sheep barn plans without knowing under just what conditions the barn is to be built but Professor H. Hackedorn of the Missouri College of Agriculture makes some general suggestions. He says "In planning barns or sheds for a breeding flock of sheep, a space of 10 or 12 square feet per ewe will give sufficient room. The essentials of shelter for sheep are (1) dry floor, (2) good roof, (3) an abundance of fresh air, (4) avoid drafts, (5) avoid narrow doors and passages so ewes heavy with lamb will not be injured, and (6) provide sufficient feeding-trough space so all the sheep can eat at the same time.

"We find that a shed 25 or 30 feet wide and as long as necessary to house the flock gives good results at the Missouri Agricultural Experiment Station. It should open on the south and may be built with a feed trough and feed alley along the north side. Economy of rack space may be secured by the use of movable racks so arranged as to make as many lots as are needed in the shed. These partition racks can be moved out of the way whenever a wagon is driven in to be loaded with

Sheep are good gleaners and improve pastures by keeping down the weeds. No other class of farm animals promise better profits right now than sheep.

manure. The shed should be high enough to afford plenty of loft room. As we feed baled hay, a loft five feet high at the eaves gives us room enough to store a winter's supply for the flock, but if loose hay is put in and fed oorrespondingly, more loft room must be provided."

DOES COUNTRY LIFE INDUCE INSANITY

The statement has been made, often by college professors and others who should be better informed, that insanity is more common in the country than in the city. Those who make these statements may go so far as to point out the causes that lead to this alleged condition. The usual argument advanced is that owing to the "great isolation and consequent loneliness," of farm life, together with much of drudgery and but little of pleasure, the minds of many country dwellers, and especially of country women, finally become unbalanced.

It is true that in the country there is not that intimate contact between peoples such as is seen in the cities. While the farmer and the members of his family lead rather quiet lives as compared with urban dwellers, it is not to be inferred that these lives are one of loneliness. Always in the country there is much that quickens interest and holds attention. There is no sameness in the seasons. The out of doors is constantly changing. Gardens, orchards, fields and pastures are full of interest for those who love growing things. The live stock, poultry and pets afford real companionship. In all this there is not the stifling sameness of the city.

It is easy to understand why the city dweller, used to the clang, clutter and confusion, the haste and hurrah of the crowd, frequently sees in the country only a stillness and solemnity which appalls. It is easy, too, to understand how, with nerve strain and high tension, how, accustomed to these things, he comes to look upon them as life. Nor is it difficult to understand why the dweller in the country —the modern country, with daily R. F. D. service, the rural telephone and other "city conveniences"—as he, unaccustomed to the city, has his sleep during his visit there broken by the noise and confusion, wonders why everybody there "just doesn't go crazy." Perhaps the answer is that all of us are more or less creatures of circumstances and are largely influenced by environment.

Certainly it would seem that the high tension of the city, the stress and strain, would be more conducive to insanity than the quiet of the country, where, in the main, the dwellers see less of excitement and lead more normal lives. Doubtless there are, here and there, instances where country women in sparsely settled, pioneer communities, have, because of loneliness and isolation, lost their reason. Even where neighbors are few and far apart, where there is no rural telephone and no daily mail delivery, those who love nature and who are interested in her every mood, are seldom subject to great worry merely because they fail to see other human beings as often as they might wish. The truth is that there is no greater loneliness than comes to the stranger, the timid and the misfit in a great city. "A sea of faces," none of which the stranger recognizes, may bring to him heart-hunger and loneliness such as cannot be caused by great stretches of prairie or towering mountains, with not a human being in sight.

Is, then, the statement that country rather than city conditions are conducive to insanity true? Is insanity more common in the country? The answer is, no. A very thorough investigation made when the last census was taken shows that of 60,769 insane admitted to hospitals, 36,654 came from urban communities while only 20,442 came from rural communities, no reports as to origin were available on 3,673 cases. In other words, for each 100,000 population in urban communities there were 86 insane, while for each 100,000 population in rural communities there were but 41.4 per cent. For cities comprising all incorporated places having more than 250,000 inhabitants, the ratio was more than twice as high, being 86 per hundred thousand. In cities of 500,000 and over, for each 100,000 population there were 102.8 cases of insanity; cities of 100,000 to 500,000, 89.9; 50,000 to 100,000, 77.2; 25,000 to 50,000, 86.5; 10,000 to 25,000, 75.6; 2,500 to 10,000, 70.2.

In all the investigation made on this subject, with but one exception, and that in the densely populated New England states, the ratio is invariably lower in rural communities than it is in any of the four classes of cities.

It should be a pleasure to country people to know the facts in this case. A certain class of "uplift" reformers have so long talked of rural isolation, and have so frequently declared that country life is conducive to insanity, that in many quarters the statement has gone unchallenged.

W. L. Nelson.

SOME SENSE—SOME NONSENSE

By Sam Jordan

A most promising crop now on many farms—Weeds.

If your town, or your community, or your home is unclean whose fault is it?

Pure air, bright sunshine and clean dirt, are nature's greatest tonics, but dirty dirt is a bad one.

Weeds, manure piles, old tin cans, filthy closet vaults, are all disease breeders. Swat all of them.

By the way, I wonder if any one now has left any of those big white pills that some folks bought at a dollar a piece to take to keep from being killed by the poison gas in the tail of "Halley's Comet"?

Talk is now ripe again about a new consitution for Missouri. I have heard of this same for many years and it seems to come from all parties, and I have never seen in print a word against it. What seems funny to me is, why we don't go to it and get one. Whose job is it any way? Can we get it by praying for it? Or i sit by some hokus-pokus-presto-change method?

Will it be "sacred" when we get it? If we all wanted to do some thing that was for the good of us all but "unconstitutional" would we dare do it? Maybe we do not have a new constitution for fear the people may come more nearly getting their rights, or such rights as may not be to the interest of the "boys"?

I see so much about "goats" and "rabbits" in Kansas City. I guess they just allow them to run around loose. They seem to be owned mostly by a party named Shannon, and another by the name of Pendergast. I see there is most always a fight going on, but I do not see how it could be much of a fight for a goat smells so bad, and a rabbit can run so fast, and is such a coward besides, that I do not see how a fight could be pulled on. Then again if the houn dogs are as numerous in Kaysee as they are in our town goats and rabbits would not last very long unless they were fenced in. But maybe the kind that can live in Kaysee would not be fit for a dog to eat, in which case when they make too much bother they could be shot.

It always seemed funny to me just why the name of a railway station is placed so high up. It is comfort for a person traveling to learn the names of the town he passes through. Usually when one is on the side next the station he can read the name without having to stand on his head, but from the opposite side he cannot. Maybe it is for the purpose of letting the engine men know what station he is running into. Express companies put their signs low, knowing the people "do not look up," but the station may not be for any accommodation of those who travel. Of course stations are "called," but, oh my! If one knew how to spell the name of the station backward without looking in the book, he could perhaps make out what the "caller" called. It sounds to a stranger about as much like one thing as another.

Since I wrote that item about there being fewer flies than formerly there was at least one town I had not visited up to that time. They seem to be using tangle foot and traps, but the hotel dining room almost swarmed with the dirty pests. The wife of the landlord seemed to be just a wall flower or something or other, as she was always dressed up well and was "good to look upon" but I would have respected her a lot more had she been in the dining room with her swatter, or even throwing "biscuits" at the flies on our bald heads.

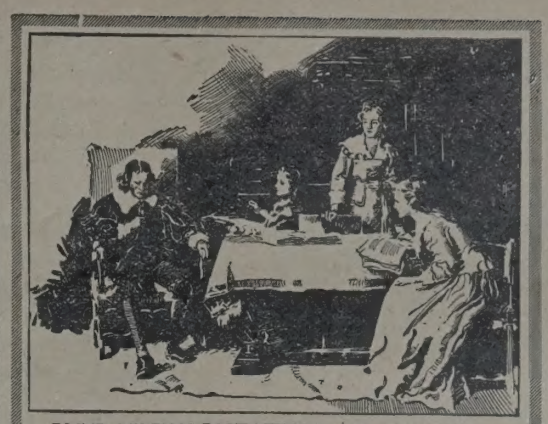
The flies seemed to spend most of the day in the filth of the street, the horse stables, and water closets, except at meal time, most of them seemed to have come to the dinning room.

Traveling men are at the mercy of such dirty hotels, since they are often compelled to put up at them.

I have often wondered why such conditions are allowed to exist and can only conclude that it is laziness, ignorance, or just plain filthiness. I think it is largely due to ignorance.

You know it takes a long time for all of us to learn even a little.

If you and your neighbors are going to have to buy corn next winter you should organize a school district Farm Club at once, as THE MISSOURI FARMER expects to make arrangements with the Farmers Elevators in Nebraska, Iowa and Northern Illinois to sell direct to Missouri Farm Clubs —thus saving for them the margins which usually go to the Commission men and feed dealers..


BLIND MILTON DICTATING TO HIS DAUGHTER
From the original by Munkacsy, in New York Public Library

The Vision of the Blind

"Thousands at his bidding speed,
And post o'er land and ocean without rest;
They also serve who only stand and wait."

Was the spirit of prophecy upon John Milton when, more than two hundred and fifty years ago, he dictated those words to his daughter?

Did the "blind poet" have a vision of the millions of telephone messages speeding instantly over hundreds and thousands of miles of wire spanning the continent?

"They also serve who only stand and wait." The Bell Telephone is your servant even while it "only stands and waits." The whole system is always prepared and ready for your instant command.

Every wire and switchboard and telephone instrument is kept alive and responsive by an army of telephone workers.

Each one has his special part to do and, because he does it faithfully, countless messages speed throughout the length and breadth of the land, at every minute of the day and night.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy *One System* *Universal Service*

HOT WEATHER IN THE HOG LOT

The past few weeks of dry, hot weather and the air heavy with dust, have been working a hardship on the herd. The man who has been properly looking after his hogs has undoubtedly been repaid many times, but the fellow who has neglected his herd now finds them in poor condition to enjoy the cooler weather. Some men are content with letting the hogs make the best of it themselves, but the real hog man is he whose conscience bothers him if he hasn't attended to everything connected with the comfort and well being of his hogs.

Should Have Clean Water

The first and one of the most important items considered by the hog man in hot weather is water for his hogs. An old, dirty, mucky hole full of slimy water is not a bit to his liking and you won't find his hogs there at all. If he hasn't a good clean pond to which his hogs have access, he is in most cases, provided with an artificial wallow, usually made of concrete. These concrete wallows are proving very successful and meeting with favor by the hog men generally. They can be made any convenient size and depth with the proper slope on the bottom, and arrangements for draining and cleaning. The men with whom I have talked who are using concrete wallows change the water often, practically once or twice a week, and always keep some disinfectant in the water. A hog loves a good wallow and will always do better when there is a bath at all times. I have one water tank which started leaking recently during the warm weather and in the course of a few hours the hogs in that dry lot had rooted out a big hole and made themselves comfortable, and it has been almost impossible to keep the hole filled up since then. Shade is very essential and this is needed most where there is water. Good shade is absolutely necessary on any farm. If the concrete wallow cannot be placed in the shade, a sun protection should be made over it.

While the hog will get lots of enjoyment out of a good bath or wallow, no other class of animals appreciates clean, cool water to drink any more than do hogs, and no other class of live stock will respond any better to having access to good drinking water. Keeping not only hogs, but all classes of live stock, well supplied with good water is one of the essentials of profitable live stock production. Fortunate is the man who has a good deep well as a water supply. Few men are thoughtless enough to permit their hogs to have access to ponds or creeks into which infection could come from other herds, and many men never really understand why it is necessary to keep hogs away from such holes until after they have contracted some disease.

A hog will make a wallow or muss of his drinking fountain after he drinks if he can get his body into the place. It is therefore necessary to see that the opening in the water tank is just large enough to permit the hog to get only enough of his head through to drink comfortably. There are a number of patent automatic appliances on the market which can easily be attached to water pipes and tanks which are meeting with success and all of them have small spaces for the hog's head. These appliances are handy too, for they can be moved from place to place. We have several different kinds on the farm and find constant use for all of them. A 365-foot well supplies us with 16 gallons of water per minute and we use plenty of it. A 100-foot hose permits us to keep the dust settled around the feeding quarters and to give the hogs a good washing before shipment.

Feed A Balaced Ration

During the hot days it doesn't take much feed for the aged hogs, especially if they are running on good pasture, but their feed should be balanced and not constipating. The old hogs are subject to constipation as well as the young, and all of them should be watched closely. The breeding hogs should not get too much corn when the weather is so hot. A cool, well-mixed slop is much better, cooling the system and aiding digestion. Where the pasture is green, the water good, the feed balanced and the hogs taking plenty of exercise, there is not much danger of constipation. It is good policy, however, to give the hogs a laxative occasionally to cool out the system and keep their bowels conditioned. If it is possible to do so, a good plan is to keep some of the many good condition powders before the hogs all the time, letting them eat it as their appetites call for it, but where this is not possible, a not too frequent dose in the slop helps out wonderfully. Where ear corn is fed, the cobs will give best returns by raking them up once a week and burning them for charcoal, sprinkling salt water on the coals to make them appetizing. The hogs will clean up this charcoal and it is an excellent conditioner. After the feeding floors are cleaned up lime should be sprinkled freely and if it is dusty, dip should be used where the feeding is done. Avoid dust around the feeding and sleeping quarters. I often give the hogs soft coal, but very little at a time, for it is said that too much soft coal will cause piles.

Keep Free From Lice and Worms

It is hard to keep hogs free from lice and worms during any season, and it is an endless job to keep them away, but an easy one for the man who watches his herd closely and never permits either the lice or the worms to get a foothold. The hogs should be sprayed regularly or provided with rubbing posts to keep them free of lice. One good plan in spraying them is to get a bunch of hogs in a box stall, well bedded and sprinkle them with dip from a sprinkling can. Being packed in the stall closely they will rub it on all sides, and the dip which falls on the bedding will reach under their bellies and flanks and they usually get a pretty good dipping of it. It is not advisable to get a bunch of pregnant sows or gilts crowded up in this manner to sprinkle them. A better plan, where the hogs are gentle and will stand long enough to be sprayed, is to sprinkle them where they are fed and while they are eating. This not only gets the lice on the hogs, but the dip that runs off acts as a disinfectant on the feeding quarters, and it is decidedly good policy to keep the feeding floors clean and sanitary. A little dip in the wallows keeps lice away, but in the winter time they must be sprayed and watched carefully.

The powders and conditioners spoken of before will help keep worms away, but they frequently slip in, especially if a close watch is not kept on the hogs. If there is a bad case of worms in the herd the old hog man has his particular remedy, while others use worm powders, or santonin, which is high in price right now.

When hogs are covered with lice and infested with worms, usually their bowels are out of condition and the system is run down, and in this condition they are more susceptible to contracting disease than at any other time, and while many hogs die of cholera, a great lot of it is due to the neglect of the man who owns the hogs by not keeping them in the proper condition. A few hours spent in the hog lots every day will do more to open a man's eyes as to what hogs require for best results than anything could suggest. Plenty of thought and common sense is necessary and this will pay big when winter comes if the hogs have summered well. Bob Hill.

APPLY LIME IN THE FALL OR SPRING

The results of ten-year experiments on about twenty-five fields scattered through Missouri show an average return of $5.80 from applying about a ton of ground limestone once in a corn, oats, wheat, clover rotation. The largest return was secured in clover, second on corn, and lowest of all on wheat. These tests seem to show that about $3 a ton is about the highest price that a man can usually afford to pay for ground limestone for this purpose. Of course, on a sour soil where lime is absolutely necessary and makes the difference between a clover failure and a good stand, the lime has a still higher money value.

About 1200 pounds of lump lime or 1500 pounds of water-slaked lime furnish the equivalent of 2000 pounds of ground limestone for this purpose, but the ground limestone is usually so much more economical to use. It should be applied at the rate of about two tons per acre under the average conditions of these tests but, of course, this depends very largely on the sourness of the land. Samples of the soil and of the limestone to be used should be sent to an agricultural experiment station which is usually willing to examine the samples and make recommendations based on them. The Department of Soils at Columbia, Missouri, keeps on hand a list of companies which deal in ground limestone in the state and a list of the firms which have limestone grinders and distributors for sale. These lists are mailed on application to anyone interested.

Lime is not really a fertilizer although it is sometimes called an indirect fertilizer, that is, a material which indirectly helps the crop even though it is not a plant food as are manure and good commercial fertilizers. It should usually be applied either in the spring before corn or in the fall to land that has been plowed for wheat. The preparation of the seed bed then works it into the soil. It is sometimes plowed under but it is usually better to mix it with the surface soil. It should not be used as top dressing on wheat or other rotated crops although sometimes so used on grass.

Where limestone is readily available it is often cheaper to grind it on the farm than to buy elsewhere. It is easy to secure a small grinder on the market which will do very good work and tests show that they may be used very economically, but they are used such a small part of the time that it is usually desirable for a number of farms to combine for the purchase of one, if the experiment station tests of the lime rock which they have available shows that it is of proper quality to make grinding profitable.

The Missouri soils which need lime worst are the level rolling prairies in the northeast and southwest parts of the state, but the badly worn timber soils in other parts are very likely to need it. The soils which need the lime the least are the well-drained bottom lands, brown loams, hill soils along the Missouri river, the better prairies of northeast Missouri, and the better limestone soils of south Missouri. The experiment station work already done seems to indicate that more than half the soils of this state are more or less in need of lime.—M. F. Miller Missouri Agricultural Experiment Station.

AS I LOOK AT IT

A mixture of booze and gasoline in an auto is more dangerous than gasoline in the coal oil can.

The sympathy of the city girl who feared that the farmer might freeze to death while harvesting winter wheat was altogether misplaced.

You may kill flies by the bushel or barrel but until you get rid of the breeding places such slaughter will avail little or nothing. As of flies as of many other evils—get rid of the source.

The great lack of country life is real rural leadership. Until farming communities develop their own leaders, stand by them and support them, many of the most important agricultural movements must fail.

The crossing of the Atlantic ocean by a German merchant sub-sea liner, loaded with 1,000 tons of dyestuffs and other merchandise, was a most impressive feat. It may be, though, that it was not more important than the shipment of the first car-load of Mississippi-made butter to northern markets.

We don't object to a fellow chewing tobacco. Honestly, though, it doesn't look well to see the juice running out of the corners of his mouth like cider from a mill when a big double hopper of Winesap apples is being squeezed down with all the energy that a 200-pound man can exert at the end of the lever.

It is not easy for a community to get rid of the Hessian fly. In the first place, it is not always possible to get all the farmers of the neighborhood to work together. Yet this is just what must be done—and in the right way—if the fly is to be put out of business. In this, as in many other matters, co-operate and win; go it alone and lose.

Unscrupulous real estate firms and land agents, who, through their lying literature misrepresent conditions and promise the impossible, are doing more than any other force to bring about the failure of the back-to-the-land movement. The man who fails to get value received in his initial purchase, is in poor position to prosper. There are splendid opportunities for investment in Missouri farm lands, but here, as everywhere, it is important that the purchaser investigate and that he know what he is doing. In San Francisco, a few days ago, a star witness for the government told of land frauds in which nearly $1,000,000 had been collected from men and women in all parts of the United States. W. L. Nelson.

Live Stock Breeders Offer Prizes

The prominent live stock breeders of the state have considered the short course in Agriculture of the University of Missouri of such importance that they have offered thirty-one gold medals valued at $510 which have been awarded to the best judges of horses, cattle, sheep, and hogs in the annual short course live stock judging contests.

THE STORY OF AN OLD FARM

Editorial Note.—If any reader has not read the previous articles in this series by Mr. Lyon he had better hunt them up and read them now to get the full benfit of what he has to say on keeping up the fertility for one hundred years. "It is interesting to note" says Sam Jordan" that while Lyon's farm has been in cultivation for over one hundred years there is no worn out land on it. Yet the hills are so steep that I would not know how to go about it to farm them. His system has and is producing gratifying results."

NUMBER IV.

I have never been able to find one who could fix the date of the general introduction of plows of the all metal share and mouldboard type, but it was sometime between 1825 and 1835, prior to this all breaking being done with the "bull plow," iron share and wooden mouldboard, or with a strong single shovel plow, such as is still in general use in the Southern states.

Even the first improved plows, as I recall some made about 1840 and in use thirty years afterward, did very poor work, rather pushing the soil aside, instead of turning it over.

The gullied lands of the South, owe much of their barren character to this system of poor plowing, and, beyond doubt, the same thing was a strong factor in making washed land here. This may be noted yet on steep hillsides, where for thirty or forty years all breaking has been done with swivel plows, that have never been made to do as good work as others do.

Taken as a rule, our people here were never extra deep plowmen, eight inches being the maximum depth anywhere, six much nearer the average. What is called deep breaking, with most of the work done at perhaps five inches, and I have, in observing closely, noticed the fact that those who broke rolling lands the deepest, have suffered the greatest loss by washing.

Dr. Contra, one man who owned all rolling land and was a four inch deep plowman, lost perhaps less top soil than any other man I know.

In dealing with lands that were gullied we have found it a good plan to plow and scrape the gullies so nearly full as to enable us to cross them with horses in cultivating, scatter a small amount of manure in them, and sow strips of broom corn four to eight feet wide across them where the greatest flow of water is to be expected, at intervals of fifty feet.

While I have never made a thorough test of Sudan grass for this purpose, a single trial, and its habits of growth, incline me to the belief that it might be better than broom corn.

It is a rule to never break lands of a steep character twice in succession, but to seed them to small grain, wheat or rye, following the plow crop, and to be liberal in the use of timothy and clover seed.

Going back a little, we have never been able to make the cowpea fit just right into our system of farming, but in four or five cases I have made them do wonders in soil building, by planting them on badly worn patches, such as scraped in gullies and allowing them to go down where they grew.

It has been our policy to always run our furrows with the contour of the land as far as is possible, and in marking or planting decidedly rolling land, we do not hesitate to put in "point rows," whenever we see that we are getting the long rows to run so as to carry the water too much down hill.

About the only rule we ever had in regard to the cultivation of crops on hillside land, is the one so often quoted as applying to crops on any land:

"Shallow, Level, Frequent."

One deeply furrowed or hilled row along a hillside, will allow water to accumulate, "gather a head," as the old water mill men used to say, and when this water starts down hill, it forms the basis for a washout that will carry away a great deal of soil.

On our longest hillside, and we have it in corn and tobacco this year, we run guard furrows diagonally down the slope in the worst places, something like the terrace plan practiced in the South, a practice that gives good results excepting in case of the heaviest rains, which amount almost to cloudbursts, and when one of these comes, the guard, or water furrow, does more harm than good.

This year, with some very heavy rains, these furrows have been of untold benefit to the land.

In my next, and final article of this series, I want to treat of the results of the management of the farm since 1876, as about that time I became the manager, and since that time the farm has been virtualy under my full care.

If any one wishes to ask any questions, my address may be found at the close of this paper and I will answer through THE MISSOURI FARMER.

C. D. Lyon,
Rt. 1, Georgetown, O.

MAKING FARM HOMES COMFORTABLE

This is an age when comfort not only means ease and longer life but greater efficiency in the daily tasks with which the struggle of life constantly confronts us. There are many serious problems which face the farmer of today. There is the never ending battle in the fields and feed lots which means that the farmer must use his head as well as his hands. Then there is the question of a "square deal" in the market place which means that farmers must organize and thus place themselves in position to realize a legitimate return upon their years sweat and toil—but close upon the heels of these great questions follows the problem of making our farm homes more comfortable and pleasant, not only for the "old folks" but for the splendid country boys and girls who are fast growing to young manhood and womanhood and who demand that life shall mean something more than mere drudgery and endless toil.

That thousands of our brightest boys and girls have flocked to the big cities by the thousands in years gone by is due in no small degree to the fact that life on the farm has been too harsh and hard—and not until we make our farm homes more enjoyable and comfortable will this drift to the already overcrowded cities with their pitfalls of vice and crime be arrested. Nor should this appeal be made on behalf of the young folks alone—for all of us have but one life to live and it is an evidence of intelligence and refinement when we insist that there shall be as much wholesome enjoyment in our daily existence as our means permit.

Among the modern improvements which is lacking in many farm homes is a farm home furnace—and it would be impossible to suggest a convenience which is so many times worth what it costs from every viewpoint. At small expense a basement can be dug under thousands of farm homes. Most of the excavating can be done by the farmer himself—and with the assistance of a man who knows something of masonry, a basement large enough not only to accommodate a furnace but which will also offer ample storage facilities for fruits and vegetables can easily be provided—and for the latter purpose it is worth several times what it costs while the furnace itself means an added comfort and luxury which no farmers family would do without, once they have experienced its enjoyment through the long dreary months of a single winter. The old time heating stove is about the greatest nuisance conceivable. It is dirty and a constant menace to fire—while many a man has lost big chunks of his religion getting up in the early hours of the morning when the thermometer hovered around zero, trying to get the "blamed thing to burn." Furthermore, the uneven temperature produced by the old heating stove has caused thousands of cases of pneumonia, "grip" and other diseases—and altogether is a menace which should not be tolerated in a modern farm home. A furnace produces an even heat day and night and needs attention only a few times per day. It is clean and there is no danger of fire—and it will last for years and repay its cost many times. Elsewhere in this issue appears the advertisement of the American Radiator Co.—a splendid, high class concerns in which our friends can place every confidence and we suggest that those of our readers who are interested drop them a line and ask for literature giving the price of modern home furnaces. To say the least the information will be interesting and well worth your consideration. A postal card will bring it to you.

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TURN UNDER SECOND CROP CLOVER

A ton of clover contains an amount of nitrogen equal to that in four tons of average barnyard manure. At fertilizer prices this nitrogen is worth between seven and eight dollars. A man can cut the first crop of clover for hay and by turning under the second crop, which usually weighs about a ton, he can add this nitrogen directly to the soil. Since on the average soil the nitrogen in that part of the clover plant above the ground comes entirely from the air, this nitrogen is pure gain to the land. Of course, most farmers prefer to cut the second crop for seed but with the increasing need of soils for nitrogen, it is a grave question whether, in the long run, this is a good practice. In addition to the nitrogen supplied by turning under this second crop, the seed added to the ground goes a long way toward insuring a good clover stand.

The organic matter contained in a ton of clover hay equals that in about three and one-half tons of ordinary barnyard manure. Organic matter is needed badly by most upland soils in Missouri. The gain to the soil in both organic matter and nitrogen when this second crop is turned under is at once apparent. This is one of the things which should be considered by the man who is interested in building up or maintaining his soil. Economically maintaining soil fertility is the most important problem of the average Missouri landowner.—M. F. Miller Missouri Agricultural Experiment Station.

Mineral Mixtures for Sows

A shallow trough containing a mixture of charcoal, sulphur, air-slacked lime and common salt assists in keeping sows in good condition. This mixture can be made by mixing one bushel of charcoal with two pounds of powdered sulphur, five pounds air-slaked lime and five pounds of salt. Wood and coal ashes dumped into the hog yard are beneficial and will help to serve the same purpose as the mineral mixture above.

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THE POWER OF ORGANIZATION

The most convincing argument that we could offer in favor of farmers organizing to protect their interests could not begin to equal the demonstration of the power of organization the country has witnessed within the past few days in the deliberate holding up of Congress of the United States by the four railroad brotherhoods. These organizations representing only one-fifth of the number employed by the railroads, by their threats to paralyze every industry of the United States have dictated their own terms to the President and to Congress with the threat that if their demands are not granted they will stop the wheels of commerce in this great country of 100,000,000 people over night.

There are about 2,000,000 men engaged in the railroad work of the country and only 400,000 in the four brotherhoods which have threatened to strike but in the absence of some compulsory plan of arbitration this one-fifth can deliberately throw the other four-fifths out of employment and cause them and their families untold suffering. The members of these four organizations together with their families make up less than 2 per cent of the total population of this country and yet without any regard for the rights, inconvenience, suffering or financial loss of the 98 per cent this small minority can by the issuing of a strike order produce chaos for the time being and probably arson, bloodshed and murder with it.

We have urged farmers to organize in order to be able to get justice for themselves but we have never had in mind the domination of every other interest by this organization. The farmers certainly have a very vital interest in the question of any general railroad strike. If this strike is carried out as now ordered it means that every feeder who has a bunch of cattle or hogs ready for the market must hold them till the strike is settled. The man who has planned to bring in feeders must wait the pleasure of the strikers. Already at this date four days before the strike order is to go into effect buyers of poultry, eggs, fruits and other farm produce have discontinued buying. These are only very small items in the demoralization which would result from a general strike but they are enough to show the imperative necessity for some strong conservative power that would step in at a time like this and compell Congress to act for the whole country instead of for the few.

I am not attempting to write a brief for the railroads nor to offer argument against the demands of the railroad employees. These are questions that ought to be settled by some impartial tribunal authorized by the government of the United States to pass on such matters and with power to enforce their orders.

There are more than six million farm families in this country and a much greater number of adult farm laborers but when they ask Congress for some relief from high interest rates, or from price fixing and unfair competition of the great corporations which have been sapping the very life blood out of farm profits our members of Congress pass them by with indifference.

If this strike should be carried into effect it may prove a blessing in disguise for it will surely bring the people to see the utter helplessness of the general public under present conditions.

Farmers, why not wake up now? Why not organize so as to hold your proper balance in the settlement of all public questions? This is the only way out of the present unsatisfactory conditions and we hope to see the farmers of Missouri become leaders in this much needed movement.

LIME OR FERTILIZER?

A Cooper County farmer writes that he wants to sow wheat on land that is rather poor and will need a fertilizer but is hesitating whether to use lime or fertilizer. He says he is not able to buy both and that he wants to use the one that will give the best profit for this year's crop. The liming of soils is explained in another column of this issue and our correspondent will understand by reading the article that lime is not strictly speaking a fertilizer. Lime may dissolve some of the plant food in the soil and put it in shape for the wheat plants to use and in that way increase the crop. Lime will also improve the physical condition of wet land and it will also sweeten sour land. The latter is very important if clover is to be sown next spring and we would recommend sowing clover on this land if it is at all adapted to clover. If a good stand of clover can be secured and a crop of green clover turned under the first important step in the improvement of this land will be made. The great need of most of the old land in Missouri is humus or vegetable matter and the only way to get this is to turn under some cultivated crop or a crop of weeds and summer grasses or the application of coarse manure.

We are of the opinion that our correspondent will find it profitable to use both lime and a good grade of fertilizer but of course that means a greater outlay of money just at this time. If a ton of limestone an acre could be applied to this land at a cost of $2 or $3 the interest on that money at 6 per cent would be 12 to 18 cents. It would take very little benefit to the land to pay for the lime and pay the interest in the course of five or six years. We realize however that even borrowing money is under some conditions not possible.

The application of a high grade fertilizer containing 2 per cent nitrogen and 10 or 12 per cent soluble phosphoric acid ought to pay a profit on this land and this should be applied at the rate of about 150 pouds per acre and besides the benefit it will be to the wheat crop if the land is seeded to clover or timothy it will show a considerable improvement on these latter crops. If but one of the two, fertilizer or lime, can be bought at this time the most profit for the first year will be in buying the fertilizer.

FREE TEXTBOOK LAW

In the session of the General Assembly of 1913 a law was passed that will put free school textbooks into every school in the state if only the people of the district want free books, and this can be done without any expense to the people of the district. There is a tax imposed by the state of 2 per cent of all premiums collected by Foreign Life and Fire Insurance companies doing business in Missouri. One-half of this tax is apportioned to the counties, apportioned on the basis of the number of children of school age. The sum distributed annually to the counties amounts to $300,000 to $325,000. To each city and town within the county, the county court apportions what it is entitled to and the balance goes into the general fund of the county. This is the money available for free textbooks.

The proposition for free books must be submitted to a vote of the district either at the annual school meeting or at a special meeting and it is decided by a majority vote. If the proposition carries, the school board must then purchase the books needed in the first four grades and pay for them from the "incidental" fund of the district. When the fact is certified to the county court, the district is entitled to its pro rata share of the Insurance Tax when the money is received in December. The following year, books are bought and paid for in like manner for the fifth and sixth grades and the third year for the seventh and eighth grades but the county court continues to apportion the money to the district which will make a fund sufficient to renew the books.

It is estimated that the cost of free textbooks will not exceed 50 cents a year for each pupil which is very much below what it costs when the books are furnished by the parents. Quite a number of districts have already adopted the free textbook plan and most teachers and superintendents favor the plan because of better results.

If our readers want to make further investigation they should consult their county superintendent.

C. B. HUTCHINSON GOES TO CORNELL

How long will Missouri continue the practice of training up her brightest native sons just to let them go and serve some other state? Do we not need the very best intellect and the ripest experience to direct our agricultural problems right here at home? For some reason about the time a man begins to make good in the Agricultural College of Missouri he is offered greater opportuity to pursue his work in some other state and he is induced to leave and his place is filled by an inexperienced youth to be trained at the expense of the agricultural progress of the people who foot the bills.

The latest one of our Agricultural College leaders to leave Missouri is C. B. Hutchison, head of the department of farm crops who goes to Cornell, New York. Mr. Hutchison is a native of Livingston County, graduated from the State University in 1907 and with the exception of one year has been with the University since that date, doing teaching and investigational work. If Mr. Hutchison's nine years of experience and research has made him valuable to New York it certainly has fitted him for better service to our own people with whom he has been working and whose problems he understands at least better than any new man can possibly know them.

The State University of Missouri owes it to the people of the state who willingly tax themselves for the support of a great institution to either hold the good men who have been developed in the institution or else to fill their places with better men of equal experience. This is no reflection on the ability of the young men who are selected to fill the vacated places in the University but a truth that can not be disputed that if Missouri would build up a great educational institution, the pride of every citizen of the state, she must fill the professorships with men of experience as well as ability. It takes several years in many instances for a man to understand the people and the agricultural problems new to him and until we realize this fact we are not going to keep pace with other states which are taking our experienced men.

We think a close observation on the part of those in authority would prove to them the great cause why we are making so little progress in the betterment of the agricultural practice of the state is the lack of knowledge of those problems by the teachers and the lack of understanding of the sentiments, customs, and provincialisms of our people.

HOMES FOR ORPHANS

Within the past few years THE MISSOURI FARMER has appealed to its readers to take an interest in the little homeless children cared for by the Sheltering Arms Childrens' Home of St. Joseph, Missouri, and our appeal has met with very satisfactory response. We learn that this institution has now in the Home a number of fine boys and girls for which homes are desired. The Superintendent writes they now have ten little girls from one month to thirteen years of age and five boys from four months to three years and would like to place them in good homes in Missouri.

Many homes not blessed with children have been made happier and better in every way by the adoption of an orphan and here is your opportunity to make the life of at least one child happy and give it the opportunity to fit itself for manhood or womanhood. If interested write direct to Sheltering Arms Childrens' Home, St. Joseph, Missouri, and you will receive description of the children and terms for adopting them.

GOES TO CALIFORNIA UNIVERSITY

The livestock readers of THE MISSOURI FARMER who have come to know our livestock representative, R. P. Royce, will be interested to know that he has accepted a position with the livestock department of the University of California, and will enter upon his duties with that institution on September 1. Mr. Royce is a young man of splendid ability as a livestock judge of the very highest moral character and we bespeak for him success in his new field of endeavor in this western field.

Mr. Royce is a native Missourian, a graduate of our Agricultural College, a practical farmer and we regret to see him leave the state.

BARNYARD GOSSIP

It is about time for the opening of another school year and I imagine that thousands of anxious fathers and mothers are just now debating earnestly and prayerfully the question of whether or not they should send the son or daughter away to school. Not many parents who would not willingly make the sacrifice necessary to send their children to college if they were sure it was the best thing to do but they hesitate because they see a great many failures among those who have tried it. But along with these failures, dear parents can you not count at least four who have made good to one who has turned out bad? That, then, should be the deciding factor if you can not decide after looking at all other angles of the question. Not all young people are benefitted by a college course but a majority of them are and it is your duty as a parent who will be held responsible to the extent of your ability for the training of your child to look at him as others see him and be sure first that he has the mental capacity for a college training before you try to force it on him. Then, if he has mental capacity it is just as much important that he has the moral character, strong enough to withstand the temptations which college life will open up to him once he is away from the influence of home. Quite a number of boys have their lives blighted because they are not morally strong enough to withstand the temptations of college life for the first year or two they are away from home.

I am not trying to give advice to any parent on this subject but hope I may raise some questions that will cause a little more serious thinking on the part of some of them who may be up against the proposition of whether or not to send the son or daughter away to school and if they are to go, where shall they go?

In the ordinary course of events, these days, the child will finish the eighth grade when 14 years old and the high school at about 18 years of age. Not many young men or young women who at 18 have their future course so well marked out and their moral character so firmly established that it is safe to turn them out without the restraining influences of home life. But you say it is impossible to take your home to the college town and the only hope is to take the chances and let the boy or girl go among strangers and hope for the best. One thing you can do to lessen the dangers of college life for your boy or girl is first to select the institution which he or she will attend with a view of its home like and Christian influences. There is a vast difference in this respect between different colleges and universities. We think the small institutions with an attendance of 150 to 300 students as a rule are decidedly preferable in this respect to the larger instituions. In a large school little effort is made by the officers and teachers to get in personal touch with the individual students. The heart to heart talks given by the president or teachers in the small college where every teacher is in personal touch with every student is a factor unknown in our great universities where there are four thousand students enrolled.

There is no doubt some advantage to the young man or woman who holds a degree won from the larger schools with its greater reputation but you can give them that advantage and the better moral training offered by the smaller school by doing what a few have already found the wise thing to do. Pick out some high class small college and start the son or daughter in there after the high school course is finished. With two or three years work in the college, the boy or girl will be much more mature and stronger in character and will be in much better position to take care of himself or herself among the thousands in the University. They will graduate in the same time, the cost will be no more, probably less and will have a better moral training and as good intellectual training as the one who has gone through the whole course at the greater school.

But no matter where you send your son or daughter to school you should know something of the home they choose. I have seen many boys come to the university, perhaps the first time they had been away from home alone, and left to choose without help a temporary home. A few dollars spent by the parent for a trip to the college to help the boy to select a good home where good Christian influences will be felt may be the very best investment you can make. There are many good homes of the very best moral environment in all college towns and it is worth your while to know that your boy is in such a home.

Indulgence of fond parents has been the ruin of many boys and girls. A few years ago two friends of mine told these different stories: Friend M had two boys in the state university. He was a well-to-do farmer and the boys were good average boys. The father made them an allowance of $250 a year, each, for their total school expenses and he required a monthly itemized statement with receipts for bills paid at the end of each month before he sent the next month's check. These two boys graduated with honor and were soon filling good salaried positions. The business like methods their father taught them have been the means of establishing them in a successful business career and while at times they may have chaffed a little at father's insistence they now acknowledge that it was one of the best things in their education. Friend G had a son in the university and being the only son he felt like he must "give him a chance" and he made the boy an allowance of $750 a year for his expenses at the university. This young man fell into bad habits, finished school finally by taking one year extra, has never up to this time, 17 years since he graduated, been able to hold a position for more than two or three years at a time and apparently is waiting and hoping for his father's fortune to fall to him that he may spend it in the same kind of riotous living he got in the habit of at the university.

A BIG MEETING IN CHARITON

On the 24th and 25th of August the farmers in central Chariton County held a big two days Picnic for the purpose of stimulating the organization of a Farm Club in as nearly as possible every school district in the County and the gathering was perhaps the biggest and most successful of the kind ever held in Chariton. J. Kelly Wright and W. D. McKee of the State Board of Agriculture delivered addresses on the first day while on the second day the entire time was occupied by William Hirth, Publisher of THE MISSOURI FARMER who devoted himself entirely to the question of Farm Club organization. The crowd was estimated at from 1500 to 2000 and at the conclusion of the meeting plans were made to organize the county from one end to the other and many prominent farmers agreed to go back home and call a school house meeting as soon as the arrangements can be perfected.

In order to assist in the work of organizing Farm Clubs, THE MISSOURI FARMER procured the services of B. P. Smoot who has been busy in the County during the past week—addressing school house meetings and organizing a Farm Club at some point each night. For a number of years Mr. Smoot has been a lecturer for the State Board of Agriculture. He is a practical farmer and understands his subject thoroughly. He will perhaps spend several weeks in the County and those of our readers who are located near Salisbury and Sumner should let us know at once whether they will not assist Mr. Smoot in organizing Clubs in their respective neighborhoods, when we will be glad to put them in immediate touch with him. Mr. Smoot has a program which will save the farmers of any neighborhood a lot of money during the coming winter and this is therefore a rare opportunity for farmers to procure the aid of an able man in perfecting a strong farmers organization in their school districts. Mr. Smoot however is wanted at many other places and there is therefore no time to lose. If you live in Chariton County and want a Farm Club in your school district, write to THE MISSOURI FARMER at once.

HIS HAT IN THE RING

The Missouri Farmer:

I have had the good luck to run across the issue of your paper of the 15th, and I must say it is certainly loaded for big game. Those have been my views for a long time and it certainly is very disgusting to see men dig from year to year and turn a deaf ear to such entreaties when you know they have enough intelligence to get in line. Not only, improve their own financial and social condition but teach the balance of the world that "We" are the the main spoke in the wheel of prosperity, without which business of all kinds must collapse.

My hat is in the ring with you, and at any time I am at your service for the mere might of help that I can do.

I see in same issue a card relative to fertilizers. What can I get a car of bone meal laid down at Holliday, Missouri? We have been paying a merchant a good profit each year for the privilege of writing an order for us. M. H. Gray, Paris.

Swine Houses

The National Lumber Manufacturers' association has published the fourth of its series of technical bulletins on the construction of farm buildings, the latest volume being on Swine Houses. The bulletin was written by Prof. K. J. T. Ekblaw of the University of Illinois Agricultural College staff. In his bulletin Prof. Ekblaw says, introducing the descriptive side of the publication:

"Hog raising has probably returned proportionately greater profits to the corn-belt farmer than any other enterprise. In view of this, it might naturally be expected that the hog be the best housed animal on the farm. In the majority of cases, however, the opposite is true. The old-fashioned idea that the hog is a tough, filthy animal still persists, and many farmers believe and act in the belief that anything is good enough for a hog. As an actual thing, there is no farm animal that need care and protection more than the hog."

THE MISSOURI FARMER has made arrangements by which it can save farmers a dollar per ton on coal in many communities. This means shipping it direct from the mines in Illinois at the wholesale price. Get a half dozen of your responsible neighbors to go in with you and make up an order for a car load which means approximately 1000 bushels. This shows why you ought to organize a school district Farm Club. Write us at once.

WON HIGHEST AWARD PANAMA-PACIFIC INTERNATIONAL EXPOSITION SAN FRANCISCO 1915 DEPARTMENT OF AGRICULTURE

Eight Feet Wide, or Better

ONCE you have seen both kinds of work you will say: "There is certainly a wide gulf between the ordinary spreader and the modern I H C machine, with its good, wide-spreading device. Give me the up-to-date, time and labor-saving spreader."

International Harvester spreaders—Low Corn King and Low Cloverleaf—are made with wide spreaders that throw the manure out in a wide, even spread, and broken up into fine particles by the disks that give it a second beating. In this condition the soil takes up quickly and evenly the fertilizing elements.

Though they are narrow, conveniently handled spreaders, easy to drive right into stables for loading, they spread to a width of 8 feet, or better. This cuts the spreading time in half, increases the tractive power of the spreader by keeping the wheels off the slippery manure, and gives you the best machine made for top dressing. **I H C spreaders** are simply built, and very strong. They are low for easy loading. They are built in sizes to suit any buyer, and they do work that is uniformly satisfactory.

Be sure to see the **I H C** dealer who can sell you a **Low Corn King** or **Low Cloverleaf**—or write us for catalogue.

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MY MOTHER'S HOME GARDEN

By United States Senator Robert L. Owen, and here published by his personal permission.

In 40 years we shall have over 200,000,000 people, and this estimate does not fully take into account the geometric progression which immigration makes probable under the enormous growth of seagoing vessels of mammoth size.

Our breadstuff exports in 25 years has decreased 24 per cent, notwithstanding large areas of new lands producing wheat and corn.

Our home demand for wheat in a quarter of a century has grown 80 per cent more than the supply of wheat.

The object contemplated is to develop farm lands, encourage home building on the farm, increase the productiveness of our farm land, make our farms more accessible by the building of good roads and improved national and local highways, and make our farms a potential factor in promoting the wealth, the health, the beauty, and happiness of the Nation. Nothing could be of greater national importance.

With these objects I find myself deeply in sympathy. One of my earliest recollections was of the intensive farming of a piece of land in Lynchburg, Va., of about 2⅓ acres, surrounded by a high brick wall; the inclosed land was divided up into a dozen or more plots of ground, with graveled walks lined in cerain parts of the garden with dwarf box and with flowers.

Some of the squares were used for vegetables, Irish and sweet potatoes, beets, parsnips, salsify, okra, radishes, onions, lettuce, cabbage, mustard, asparagus, tomatoes, several kinds of sweet corn, the watermelon, cantaloupe, and sweet pumpkin for cooking, rhubarb and other succulents. Other beds against the brick wall had beds of strawberries, raspberries, blackberries, currants, gooseberries and various vines.

Even in the winter this land furnished the table with vegetables stored in sand pits, and with fruits preserved and canned, and with pickles, marmalades, and other things edible.

I remember sweet herbs in this garden—of thyme, sage, etc. I recall with affection certain arbors devoted to the grape, which, in their season, had a special charm for me. Around the edge of these squares were many beautiful varieties of fruit—of peaches, of pears, the sweet Sickle, the Royal Bartlett, the Damsom, the plum, the cherry, the apple. The yellow June apples in that garden were sweet enough to tempt, and often did tempt, a small boy about my size to risk an appearance before the Throne of Grace without any other preparation than an incredible number of June apples eaten in reckless disregard of consequences.

I have never seen anywhere a more beautiful variety of hyacinths and tulips than grew in this garden, with all the old-fashioned English flowers—the jonquil, the narcissus, the crocus, the lilies of the valley, the phlox, the snapdragon, and many others; the Easter lily, the tiger lily, and a great variety of roses.

I remember the yellow and red honeysuckle, covering a trellised summerhouse, mingling its fragrance with the pleasant odors of the climbing rose which helped to cover it.

As I used to enter this charming spot of land from the diningroom door, I recall passing between two trees of crepe myrtle and, a few steps further on, by two large shrubs of the euonymus. There were several large box trees in the garden, whose thick cover afforded a hiding place for many birds, whose twilight repose I used to disturb for my amusement by shaking the trees.

There was in this garden a large clump of cane which furnished the boys of the place with convenient fishing rods, and everywhere throughout this 2 acres was manifest the highest intelligence, the finest taste, and unceasing industry.

The guardian spirit of this garden was my mother, under whose hand everything which grew out of the ground always flourished. I have always thought that the ministering angles who supervise the growth of plants must have specially loved the gracious spirit of my mother, for her plants lived, no matter what happened to the gardens of other people. I shall never be satisfied until I am able to own and to enjoy such a garden as she had, and with which she made my boyhood days happy. Adjacent to the garden was a big smokehouse where we put up our own meat, and a yard where the chickens and ducks flourished and helped to feed the family.

I may be forgiven these personal reminiscences when I point to the fact that this two acres and a half of land furnished a very large household with the greatest abundance of food in the form of vegetables, fruits, berries, grapes, throughout the year, as well as with an abundance of beautiful flowers. It was intensive farming. Every foot of the ground was kept thoroughly manured, the plants were transplanted from time to time where their nature required it, and the life habits of every plant were studied and thoroughly understood.

In contrast to the productive power of this two and one-half acres, I have seen a poor farmer trying to cultivate enormous areas of land with a single team, and with the invariable result that his crop was so poor as to afford him and his family not even the necessaries of life, much less its conveniences or the luxury of fruits and flowers. Such a farmer, with bad and muddy roads to travel, is practically isolated from the market, from the school, from the church, and from other conveniences and pleasures of civilized life, and can not conveniently or cheaply deliver to market even those things which he does raise.

The man who works more land than he can cultivate thoroughly well wastes his time; he does more: He makes life unhappy for himself, for the faithful woman who loves him, and for the little children who look to him for guidance. He is not as useful nor as happy a citizen as he would be if he concentrated himself on 40 acres, cultivated a garden, kept a few cows for milk and butter, raised chickens and other fowls and domestic animals out of which the profits of the farm arises.

HOW LARGE A FARM BUSINESS BRINGS THE MOST PROFIT?

The size of farm business has a great deal to do with the profit that results. It is true that there is no size, either of farm or of farm business, that is best for farm conditions for all men. Some men can manage much larger farms than others but a moderate size of farm business is more likely to succeed in the hands of the average man than one extra large or small. This is the result secured in a farm management survey of a portion of Johnson County, Missouri, made by the Missouri Agricultural Experiment Station. The size of farm business instead of size of farm was studied because it counts for more and because it might be possible to find a farm of 30 acres on which the farm business would be much larger than on another farm of 300 acres.

The farm organization should include plenty of land, plenty of labor, and a fair amount of working capital and they should be in the right proportion.

In Johnson County, one group of men on 160-acre farms made more money than another group on 500-acre farms, largely because the men on the larger farms were owners who did not feel the need of working very hard and consequently made much less money than their industrious neighbors, struggling upward on smaller farms. Crop yields measure the quality of the land and go a long way toward determining how profitable the farm is to be. One group of men on 260-acre farms made less than another group on 100-acre farms, not in this case because of difference in ownership but because those on the larger farms had so much lower yields that they were much less profitable. This must not be taken to indicate, however, that the yields were smaller on the larger farms, for in general the reverse was true and the larger yield per acre were found on the larger farms.

We frequently hear the statement that land is so high now that it is impossible to make profit on it and the men on the high-priced land in the county seemed to be finding that true. While the yield and quality of the land did vary, they did not vary as much as the prices. That is, they did not rise as fast as the price of land. While the better land paid better rates up to $80, the increased value of higher-priced land made the interest charge so high that it was much harder for the farmer to make wages or any kind of fair income on the higher priced land.

The most successful farms included in the survey were those which had about four-fifths of the investment in real estate and four-fifths of the remainder in livestock, leaving only four or five per cent or about one-twentieth of the whole investment for machinery, feed, and cash on hand.—O. R. Johnson, Missouri Agricultural Experiment Station.

OPPORTUNITIES IN AGRICULTURE

Many a young man who has finished high school is now considering the question whether he will spend additional time in educational training to fit him better for his life work. Perhaps the boy has not yet fully made up his mind just what line he expects to follow. In fact most of us who are already engrossed with the problems of life did not consciously prepare in the most advantageous way for the particular niche we may now be filling.

While the opportunity to learn is always before us, no matter how old we are or the conditions under which we may labor, yet the years of conscious training and preparation come to the great majority during youth. If we do not take advantage of the opportunity then, the chance slips by and too frequently the regrets of after years are unavailing.

In the field of agriculture the opportunity for useful effort is unrivaled for there is no limit to the chance which the well trained young man has in this field. In the earlier years naturally a large majority of the graduates of our agricultural colleges were needed to fill the professional positions which were then open, but competition is now much keener for these positions, as in all other branches of the teaching field.

In the practical field, however, there is no need for the trained man to fear competition. The business side of agriculture like any other business, is held down and encumbered with the multitude who are unwilling to apply the results of modern science or indifferent to its value. Just so long as they are content to move along in the same rut, to ignore the findings of modern science and the tested experience of others, to let well enough alone and drift rather than to push, just so long will the returns of the average farm be absurdly low.

Why do the corn fields year after year of the members of the Wisconsin Experiment association run from 10 to 20 bushels above the average yield of the state? They have learned the lesson of good seed and good culture and reap the profits thereby. The man who is able to apply these lessons certainly is able to compete advantageously with the average.

No good farmer should keep a herd of milking cows and not know to a certainty whether the labor and feed he expends on each animal return an actual profit or not. The average yield of many a Wisconsin herd is 300 pounds per year, while the average of the state is only 175 pounds of butter just about enough to pay the cost of keep.

Food products are on the rise in value and will continue to increase so long as consumers multiply more rapidly than production. For this reason the product of the farm, as well as the land itself, is very unlikely to bring less returns than the average values now received. Neither does the farmer have to write off large sums for depreciation on his farm like the manufacturer on his factory or plant.

These facts are worth careful consideration by the boy who stands at the threshold of his opportunity and now has a chance to train his mind to think straight, as well as to learn how to handle effectively and efficiently his time and his talents.—H. L. Russell College of Agriculture, University of Wisconsin.

THE GRANGE AS AN INSTITUTION

(Written for the 1916 Missouri Yearbook of Agriculture by Miss Lula Fuqua, Secretary of the Missouri State Grange.)

The Missouri farmers and their friends are fast realizing the value of organization, and co-operative workings. As early as 1866 this was a dream which was realized by O. H. Kelley, who organized the Grange at that time.

This organization, starting at first with only a few members, has grown until today it is a national organization counting its members by the millions.

The Grange is the Rural Community organized, its purpose being to build up and make better the conditions morally, socially, educationally and financially.

The Missouri State Grange has a membership of about 3,000, in which it has the direction of four county Granges and fifty-four subordinate Granges, each Grange doing its own especial work for the benefit of its own community.

The Grange also opens the way for women and the boys and girls, and all get together twice a month on the broad needs of farm life. There are discussions on agricultural topics and things of interest both to the farmer and the farmer's family. There are social events in which all take part, and the feeling that "my boy or my girl" are going to the city to enjoy themselves is vanishing—for they are being entertained and trained for the better life right at home. They do not need to go to the city for the big things—they see them at home all around them!

Nearly all of the Granges have annually some event in which both the citizens from the town and the country get together and have what might be termed a "Fellowship Meeting". Topics of importance are discussed and better business methods of doing things are suggested and applied—and the social benefit of the day is not to be over-looked. The farmer gets acquainted with his city brother—and the city man gets acquainted with his country brother, and both become broader-minded and less selfish.

The State Grange has annually a three or four days meeting in which plans are discussed and adopeted for a year of work for the various Granges—and here, too, originate some of the big things for the farmer. Even here, the Grange blends business with pleasure and at some of its sessions the "neighbor" is invited. Thus we broaden and grow in grace.

Three years ago a movement was started in the State Grange for the benefit of the farm boy and girl. Today we have what is known as the "Students Foundation Fund", whereby numbers of boys and girls have received loans at a very small interest and have been enabled to finish their education and now are paying back the loans by their own labors—the results of the education received!

We may add, too, that the State Grange is taking a hand in the making of laws for the betterment of the farmers. We realize that, unorganized the farmer could take no part in the big things which go to make up the helpful side of life—and so we urge organization for the farmer. And as the Grange is doing more for the farmer than any other organization, it is growing more each year. The prospect for the future is bright, socially, educationally and financially. Get in line! Join the Grange! Help your community!

Alfalfa and Sorghum Silage

Indications are that excellent silage can be made with mixtures of alfalfa and sweet sorghum, according to silage investigations in progress at the Agricultural Experiment Station of Nebraska. Such mixtures containing one-half alfalfa and one-half sorghum cane, put up on a small scale, give perfect silage three months after siloing. The acidity is somewhat lower than normal silage but this does not seem to impair the keeping qualities. Further investigations of this subject are in progress, but the present results would indicate that a farmer might safely put equal parts of alfalfa and well-matured sorghum cane in his silo with expectation of securing a good quality of silage.

THE MILK QUESTION

By E. G. Bennett, State Dairy Commissioner.

There has never been a time when the consumers of milk and milk products were more exacting in their demands for purity, cleanliness and wholesomeness of these products than now. The public are well within their rights in making these demands, and they should know that never in the history of the industry were dairymen, creamerymen and others engaged in dairying and in manufacturing dairy products, better prepared to meet these demands than now.

Men who own dairy herds realize that they are producers of raw material. Their herds and equipment represent considerable investment. Their success depends on the satisfaction of those consuming their products, and they are (to a greater or less degree) responsible for the welfare of this great industry.

If the producers sell to manufacturers, they know that the quality of the manufactured product depends on the condition of their raw material. Their increased interest in the health of their herds, together with the building of better barns (seen the country over) equipped with modern appliances and conveniences looking toward the proper care of cows and careful handling of their product, indicates a growing desire of the producer to meet the consumer's demands.

The progressive dairies, milk distributing plants, creameries and cheese factories today are equipped with the latest devices for the proper handling of the products while undergoing preparation, preparatory to being placed in the consumer's hands in approved condition.

Far too often these products are improperly handled and badly cared for after reaching the consumer—dissatisfaction results, and the producer or manufacturer is unjustly criticised.

Milk bearing the stamp of approval and merit of those in authority is not a guarantee that it will keep wholesome if not properly cared for in the home or retail shop. Containers should be thoroughly sterilized and carefully dried; milk should be kept cold and at regular temperature, and should also be kept covered; milk absorbs odors very readily and should be kept free from contaminating influences.

While those engaged in the industry are to be congratulated on the improvement of the health of their herds and the methods employed in the producing and caring for dairy products, it should not be understood that all dairies are clean and producing safe milk. The laws of Missouri provide that every town and city can pass ordinances regulating their local milk supply. This should be done, and inspection made of all places where milk is produced for the public, and such rules and regulations enforced as will protect consumers against the sale and use of unwholesome milk or that which is unfit for family use.

STUMPS IN ROAD BUILDING

Good roads, according to Howard Rann, are something which everybody wants for nothing.

As there is nothing free in this country except elbowroom and the grip, the good-roads movement has had hard work in trying to break speed records.

Good roads agitation always shows a more rapid pulse during winter, and converts a great number of people who object to traveling over highways that look like an Alpine mountain range.

But man has a short and brittle memory. When summer comes and the roads lie down flat again public enthusiasm also lies down and buttons the flaps on its coin pocket.

There are more good roads enthusiasts during the rainy season than at any other time of the year.

If a vote on a bond issue could be taken immediately after a three-day cloudburst, the polls would be more congested than the tables at a 15-cent supper.

In many places the method of making "good roads" is to plow them down the center and decorate the roadbed with sod. This provides a surface which can be traveled only by the stiltwalking crane.

It is not at all difficult to convert the owner of a new automobile to the good-roads theory if he is caught at the moment when he is trying to worm his way through a fresh sod improvement, two miles and a half long and running from fence to fence.

The life is full of strange inconsistencies. People complain about the money wasted on chewing gum, false hair and skin foods, but it isn't the price of a hair-cut to the sums wasted in patching roads that refuse to stay patched.

The automobile is the evangel of the good roads movement. Every sale of a five-passenger touring car with tires subject to sudden and disheartening puncture means better roads and more of them. Therefore, every one should buy touring cars because he will then become a good-roads advocate.

Good roads are more conducive to human happiness than good digestion. You can coddle your digestion with malted milk, but there is nothing more certain to convert a cow path into a hard-surfaced highway than brains plus money, plus concrete. P. C. A.

LIME NEEDED FOR GOOD CROPS

Everybody knows that practically every farm crop must have lime for one or more of three purposes: (1) the soil must be kept sweet, (2) the plant food in the soil must be made available and lime helps in this, and (3) the lime itself is used by the plants as a food.

Some soils already contain so much lime that it is not worth while to add more but the Missouri Agricultural Experiment Station has secured increased profits by liming on all the twenty different experiment fields located in twenty different counties on which it has conducted such tests during the last ten years. Estimating the crops at the average farm prices, limestone has already increased the average value of the crops $5.80 per ton of lime applied and part of the lime is still in the soil where it will continue to do good for several years more. In these tests the same crops were grown side by side on limed and unlimed plots every year to be sure that they had exactly the same chances so far as soil, weather, and other factors were concerned and that the only difference was that one series of plots received lime and the others did not.

Whether lime is needed and how much should be applied, of course, depends on how sour the soil is or how deficient it already is in lime. The experiment stations in various states are practically always glad to receive samples of soil, test them for lime, and advise as to treatment. After a sour soil has been sweeteed with the proper amount, about one ton every six years thereafter should be applied.

Even limestone soils may need applications of lime after they have been farmed for a long time, especially if the region is one of abundant rainfall. Lime is much more quickly dissolved from the soil than other rock materials and those who live in limestone countries know how full the well and spring waters are of this material and what large caves are dissolved out of even the solid limestone. So even those who are most fortunate in living in limestone regions need to watch the soil. After years of cultivation, test it occasioally with litmus or in some other way to see whether it is becoming acid. If clover and alfalfa no longer do as well as they once did and the soil seems sad, a half pint of it, made up of soil from several places in the field, should be sent to an experiment station for tests. Of 268 samples taken from different sections of Missouri and analyzed by the experiment station of this state, 62 per cent or more than three out of every five were found to be sour.

In the middle west ground limestone usually sells for a dollar a ton, or less, at the crusher, and being much cheaper than either lump lime or slacked lime it gives more economical results. If it is to be hauled far, a very finely ground product, at least 90 per cent pure, should be demanded. Sometimes a large farm that has outcrops or limestone rock can afford to put in a grinder of its own at a cost of $750 but as a 12 to 18 horsepower engine is also needed the expense is usually too great for any one farmer and can best be handled by a group of men.—R. R. Hudelson, Missouri Agricultural Experiment Station.

FERTILIZER INSPECTION PROTECTS THE FARMER

Six inspectors from the experiment station of the University of Missouri are soon to start on their yearly fall collection of samples of fertilizers used by Missouri farmers. So much fertilizer is now being used in the state it has become necessary to protect the farmer from poor and adulterated goods. To do this the Missouri Fertilizer Law provides that all fertilizers offered for sale in Missouri should be registered at the experiment station; that registration must include a guaranteed chemical composition which, together with a registration tag, must be on every package of the fertilizer; and that the agricultural experiment station must collect and analyze samples of fertilizers used by the farmers.

The inspectors are sent out in September and October, when the greatest quantity of fertilizers is on the market. They collect samples from the dealers' cars, warehouses, farmers' wagons and other places, and send them to the laboratories of the agricultural experiment station. There they are examined to ascertain if the fertilizer offered for sale is in accordance with the registered guarantee. At the close of each year a report is published showing the results of all the samples analyzed. The published report also gives a list of all manufacturers offering fertilizers for sale together with a list of the brands which are on the market. In addition, farmers may send samples of fertilizer to the agricultural experiment station to be examined for them.

During 1915, 177 localities in 63 counties were visited by the inspectors. About 890 samples were taken representing 222 different brands of fertilizers. It was found that though the guarantees sometimes exceed the product, the composition of the product sometimes is better than represented, and that on the whole the farmers of the state are well protected in the purchase of fertilizers.

T. L. Haecker of University Farm, St. Paul, well-known investigator of dairy and beef cattle feeding rations, says that nearly twice as much grain is given fattening beef steers under ordinary methods of feeding as they can make use of.

Time of Seeding Wheat

As an average of 14 years' work to compare dates for seeding wheat ranging from August 31 to October 27, the Ohio Experiment Station has found that in Wayne County greatest yields have been obtained from seedings made in September 21-22, while those made a week later than this take second rank and those made a week earlier stand third. In central Ohio the most satisfactory date to seed is considered the latter part of September, while the first week in October may not be too late in the southern part of the State.

Select Seed Corn Now from the Standing Corn

Are you going to wait till spring to pick out seed ears for your next corn crop? Although this may be a custom, the experience of the most successful growers shows that seed selected from standing corn in the fall yields more than corn taken from the shock or crib. By fall selection the best ears growing under ordinary conditions may be chosen. By selecting seed either at husking time or from the crib, the grower picks out ears that on unusually fertile spots or often with a single plant in a hill. The Ohio Experiment Station has obtained gains in yield of more than 3 bushels per acre by selecting seed in the fall from standing corn. Circular 71, which may be obtained from the Station at Wooster, gives the points to look for in choosing seed ears in the field.

A Day's Work May Pay $25

Do you think a salary of twenty-five dollars a day would tempt you to work harder or for a longer time?

This what you may make by spending from one to five or six days selecting and caring for your seed corn. Good seed corn means at least $25 to $50 more money for the average farm next year. If every corn grower in this section would select seed corn carefully it would mean an increase of $50,000 in the community's wealth. Selection in the field may develop a variety that matures well, grows on a good stalk, and yields more grain in proportion to the total weight.

It will pay every corn grower to select his seed corn early this fall.—University Farm.

CO-OPERATIVE LIVE STOCK SHIPPING

In a recent number of THE MISSOURI FARMER we gave an account of the live stock shipping associations as operated in Minnesota and suggested that the same might be used to advantage among the live stock producers of Missouri. In the last issue of Wallaces' Farmer is a report of the operation of a co-operative live stock shipping association doing business in southwestern Iowa which shows some very favorable results for the farmers of that section.

"It was predicted from many sources that the shipping association would be a short lived affair, and that soon it would have to cease operations for lack of members. At the end of the first year, the twenty-one charter members had added more than that many more to their fold, and at the end of the second year, 130 had joined. As it has grown in membership, so has it grown and is growing in business. Now its good work includes not alone the selling of live stock, but also the buying of coal, feed, flour, salt, sugar, and other provisions, at a great saving.

"Last year the association shipped $65,590 worth of live stock, mostly to the Omaha market. This included nine cars of beef cattle and forty-five cars of hogs. For the 233 head of cattle, which averaged 801 pounds, the members received a total of $11,019, and for the 2,962 head of hogs, which averaged 283 pounds each, they received $54,302. The cattle brought an average price of $6.31 per cwt., and the hogs $7.03 per cwt. The actual shipping expense for the cattle amounted to approximately 31 cents per cwt., while that for the hogs was two cents per cwt. less. The shipping expense did not include any scalper's or buyer's profits, but simply the actual freight and cost in getting the stock to the buyers' hands in the big markets.

"Members get just what their stock brings, less the actual expense in handling it. When the market is fluctuating, the association may receive less than the price paid by the local men at a certain time. This has happened more or less frequently, but on the average the association gets the most. An experience of one of the members who joined not so much because of the advantages of co-operation as because of the higher prices generally received by its members, shows the worth of continuous support. The association guarantees no certain price, but simply pays the net amount received. A local buyer had tried to buy this member's stock at a certain figure, but he let it go with the association. While the car was on its way to Omaha, prices took one of those sudden slumps, and the member got less than he had been offered by the local buyer. This point was used as an argument the next time the member had stock to ship, and he let the buyer have it. The association also shipped at the same time, and members who had stock in received 60 cents per cwt. more than the local buyer paid. As the member mentioned had 17,000 pounds in the shipment, he lost more than $100 by letting an outsider handle his stock. Since that experience, he has not inquired about local prices.

"Success in selling live stock for which the association was primarily organized, led to the co-operative buying of provisions. Last year the members saved $1.50 a ton on six cars of coal, and they saved about 35 cents per cwt. on 40,000 pounds of oil meal; and 70 cents per cwt. on 85,000 pounds of flour. They also bought two cars of salt at a considerable saving, and recently they unloaded a car of sugar, saving nearly two cents a pound on 85,000 pounds. With the latter, a lucky buy was made before a big advance.

"The association was organized for a period of ten years. Any person making use of the shipping facilities is eligible, after paying a membership fee of $5, plus any amount per member in the treasury at the time application is made. It has the usual officers, a president, vice-president, secretary, manager, and board of directors, all elected at an annual meeting in February of each year. The manager acts as treasurer. The constitution allows him $5 a day for the actual time devoted to the work, this being one of the expense items deducted from each shipment. The board of directors includes the four officers and four members, officers holding the same position on the board that they do in the association.

"When a member wants to ship stock, he makes a report to the manager, stating the kind of stock, the number of head, the estimated weight and the time it will be ready. As soon as enough have been reported for a car, the manager orders the car and sends notice of its arrival to each member who has listed stock. The manager has to receive and weigh the stock, mark and load it, accompany it to market and direct the sale. After it has been sold, a statement is sent to each shipper, together with a check for the net amount due after actual shipping expenses have been deducted. The manager is required to keep a very accurate record of all business done, and to keep on file all papers pertaining to the association's business. These are open for inspection by any member at all times.

"A protection fund insures members against loss while the stock is in transit. If stock is delivered in healthy condition, and is injured or killed while in the hands of the association, the member owning the stock gets full value. The fund is raised by deducting seven cents on every hundred pounds of hogs or sheep shipped, and six cents on every hundred pounds of cattle shipped. This fund also is used for meeting expenses. Many members who formerly shipped their own stock on consignment, now ship through the association simply to be protected. The loss of one steer or a few head of hogs would be a big item out of a shipment by an individual, but when divided co-operatively it does not amount to very much."

PLEASURES AND PURPOSES OF PORCHES

In this day and age of the world the edict of the physician is for people to keep well they must sleep and live as much as possible in the open air. But how are we to do this? "Porches!" he answers. This out door living has revolutionized the style of houses. The architect complains that we plan our porches and expect him to put a house inside of them. "Do you want to bring the outside indoors?" he sarcastically asks. Exactly! that is just what we want to do. And to bring the outside indoors is the purpose of our modern porches.

To enumerate the pleasures of porches would be near an impossibility. On a hot sultry afternoon if there is a cool place to be found it will be on the shady, vine covered veranda. There is an air of informality about the porch which we do not find in the house. Your neighbor drops down on your porch and chats a few minutes when she would not think of coming into the house. Here, too, we are brought into contact with nature, especially is this true in the country, where for miles around we see, as the poet says "God's own handiwork and are better for the seeing."

But the style of porches has not always been the same as it is today. In fact many of us, myself for instance, have only to look at our own houses to tell that this is true. But let us go back to the time of our grandmother. If we were to arrive at her home some hot afternoon, it must be afternoon of course for they never thought of using the front porch in the morning, we might find her and her daughters sitting primly in a row, the chairs had to be in a row for the porch was too narrow to allow any other arrangement. They are dressed in their best and have the company sewing. To bring the mending basket out here would have scandalized the neighbors. We pass on around to the back porch. This is a queer looking affair, looking much like an overstocked store room. "But where do you sit out here we ask?" She holds up her hands in horror as she informs us that this porch is to be used for service and not pleasure. That it might be enjoyed as well as used has never occurred to her.

We look about for a sleeping porch, then we remember that she counts night air dangerous if not poisonous. We think what with our modern ideas we would like to do to these porches. Starting with the front porch, of course, how much better it would be if this porch had grown wide as well as long, for we know that a large porch gives appearance of hospitality. But we are not going to give up because of this. We know we must have a screen to protect the porch from the glare of the sun, also to give an air of seclusion which is very necessary especially if your porch is facing the road. Nothing can be better than nature itself so we plant a rambler rose or some hardy vine. But we want to use our porch right away so we also put in some quick growing vine such as the common morning glory, put up a few strings and lo! in a few weeks we have a screen of nature's own design. We bring out several easy chairs, and if our porch is large enough we put up a hammock and here we have a place that looks cool and inviting on the warmest day.

At the back porch we plant vines as we did in front, for we are going to enjoy it as well as use this place. We bring a chair out and here the busy housewife sits and prepares her vegetables and does other work. She will be surprised to find out how many things she can do out here just as well as in her kitchen by the hot stove. The time taken up in bringing her work out on the porch will be more than made up by the extra vigor gained by the fresh air.

Then last but not least comes the sleeping porch. We learn that the latest idea in that line is the roofless porch. Here we are lucky that the style of porches a few years back had flat tops. Any one with the least knack of carpentry can erect a low railing about this but even this is not absolutely necessary as I myself proved last summer. After a few nights passed in such a place you will not think of sleeping indoors.

So I think that if we try these plans we will find that the physician has added much to our pleasure as well as health when he ordered us to build porches.—Paper read by Mrs. Gertie Holland-Williams before the Rural Home Improvement Club near Montrose, Mo.

OUR BOYS AND GIRLS

We hope to begin another story in the near future that will interest the boys and girls who read THE MISSOURI FARMER but in the mean time if our young readers will write us some nice letters and stories we can keep up the interest until the story begins.

THE MAN WHO WINS

The man who wins is an average man,
Not built on any peculiar plan,
Not blessed with any peculiar luck,
Just steady and earnest and full of pluck.

When asked a question he does not "guess,"
He knows, and answers "No" or "Yes,"
When set a task that the rest can't do,
He buckles down till he's put it through.

So he works and waits, till one fine day,
There's a better job with bigger pay;
And the men who shirked whenever they could
Are bossed by the man whose work made good.
—Selected.

Lives in Town but Reads The Farmer

Dear Editor:

A friend sends THE MISSOURI FARMER to daddy and I am always anxious for it to come so I can read the letters from the boys and girls, I read the story "David Dunne" and think it was fine and hope you will print another as good. I live in town but like to read THE FARMER. I am eleven years old and am in the seventh grade at school.

Luella Strickler.

Jud is not All Bad

Dear Editor:

I notice that most of the boys and girls who write for THE MISSOURI FARMER say they like all the characters in "David Dunne" except Jud. Now I do not think Jud is all bad—he just can't resist temptation but there are a lot of other people who can not always resist the Tempter. I think Carey suits David and I hope David will find a man for Miss Rhody.

I hope to become a teacher some day and teach the poor in the city.

Mr. Editor my name is the same as David's sweetheart but it is spelled differently. You ask how we help our parents? My mother has been dead three years and I keep house for my father and little sisters and brothers. I think THE MISSOURI FARMER a fine paper. Carrie.

Likes Good Reading

Dear Editor:

I am only 12 years old and am in the seventh grade at school. We have been taking THE MISSOURI FARMER only a short time but we like it because of the good reading matter it contains. The story "David Dunne" was very interesting and I hope you will soon start another as good.

Mary L.

Mina Raises Ducks

Dear Editor:

I am interested in the boys and girls letters and thought I would write. It is soon time to start to school again. I am only 9 years old and I have 2 miles to go and have to go alone, for there are no little boys or girls to go my way. I am in the fifth grade but hope to soon gain the sixth.

I did not go to school the spring term but stayed at home and helped mamma to raise chickens.

One of my friends gave me 9 duck eggs and I set them under a hen and she hatched 7 little ducks, 3 white and 4 dark ones. I weighed one and it weighed 3 pounds.

I am sorry the story has ended and hope we may soon have another good one. Mina Butler.

Recipe for Canning Corn

Sweet corn should be canned the same day that it is picked. After removing the husks and silk, blanch the corn (before cutting from the cob) in boiling water from 5 to 15 minutes. Blanching is done by placing the corn in a wire basket or cheesecloth and plunging into hot water, or better still by steaming the corn. Blanching will make the texture more firm. Next plunge the corn quickly into cold water. Then cut the corn from the cob and pack tightly in jars until full. Add a level teaspoonful of salt to each quart and sufficient hot water to fill all crevices. Then put on the rubbers and tops and partially tighten the tops. Place the jars in a large wash boiler or kettle containing a false bottom. The water should come over the tops of the jars. Boil three hours. The false bottom may consist of wooden slats or any suitable material which will prevent the jars from coming in direct contact with the heated metal. After boiling, allow the water to cool partially, remove from the bath, tighten the lids, and invert to cool. If the wash boiler method is not used, boil 90 minutes in a water-seal outfit, 60 minutes under 5 pounds of steam, or 35 minutes under 20 pounds of steam. —Department of Home Economics.

Waste Grapes

Ordinary growers have little trouble in marketing the first class fruit, but lower grades,—undeveloped, shattered and straggling bunches, usually have to be marketed as a by-product. Of the many ways resorted to in the profitable utilization of this class of fruit, probably the most common are canning and the making of unfermented grape juice.

Unfermented grape juice:—On a small scale the berries may be picked from the stem and the juice pressed out by hand, while on a larger scale the entire bunch may be pressed by use of a common cider press. Do not allow the juice to feremnt. Heat nearly to boiling point and strain through fine cheese cloth, directly into bottles that have been sterilized in boiling water. Immediately cork bottles with tightly fitting corks, which should be pushed a little below the mouth of the bottle. Seal with wax or paraffin. If desired, the juice may be sweetened to taste. Where juice is pressed by hand, this can be done more easily if the grapes, with a little water, are heated sufficiently to loosen the hull.

Canning:—Select only the firm ripe fruit for canning. Pick the berries from stem, remove all trash and imperfect berries and blanch two minutes. Place fruit in cans firmly and fill with water (syrup, 2 lbs. sugra to 1 gal. water, may be used.)—U. S. Agricultural College.

VALUE OF TRAPNEST RECORDS

One of the most important problems connected with the poultry business is the selection of the profitable and unprofitable hens from the viewpoint of egg production.

Many methods have been tried in order to accomplish this, but the best method known to date is the trapnest. These nests are arranged so that when the hen enters to lay, the door closes and keeps the hen in the nest till the attendant releases her. The nests should be attended at least five times each day, which requires a great deal of time and work.

Many questions have been asked as to the value of the trapnest if used for a shorter period of time than a year. In order to answer these questions, the records of the four previous contests have been consulted, the object being to find the percent of high producing hens which can be selected from a single month's record.

The records used were of the previous contests composed of about four hundred pens containing 2000 hens. The five hens in each pen were placed in the order of their egg production at the end of one month, to see what percent of them held the same position as at the end of the year. To illustrate, the 100 hens which were the highest or first in each of 100 pens for one month, 52 were first at the end of the year, 26 were second, 13 were third, 6 were fourth, and 3 were fifth.

Of 100 hens which were first for one month 52% were first and 26% were second at the end of the year. Therefore, out of 100 hens selected by one month's record as highest producers, 78% stood first or second place at the end of the year, and out of 100 selected by one month's record as the lowest producers, 78% of them were the lowest or next to the lowest at the end of the year. Only a slight variation is found between different months. The indications are that it is better to select the high producers during the period of low egg production, and select the low producers during the period of high egg production.

Selections may be made from a six months' record in the same way as from a one month's record. The six months' record is better for selection than the one month's record.

Our results show that 92% of the hens which were in first place at the end of six months were first or second at the end of the year.

The calendar year will perhaps always be used by Agricultural Colleges, Universities, Experiment Stations, etc., but we believe that for practical purposes, the six months' record will become standard by breeders who are developing egg producing strains, while breeders who want to improve their flocks by taking out the poor producers and selecting the highest producers for a breeding pen will find the month's record valuable.

This test should be used only with hens the same age and kept under the same conditions. Some of the advantages of the six months' record are: By using the first six months of the year, we get the records during part of the winter, all of the spring, and part of the summer. During the spring season pedigreeing can be done if desired. Approximately two eggs are laid during the six months for each egg laid during the last six months, making the relative cost less. Then, too, the good hens can be rested during the last six months of the year, carried through the moult and put in good condition for the breeding yards the next spring. The low producers can be sold instead of feeding them through the period of low egg production.—C. P. Patterson, Mountain Grove.

THE MISSOURI FARMER has made arrangements with several Fertilizer manufacturers to supply fertilizers at the wholesale-price in car load shipments to Farm Clubs and also to those of our readers who succeed in making up a neighborhood order. This will affect quite a saving and those interested should therefore get in immediate touch with us.

By Old Jim Riley

There are some mighty queer things goin' on in this Country these days. On th' one hand Congress lets th' resolution to investigate th' Packers Combine die in th' Committee to which it was referred weeks ago—and there are nearly seven million farmers interested in it. On th' other hand, a few hundred thousand trainmen who want millions of dollars in extra wages make this same Congress eat out of th' holler of their hands. But maybe it won't always be like this. Maybe some day th' farmers will have sense enough to organize too—and if they ever do, Mr. Samuel Gompers will be mighty small pertaters.

BUCKSHOT BY THE PROFESSOR

Sour faces beget sour stomachs.

* * *

There is no greater coward in this World than the man who is unkind to his wife and children.

* * *

Keep your "weather eye" peeled for the fellow who insists that everybody else is crooked. He is no exception to his own philosophy.

* * *

So long as the "Love Lamp" shines brightly in the home, it doesn't matter so much how humble it is or how heavily the mortgage weighs upon it.

* * *

If the average man performed half as well or as much as he talks there would be mighty little "unfinished business" in the average community.

* * *

There is just as much sense in canning silage as there is in canning tomatoes. You can tomatoes because that is the only way to have any to eat in winter. You put silage in a silo for the same reason.

* * *

Just because some preacher hears the "call of the wild" and cuts a lot of monkey shines doesn't make me lose faith in religion or weaken my respect for the church—for neither religion nor the church can help it.

* * *

There are a pile of fellows writing editorials for the newspapers on the great public questions of the day who ought to be serving on a city council. You don't need any real information or brains to do the latter.

* * *

Hogs get their reputation for being dirty from the fellows who own them. A hog likes clean water to drink and a desent place to eat and sleep in as much as anybody—but usually the fellow on the outside of the pen doesn't know it.

* * *

I heard of a little Farm Club the other day which invites in the women folks once every month. They bring a lot of baskets full of good things to eat and put on a supper "fit for a king." Then everybody joins in singing some of the good old time hymns. Some of the men make little talks—and the evening is one of keen enjoyment for everybody in the neighborhood. Already plans are on foot to build a rural high school and make it the "Community Center." This little organization is putting real joy into farm life—and what I want to know is why can't every neighborhood in the state follow suit?

* * *

Some men live to eat three meals a day, work a little in between times and spend the balance of the day grumbling and kicking the dog around. Others live for their loved ones and to make the community better than they found it.

* * *

If you want to exercise real influence over that boy of yours, treat him kindly and enter into the things that interest him. Some fathers watch over a mule colt more carefully than they do over their boys—and then if, in the after years, the boy goes wrong they wonder how it happened.

* * *

I know the women folks chatter like a lot of geese—that they dearly love to gossip—that they won't know what to do with the ballot after they get it—and yet, they are so much sweeter and better and more tender and human than the average scowling, growling tobacco chewing animal called a man that I am for 'em first, last and all the time.

* * *

One reason why the farmer is always told to "throw his money in over the transom" is because he hasn't got sense enough—(anyway he don't do it)—to get up on his haunches and send a few big, brainy farmers to Congress. And this will continue to be the case so long as we keep on electing a bunch of long haired, fog horn voiced lawyers to represent us at Washington.

* * *

THE MISSOURI FARMER can save the farmers of hundreds of communities in Missouri nearly or more than a dollar per ton on your next winters coal supply by putting you in position to order it direct from the mines in Illinois at the wholesale price. It is also getting ready to supply its readers who will have to buy corn direct from the Farmers Elevators in Nebraska and Iowa, and thus save them a lot of money in needless commissions to middlemen. But it can't do these things for you and your neighbors unless you have gumption enough to organize a school house Farm Club. The thing to do is to get busy.

If you and your neighbors will get together at once and organize a school district Farm Club THE MISSOURI FARMER will help you to save a lot of money on your next winters coal bill by putting you in position where you can order it direct from the Illinois mines at the wholesale price. We can save several thousand dollars to the farmers of any county where there are no local mines. Talk it over with your neighbors and write us immediately.

It looks now as though Nebraska, Iowa and Northern Illinois are the only sections of the Corn Belt which will produce a big corn crop. THE MISSOURI FARMER expects to perfect arrangements with the Farmers Elevator Co.'s located in these sections to ship corn direct to those of our readers who will have to buy. This will save the money which usually goes to the Commission firms and local feed dealers. If you and your neighbors are going to have to buy corn next winter you ought to organize a school district Farm Club at once—for in this way it will be much easier to handle the matter in a business way.

SPOTTED POLAND-CHINAS!

All Spring Pigs Reserved for Fall Sale, October 18, 1916.

Thirty-five head will be sold and they are of the big boned, big type, spotted kind. Ask for catalog.

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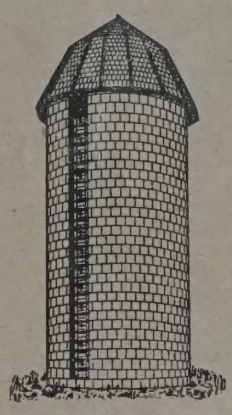

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Live Stock Notes

R. P. ROYCE, Fieldman

Whiteford's Herefords

The herd of Hereford cattle owned by Hugh Whiteford, Guilford, Mo., is conceded by all to be among the really good herds of Missouri. In point of bloodlines, individuality and quality few equal this collection. Just now Mr. Whiteford offers two extra good long yearling bulls at prices that make them unusually attractive. One of these youngsters is sired by Parsifal 26th, a bull selected by John Goslin to head a Texas herd, and is out of the great cow Mapleton Queen. For our readers benefit, we want to say that Mr. Whiteford has an unusually high class lot of cows and that Mapleton Queen is one of his best matrons. The other bull is no less well bred, being sired by Parsifal 24th, a bull that his present owner has refused $1500 for on several occasions. The dam of the second bull offered for sale is by Imported Kenswick. Incidentally, it should be interest to know that this Kenswick cow was the dam of a cow that sold for $775 in the recent Blue Ribbon sale at Kansas City. Both of these bulls should make splendid herd bulls, and in view of their superior breeding and individuality can be bought at very reasonable prices.

Thomson's Durocs

With this issue, our old friends, W. H. & Geo. E. Thomson, Columbia, Mo., come before our readers with a very attractive lot of big, early spring Duroc boars. This herd is so well known to our readers ana has been patronized so extensively by them that it is hardly necessary that we say very much about it. The boars now in offer are by Col. Wonder II, and T's Cherry Chief—boars that are above criticism in every way. The dams of the boars are among the best in the Thomson herd. Our readers can at all times depend on getting a fair deal with this firm and we are glad to commend them to our readers who are in the market for dependable Durocs.

Moss & Son's Holsteins

Our readers who are in the market for grade Holsteins should look up the advertisement of D. D. Moss and Son, Columbia, Mo. Messrs. Moss are offering a number of high grade bull calves—sired by their splendidly bred bull Campus Josephine Lad and out of some of their highest producing cows. They also offer a yearling bull, well marked, well grown, sired by the above bull. This youngster is eligible to registry.

Besides the above stock the Moss' have two high grade stripper cows for sale. These cows are good producers and sell bred to Campus Josephine Lad, a son of the great producing cow, Pontiac Gerben Dekol, and a grandson of Missouri Chief Josephine.

Milk-fed Polands

Elsewhere in this issue, J. B. Smith, the well known Jersey cattle breeder of Platte City, Mo., is offering a choice lot of early spring Poland China boars. These boars are of strictly big type breeding, and have been raised on Jersey milk, so naturally, our readers will know that they have done well and are growthy.

Mr. Smith advises us that he is very anxious to despose of these boars and accordingly is putting the price down to move them. Mr. Smith is a high class breeder of live stock and our readers will do well to place their orders with him for Jerseys or Polands. Kindly mention this paper when writing.

PASTURING NOT ALWAYS PROFITABLE

One of the most common mistakes in the feeding of dairy cows on the farm is that the good cows are not given a sufficient quantity of feed above that required for their physical maintenance to obtain the maximum quantity of milk they are capable of producing. Successful feeding of dairy cows involves the providing of an abundant supply of palatable, nutritious feed at a minimum cost and feeding in such a way as to receive the largest milk production from the feed consumed. Feeding for profit is defined as liberal feeding, or feeding to the full capacity of the cow, in a new Farmers' Bulletin of the department, No. 743, The Feeding of Dairy Cows, which discusses many of the factors involved in economical feeding.

From the standpoint of economical milk production, a dairy cow generally sould be fed more than she will consume without gaining in weight. There are times, however, according to the bulletin, when it is desirable to make exceptions to this rule. Practically all heavy milk producers lose weight in the early part of their lactation period; that is, they produce milk at the expense of their body flesh. When such cows approach the end of their milking period they normally regain the flesh they have lost, and the farmer can well afford to feed them liberally, with the assurance that he will be repaid in the form of milk when the cows again freshen.

Pasture is the natural feed for cows, and for average conditions, with ample pasture of good grasses or legumes in good, succulent condition, good production can be secured.

The cost of land is a factor in the economy of using pasture, however. If pastures are depended upon entirely for from four to six months of the year, and production is kept up to a profitable standard, anywhere from 1 to 4 acres or more must be provided for each cow, says the bulletin. This is assuming that a permanent pasture is of good, clean turf, with few or no waste places, or that a temporary pasture has a good stand of grass or legumes throughout. Land that will provide such pastures frequently is high priced. The following tables show the cost of pasturing a cow on land ranging from $25 to $200 an acre.

Interest on cost of pasture per cow for the season; interest at 6 per cent on the value of the land, allowing from 1 to 4 acres per cow.

Acres per cow.	Value of land per acre.				
	$25	$50	$100	$150	$200
1	$1.50	$3.00	$6.00	$9.00	$12.00
1½	2.25	4.50	9.00	13.50	18.00
2	3.00	6.00	12.00	18.00	24.00
2½	3.75	7.50	15.00	22.50	30.00
3	4.50	9.00	18.00	27.00	36.00
3½	5.25	10.50	21.00	31.50	42.00
4	6.00	12.00	24.00	36.00	48.00

Cost of pasture per cow per day on basis of preceding table with a pasture season of 150 days.

Acres per cow.	Value of land per acre.				
	$25	$50	$100	$150	$200
	Cents.	Cents.	Cents.	Cents.	Cents
1	1	2	4	6	8
1½	1½	3	6	9	12
2	2	4	8	12	16
2½	2½	5	10	15	20
3	3	6	12	18	24
3½	3½	7	14	21	28
4	4	8	16	24	32

Where the value of land is so high that the cost of pasturing is excessive, or where the land may be more profitably used for growing crops, other methods of summer feeding are more profitable. It is stated that in some sections for average production a cow can be fed on dry feed for 20 cents a day, and when the cost of pasturing exceeds that amount some other method of feeding should be considered.

Grain should be fed to heavy producing cows under all pasture conditions, says the bulletin. The following table is furnished as a guide to feeding grain with an abudant pasture. Variations should be made to suit different conditions and individual cows.

Jersey cow.		Holstein-Friesian or ayrshire cow	
Daily milk production (pounds)	Pounds of grain	Daily milk production (pounds)	Pounds of grain
20.....	3	25.....	3
25.....	4	30.....	5
30.....	6	35.....	7
35.....	8	40.....	9
40.....	10	50.....	10

Grain fed to cows on pasture need not contain the same percentage of protein as for winter feeding. Pasture being an approximately balanced ration, the grain ration should have about the same proportion of protein to other nutrients. The following mixtures are suggested for supplementing pasure without other roughage:

Mixture No. 1 (per cent digestible protein, 10.3):	Pounds
Ground oats	100
Wheat bran	100
Corn meal	50
Mixture No. 2 (per cent digestible protein, 12.7):	Pounds
Wheat bran	100
Corn meal	100
Cottonseed meal	25
Mixture No. 3 (per cent digestible protein, 15.5):	Pounds
Corn-and-cob meal	250
Cottonseed meal	100
Mixture No. 4 (per cent digestible protein, 13.6):	Pounds
Wheat bran	100
Gluten feed	50
Corn meal	50

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ISOM J. MARTIN, - Kahoka, Mo.

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pasture without a falling off in milk, soiling crops are growing in favor. For this purpose second-growth red clover, alfalfa, oats, or peas are excellent. Corn is also available in August and September. What may be a disadvantage in the use of soiling crops is the extra labor required to cut and haul these crops from day to day, especially if field work is pressing.

On high-pricedl and, where the problem is to produce a sufficient quantity of roughage, or if the cost of pasturing is excessive, the summer silo may be used to advantage. An acre of corn in the form of silage will provide succulent roughage for several cows for a season. During periods of drought, when both pastures and soiling crops fail, a silo filled with well-matured silage grown the previous year is most valuable.

In planning a summer silo it should be kept in mind that its diameter should be in relation to the number of cows fed daily. As a general rule under summer conditions a cow will consume about 20 pounds of silage. Silage enough must be removed daily to prevent excessive surface fermentation. On this basis a summer silo for 20 cows should be 8 feet in diameter; for 30 cows, 10 feet; and for 40 cows, 12 feet. As 8 feet is about the minimum diameter of a silo for best results, a summer silo is most applicable in herds of 20 or more cows.—News Letter.

CATTLE FEEDING LESSONS FROM MISSOURI STATION TESTS

Steers that are full-fed from birth should not be held beyond 20 or 22 months of age because there is a decided falling off in the rate of gain. After this age the carcasses are overdone, there is an undue waste of excess fat and the gain in weight in proportion to feed consumed is much reduced as well as the gain per day per steer. These are the results secured in a recent test at the Missouri Agricultural Experiment Station in which some steers were full-fed while others received much less feed.

The steers which received feed insufficient for the greatest growth were most affected by such ailments as indigestion and pink eye, and their sickness was more likely to result in death. In fact, among more than a hundred steers in the experiments, all the losses except one were among the low-fed animals.

Steers fed for long periods such as three years and a half on feed insufficient for the greatest growth, did not seem to be able to digest their feed and to make good gains when later put on full feed. Even a steer whose growth was greatly retarded for only one year never equaled in weight a steer of the same age which had been full-fed from birth, although when put back on full feed he made very profitable gains and developed a very choice carcass of beef. These results do not disagree with the common observation that thin steers often make the most profitable gains. Such feeders have usually not been starved so long or so steadily. They have usually had bulky feed which kept up the stomach capacity even though it didn't furnish a great deal of nourishment and were very likely to have at least occasional large quantities of good nutritious feed while the steers in the test were kept regularly on small quantities of food for long periods so that they seemed to lose the capacity to eat and digest as large quantities as they must hadle to make the most profitable gains.

Thrifty yearlings put on feed that is not sufficient, even to keep up the body weight they already have, continue to grow in height and framework even when made to lose half a pound a day. Measurements of the skeletons did not indicate any decrease in the rate of growth for several months. Even when these animals were using the body fat to supplement the lack of feed there was a very noticeable addition of fat in the skeleton. Only when approximately all the fat was taken from the soft parts did the animals begin to draw on the fat in the skeleton to maintain existence.

The most economical choice beef resulted from the use of a feeder weighing about 750 pounds so fed as to make a gain of 500 pounds. Such a steer will probably not quite top the market but he should make the greatest possible profit to the feeder and furnish an economical carcass for the butcher and housewife and meat of a quality to please the most exacting. The carcasses show that of this 500-pound gain; 38 per cent is water, 49 per cent fat, and 12 per cent protein. When similar steers were fattened until they had gained another 500 pounds or gone from 1250 pounds to 1750 pounds, the carcasses were much overdone and the second 500 pounds was 76 per cent fat, 18 per cent water, and 5 per cent protein.—P. F. Trowbridge, Missouri Agricultural Experiment Station.

Bankers Aid Cattle Industry

The part that banks can play in promoting the local cattle industry is illustrated by the action taken recently by a group of southern bankers. A few farmers in Gibson County, Tenn., started a movement looking toward diversification of crops by raising less cotton and increasing the number and quality of cattle. The movement was encouraged by the beef-cattle extension agents of the State college and the United States Department of Agriculture. All the banks in the county grew interested, and as soon as the group was ready for buying a car of pure-bred cattle the bankers agreed to lend up to $15,000 to defray the cost.

Sixty-five head, including bulls, bred heifers, and cows with calves at foot, were delivered in the county, all in good condition, at an average cost of $150 per head, exclusive of the calves. These were distributed to individual farmers, not more than three head going to any farm. The owners than either paid for the cattle or gave long-time notes at reduced interest to the banks. One bank acted as agent in the transaction for all the banks in the county.

The bankers figured that by helping the farmers to buy a large number of pure-bred cattle they not only would get interest on safe loans but would foster an industry the beefits of which would be accumulative and permanent in the locality. This is borne out by frequent experiments which have established that even a few good bulls introduced in a county soon have a marked influence on the size and quality of all local cattle.

Dairy Sires Should Not Be Sold When Young

Can a bull be worth nearly $3,000 in one year in a dairy herd? The animal may be worth this much or even more, according to figures given by Prof. C. C. Hayden in the July Monthly Bulletin of the Ohio Experiment Station.

He shows that in the Station herd one bull produced daughters averaging 153 pounds more butterfat annually than their dams. If 10 daughters produced milk for six years, the total production of this sire would be worth $2,750 more than that of a bull that produced no increase, if butterfat is worth 30 cents a pound.

Since the value of the bull can be determined only by the milk and butter yields of his daughters, farmers are advised not to sell the dairy sire until is daughters have been tested. Buyers should not discriminate against an old bull if he has some high-producing daughters, for his value cannot be determined until he is at least four years old.

Meet the Market Demands

We must study the market demands carefully and select good sires of the types that will enable us to meet them. If we find that the butcher or packer likes an animal of extreme beef type because that animal yields a high percentage of the high-priced cuts, the sires must be selected accordingly. If we find that the horse buyer takes the big, drafty, sound horse in preference to the chunk when his order calls for horses for heavy work, we must secure sires that will get colts of that type. If we ship or sell to a market which demands bacon hogs, then the boar should be the best obtainable individual of a bacon breed which is in good demand in that market.

In any case we must strive to produce only the best animals and to be sure that they are uniformly good and that there are among them no misfits or inferior specimens which do not meet the consumers' needs.—S. T. Simpson, Missouri College of Agriculture.

Lime Causes Increase in Crop Yields

As an average of 10 crops of wheat in the five-year rotation at the Ohio Experiment Station, an expenditure of $5 for lime once in the rotation has resulted in an average gain of $16.47 an acre for all five crops, according to results reported in Bulletin 298 on Wheat Experiments just published by the Experiment Station at Wooster. From one to two tons of ground limestone is applied per acre in the spring to the corn crop.

Liming has returned 302 percent on the investment where nitrogen in complete fertilizer was carried in nitrate of soda. It has returned 261 percent when used with manure, and 234 percent in connection with acid phosphate alone, and has even paid when used with basic slag. On the Wooster soil liming has always been necessary regardless of any fertilizer treatment.

Filling the Silo

Where corn is injured by the drouth it should be allowed to stand as long as there is any hope at all of its getting rain to complete its growth. If it begins to die it should be put in the silo, as by this means what feed value it contains will be saved. If it cannot be put into the silo just then it may be shocked and put in later, as tests at the Missouri Agricultural Experiment Station have shown that shock corn makes good silage. Of course, it is not as good as that made at the usual time.

When filling the silo, remember that silage spoils if too dry or the air is not expelled by thorough tramping. The tendency of late years has been to put corn in the silo too dry. It should be moist enough to wet the feet of the men who tramp it. If too dry, add water by running it into the blower. At least two men are needed to tramp the silage at filling.

Special attention should be given to packing well around the edges. If the walls of the silo are not in good condition repairs should be made to keep out the air. If the doors do not fit well a good plan is to place a piece of tarred paper over the door on the inside allowing it to extend about two feet on each side.—C. H. Eckles.

"Knock-out Drops" for Moles

Moles are very active at this time of the year, and are a great pest to the roots of plants in the garden and field. Where they become too troublesome, they may be easily controlled through their weakness for good things to eat. Moles generally pass through their runs several times a day. The following methods have been found very effective in their control.

1. Stir unparched peanuts in the white of an egg and while still sticky sprinkle them with Paris Green. Mix well so that the poison surrounds all the seed, then let them dry. They will dry in about half an hour and can be easily handled. See below how to apply.

2. Roll raisins in strychnine with a stick or tooth pick. Do not use the hands and be sure not to spill any of the poison. When you are through, burn all the remaining poison so that children may not get it in their mouths. Strychnine is a violent poison.

How to Apply

Whittle a broom handle to a point. Walk along the runway and pierce it at intervals with the sharpened stick. Drop a poisoned peanut or raisin into the hole thus made and cover the hole with the foot. When Mr. Mole comes along he will eat the poisoned goody. Result, good-bye, Mr. Mole.—Clemson Agricultural College.

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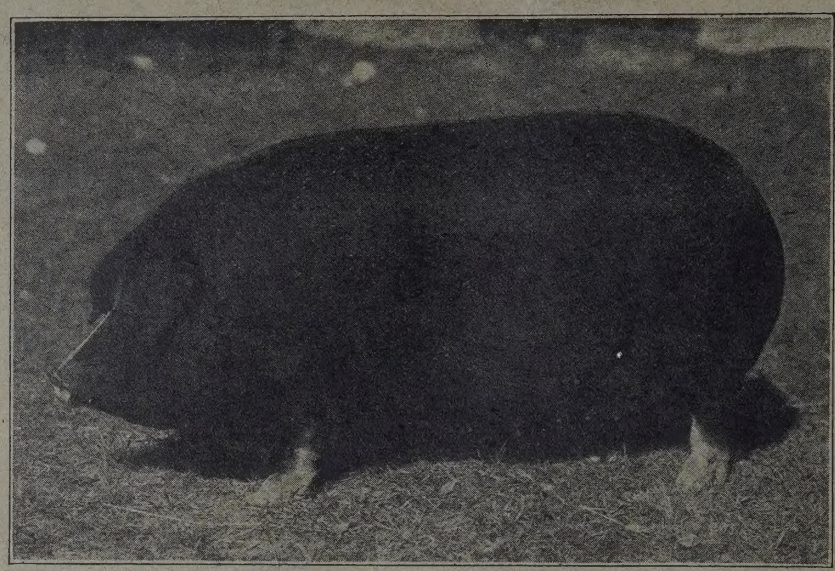

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SEVERAL WEEKS ago we announced that we would present a fine bred gilt to every farmer boy who sends us $50.00 worth of subscriptions to THE MISSOURI FARMER between the time the announcement was made and November 1st—and we have never made an offer which has aroused more interest and dozens of bright farmer boys are already at work, while fresh inquiries are coming in on every mail. This offer is open to any farmer boy in the state and all you have to do is to get 50 farmers in your neighborhood to give you a dollar each for three years subscription to THE MISSOURI FARMER when we will ship you a bred gilt selected from among the best pure bred herds in the state. You can select either a Duroc, Poland China, Berkshire, Chester White or Hampshire gilt—whichever breed you like best and between now and November 1st I want

ONE THOUSAND MISSOURI FARMER BOYS

to **make good** on this great offer. If you take good care of the gilt and her litter of pigs they will start you in the pure bred hog business and enable you to make a lot of money. You can go "halvers" with your Father in the profits—or maybe he will let you keep them all and soon you will have a nice bank account which will enable you to pay your way through College later on or build up a "nest egg" with which to buy a farm of your own some day. Now I am mighty serious about this proposition. The farmer boys of today will be the farmers of tomorrow. Upon their shoulders will rest the responsibility of citizenship—and therefore the sooner you have definite aims in life the better for yourself and for the great Country of which you are a part and which has a right to expect you **to become a real man and play a man's part in the World's work.** That's why I want you pitch in and win one of these fine gilts—for it will give you a greater interest in your Father's farm **and teach you how to become a business man in your own right.** Now just think how fine it would be to have a bank account **of your own** so that when you want to buy something which will add to your happiness you will not have to ask someone else for the money!

Get Busy at Once: Now think this proposition over carefully. Talk it over with your Father—then if he is willing for you to win one of these fine pure bred gilts—which I am sure he will be—write me at once for a bunch of samplecopies and subscription receipts—**and then pull off your coat, grit your teeth, and go in to win!** No doubt you can sit down right now and think of 25 farmers who will be glad to give you a dollar for three years subscription to a fine paper like THE MISSOURI FARMER—and with a good stiff fight during the next three months you can easily round up the balance. Go to every one of your neighbors and show them a sample copy of the paper. Tell them that it is the **best farm paper in Missouri!**—that its Managing Editor is Geo. B. Ellis who for years was Secretary of the Missouri State Board of Agriculture and who understands Missouri farm problems and conditions better than any man living—that it is their **home farm paper** and that they ought to read it in preference to farm papers published outside the state which do not understand Missouri farm conditions first hand—**and then tell them that you want them to help you win one of these fine gilts—and seven out of ten will do so gladly because everybody is anxious to help a boy who is a hustler!** Don't forget this last point, for it is the truth. That is where we got the splendid adage that the "Lord helps those who help themselves." Now make up your mind right away and write me **before some other boy gets your territory!** The boy who writes first gets the first chance in his neighborhood—**so fill out the blank below and mail it today!**

To Our Subscribers: If there is a boy in your family please call his attention to this splendid offer. If there is not, then I will take it as a great personal favor if you will bring this to the attention of some bright farmer boy in your neighborhood. It is a chance to do good.

WILLIAM HIRTH, Publisher,

THE MISSOURI FARMER

COLUMBIA, MISSOURI

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Name .....

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"Unto the End"

Some weeks ago, they laid James Whitcomb Riley to rest over in Indiana and not since the death of Mark Twain has an event called forth so many tender expressions in the editorial columns of the Nation's newspapers and magazines. And the Hoosier Poet richly deserved every kindly thing that has been said of him for he made the World a better place in which to live. He taught us once more that the lowly and commonplace things are, after all, the most beautiful and the most worth while—and because the most of us are lowly and commonplace we loved him for it. Even as he great painter Millet made us realize the devotion of the peasant as he bows his head to the Angelus and the dignity of the Gleaner, so Riley led us to a realization of the true beauty of the autumn days "When the frost is on the pumpkin and the fodder's in the shock"—and caused a lump to rise in our throats as we read the old man's admonition, "Good bye Jim, take keer of yourself."

"But, in reviewing the life and sayings of this Shepherd of the Lowly, most writers dwelt longest and oftenest on his poem, "That Old Sweetheart of Mine"—a beautiful expression of sentiment as pure and fresh as the water that ripples forth from a mountain spring and a classic which generations yet unborn will read with moist eyes and softened hearts and be the better for it. And may not those of us who are still in the midst of the struggle out in the highways and byways of life draw inspiration from its sweet tenderness—for, after all, is not love the holiest and purest thing that can enter the breasts of men and women in their march from the cradle to the grave? And thus I pause to ask of you, my friend, how about that "Old Sweetheart" of yours whom a kindly fate has spared and who is sharing life's trials and joys by your side at this very hour? Do you still regard her as your sweetheart as in the blessed days of old when her cheeks were red, and when, like a gallant knight, you swore to cherish her to the end—or has the struggle left your heart cold and hard and have you come to regard her merely as a wife whose duty it is to cook and scrub and look after your children?

Down deep in the recesses of your heart I have no doubt the old tenderness still linger. But, in the harshness of the conflict too many of us permit the better and kindlier sentiments of our hearts to become calloused and hidden from view—and hence the flame grows weaker and weaker. Because time and toil have driven the roses from her cheeks and because there are streaks of gray amid the fluffy hair of yesterday does not mean that she is less responsive to a tender embrace than during the old sweetheart days—for it is upon these things that a woman's heart feeds and lives and blossoms like a flower. Perhaps you have given her a good home and perhaps, too, you try to save her as much drudgery as possible—and yet this is not enough, for a good woman can be happy amid poverty and hardship if the love lamp burns brightly while she will be miserable in a mansion if the affection for which her heart hungers, is denied her.

And even so, there is something wrong in the makeup of the man who regards this manifestation of affection as beneath his dignity—for let me impress upon you that all the gold and fame and power in the World are still as mere chaff when weighed in the balance against the priceless treasure of love which has been the reigning impulse of humanity since the morning stars first sang together for joy and without which life would be as barren as a waste of desert sands. And what more beautiful picture than a pair of old sweethearts in whose eyes the love light still shines—who meet life's joys and trials hand in hand—who wander through the vales and valleys with a smile that never entirely leaves their faces—who approach the sunset with hearts more closely entwined than in the golden days of the long ago when first they plighted their love and promised to cherish and obey "unto the end?"

—By the Author of After-Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VIII SEPTEMBER 15, 1916 NO. 18

WILLIAM HIRTH
PUBLISHER

LYONS PRACTICAL FARM PAPERS

Well, I passed the sixty year mark with nothing especially startling to report, unless it might be the advent of three grandsons, all within a few days of my own birthday, one in Missouri, one in Illinois, and one a few miles from home. I am feeling so much better than I did a few weeks ago, and took a good hearty laugh at Sam Jordan's expense with chiggers and bumble bees, the Professors Buckshots, and even at Jim Riley.

During the past few days I have been cutting weeds in the young orchard, hoeing strawberries and late beans, and pulling weeds in the sweet potatoes.

I set about 1000 sweet potato plants this spring, and our first mess was on the table August 20.

As a coincidence, wife, who was spending a week with our daughter and new grandson, says that on that day they had their last mess of 1915 sweet potatoes, sound sweet and well flavored.

This will be in the homes of our readers near sweet potato digging time, and I want to give our method of keeping them the year through.

We use the utmost care in digging so as not to bruise the potatoes, and if possible try to get the entire hill out with the tubers clinging to the vine. They are allowed to dry well, and are carefully moved to a cool room, in smokehouse or barn, placed in a conical heap, covered so as to keep out the light, and left until frost threatens.

At this time, usually about October 20, they are sorted over, carried to a dry room in the house, near a flue, and where frost never penetrates, and are boxed to keep over winter.

The bottom of the box is covered with two or three layers of paper, a layer of potatoes placed on this, then a layer of paper and a layer of potatoes until the box is full, covering with paper and old carpet.

We used to wrap each potato separately, but some four or five years ago found that this was not necessary, we also find that almost any cellar is too damp to keep them well, and a chill, at near the frost point, will cause them to rot.

Some people say that they must be extra well matured in order to keep, but a sweet patoto never matures in the latitude of Ohio or Missouri, and it is also urged that they be perfectly dry, when dug, but in 1914 ours were dug in the rain and looked like balls of mud, but they dried out in the barn, and we never had them keep better.

We put down five or six bushels every fall, and nearly always have them until May, or I would better say, until they are eaten up, for we have never lost a dozen by rot, and the late experience of my son-in-laws folks, show that it is possible to keep them the year through.

But; they must be well dried out before storing away, all cut, bruised or broken tubers must be kept out, plenty of old paper must be used between layers, and they must be kept in a dry warm room.

Of course it is some trouble, but we think it pays, as we can have sweet potatoes on the dining table fully five months longer than by usual methods, and this year I am going to try a bushel to keep until next July—August.

We are not having as good success with beans and tomatoes as in years past, both seeming to be affected by some kind of blight or mildew. I planted a new tomato this year. It is called the Bonny Bert, is of the stone type only longer, and we like it better than any other for slicing.

Earliana is our favorite for extra early, and the old Trophy, Penderosa or Beefsteak, for they are all practically the same for canning.

By planting at several times during the season, we escape the blight to some extent as it does not seem to come until after the plants have been fruiting a couple of weeks.

Last year I gave away one wagon bed full of late cabbage, besides several sacks full, and this year have not a plant, on account of the July drouth. Neither have we any celery, as against 350 fine plants last year, nor have we any mangos.

I have several letters asking me about Colmans Rural World, with which I was connected, as correspondent and associate editor, from 1895 until 1914. The paper is no longer published, and for the past two years had entirely departed from the lines which made it of such a high standard under the eye of its distinguished founder, Norman J. Colman.

It is probable that I will continue to write for THE MISSOURI FARMER, clearly the best paper published for Missouri farmers, and I ask my old Rural World friends to do all they can to extend its circulation.

C. D. Lyon.

P. S.—September 5. The weather continues seasonable, a good rain every few days. Some tobacco is being cut, and the crop is going to be a heavy one. Corn fine, but down some. Health generally good.

A STATE FLOWER FOR MISSOURI

Twenty-seven states are said to have wild flowers as their official floral emblems. While Missouri has frequently been referred to as the "golden rod state" this flower has never been formally adopted. The Missouri Horticultural Society is to recommend a state flower to the next legislature. This flower will be either the wild aster, golden rod, wild crab apple, wild rose, clover, or corn flower. In explaining a reason for adopting a state flower the president of the State Horticultural Society said. "It is not chiefly for the sentimental reason of having a natural and beautiful expression of our affection for the state, but to have an accepted symbol of our loyalty and patriotism and to use this flower for decoration at all state and public functions." W. L. Nelson.

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THE COUNTY AGENT IN SCOTT COUNTY

This question has arisen now that the proposition is again before the people, of continuing the work for another three years. One of the most important things is the educating of our farmers in hog vaccination. Prior to the arrival of the County Agent little of this was done; now hundreds of farmers all over the county can do their own vaccinating with the result that thousands of dollars worth of hogs are annually saved. The result is that the farmers are raising many hogs and a demand has been created for better males and sows. We feel confident that the agent has more than saved his salary in this alone.

In the pruning and spraying of orchards a splendid work has been done. Many farmers are taking courage again and are planting orchards now that they have been taught how to combat the San Jose scale and fruit diseases. One orchard of 4,250 trees was planted near Blodgett this spring.

It is impossible to place a money value upon the large amount of advertising the agricultural resources of Scott County have received. In 1914 an exhibit was shown at Poplar Bluff that attracted wide attention as the best educational display ever made from the county. In 1915 a splendid exhibit was collected and shown at the Southeast Missouri Fair at Sikeston. The County Agent was requested to show this at the State Fair at Sedalia. This was done and despite very keen competition third prize was won and 25 ribbons. The exhibit was next shown at St. Louis and won first prize and 35 ribbons. Thousands of farmers from Missouri, Iowa and Illinois saw this splendid exhibit and were anxious to learn about Scott County. At the Panama Exposition the only medals won for the State of Missouri on rye, oats, vetch, and alfalfa were won by material prepared by the Scott County Agent. Scott County won three of the four cups offered at the State Corn Show. Two of these were on corn, the third upon the largest yield of wheat.

In 1913 the Agent selected an improved type of St. Charles corn and in 1914 in the Boy's Acre Corn Contest one of his club boys won first for South Missouri. In 1915 the same boy won the State Championship with a yield of 118 bushels. Many counties in the state would gladly have paid the Agent's salary for this honor. Thousands of acres of this improved type of corn are now being grown. Watermelons and cow peas are doing poorly in places in Southeast Missouri, due to wilt disease. The agent introduced Feterita sorghum, Sudan grass, and soy beans to grow upon our sandy soils to take the place of so much wheat and corn. These crops have made good and a thousand acres of these crops will be grown in Scott County this year. The Agent has visited many of our schools and given lectures and material to aid them in their study of agriculture. Winter oats, vetch and crimson clover were unknown before the Agent's coming.

To show how the Agent has helped business, will say that in 1914 there were 15 barrel sprayers, and in 1915, 75 sprayers were sold. In 1915, 45 manure spreaders were sold in one town. When the Agent began work in 1913 there were probably not over 50 acres of alfalfa in Scott County; now there are over 700. Ninety-five per cent of the silos in Scott County have been built since that time. The development of the dairy industry in the northern part of the county is directly due to the County Agent and many splendid cows are now making money for their owners, where formerly little profit was made. The introduction of Sudan grass and soy beans into this county means thousands of dollars to our farmers on our sandy soils. These are only a few of the many benefits derived. No value can be placed upon the social uplift of our farming community. Look around and see better homes, better barns, painted buildings and better systems of farming as well. At a meeting composed of farmers and business men held in Benton on May 4, it was unanmiously voted the county had been many fold repaid for its investment in a Farm Agent during the past three years.—From a recent issue of the Sikeston Standard.

LOOK at the LOCK

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Square Deal Fence

especially strong where others are weak. See the one piece stay wires that prevent sagging, bagging and buckling—save posts, time and trouble. See the wavy strand wires that give springiness, elasticity and life, keeping SQUARE DEAL FENCE tight and trim the year 'round. We want to send you our FREE catalog telling all about SQUARE DEAL FENCE.

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The Missouri Farmer

VOLUME VIII | SEPTEMBER 15, 1916 | NUMBER 18

Time for the Farmer to Take a Hand

By William Hirth, Publisher

The 50,000 farmers who read THE MISSOURI FARMER are familiar with the endeavor which has been in progress since last winter to induce Congress to order an inquiry into the Live Stock market conditions of the Country. At its annual convention at El Paso last winter, the American National Live Stock Ass'n pledged a fund of $250,000 to finance such an investigation. Shortly thereafter the farmers and cattlemen of Texas pledged $100,000 for the same purpose—while the farmers of Missouri, Kansas, Colorado, Iowa, Nebraska and other great Live Stock producing states stand ready to support the movement both financially and morally. Shortly after the National Live Stock Ass'n voiced its demand, Congressman Borland of Missouri introduced a resolution in the House Committee on Judiciary providing for such an inquiry at the hands of the Federal Trade Commission—and for want of better means to accomplish their end, the Live Stock men of the Country threw themselves solidly behind this proposal and many cattlemen have made long pilgrimages to the National Capitol praying for a favorable committee report. But the Borland resoultion has never seen the light of day. It has gone to sleep in the Committee—and for "lack of a quorum" as report has it, Congress will in all probability adjourn and the ides of November will come and go with the resolution slumbering quietly on.

And yet back of this resolution stand nearly seven million farmers who constitute the very bone and sinew of this mighty Republic—who feed and clothe its more than one hundred million souls—who furnish the true basis for its abiding prosperity—whose sweat and toil are largely responsible for a huge trade balance which promises to make New York rather than London the future financial center of the World—who have merely asked Congress to "turn on the light" in order that they may know, once for all, whether the prices paid for their live stock are based upon the great law of supply and demand or whether they are in fact being manipulated, as they believe, to their detriment. But that isn't all. Back of these nearly seven millions of farmers are scores of other millions who dwell in the towns and cities—that great and never ending cavalcade which makes its daily pilgrimage to the myriad butcher shops of the Country—the ultimate consumer who is staggering under a "high cost of living" and who has a right to know whether that cost is honest or ficticious.

We have heard much of the virtue of "publicity" in corporate affairs in recent years. It has been said that it will cure many of the real or imaginary ills of society—and yet, although the millions who toil in our fields and feed lots and the other millions who are struggling to keep body and soul together in our great centers of population are vitally interested in the above inquiry, a Congress earnestly appealed to for long weary months has turned a deaf ear to their entreaties.

A Remarkable Performance

But now let us turn for a moment to the recent remarkable performance of the Brotherhoods of Railway Trainmen—a feat without a parallel in the history of the Nation. Some months ago, the 400,000 conductors, engineers, firemen and brakemen composing the above Brotherhoods made a joint demand upon the various railroad managements of the Country for a so-called 8 hour day and time and a half for overtime. That the granting of such a demand was in fact impossible, was understood by no one half so well as by the trainmen themselves. Because of break downs, wrecks, faulty equipment, wash outs, unpreventable delays, storms and a hundred other causes which human ingenuity is powerless to prevent, it has always been impossible and will continue to be impossible to operate railroad trains like a factory which begins and stops with the blowing of the whistle—and just as the physician enters upon his profession with the kowledge that he must respond to calls upon the Sabbath or at midnight, so the railway trainman knows the uncertainty which attaches to his hours of service when he accepts his position. In order to compensate him in this respect however, an agreement has long been in effect which gives every trainman a full days pay for "10 hours service or less" and for assisting in the operation of a railroad train for a distance of 100 miles or less.". In other words, "10 hours or less" and "100 miles or less" has been the basis upon which, for years, these employees have been paid—and surely they have had decidedly the best of this arrangement for under its terms thousands of them are receiving a full days pay whether they render 5 hours or 10 hours of actual service. They also receive the same rate of pay for all hours of service in excess of 10 hours. In short, the 8 hour day in train service of which the public has heard so much in recent months was a mere pretext to gain popular sympathy on behalf of a more or less popular idea. Nor do the vast majority of trainmen want such a day in fact because it would deprive them of many millions of dollars in overtime which they have been receiving for years.

The "Milk in the Coconut"

But the "milk in the coconut" was the "time and a half for overtime" which, without in any wise shortening the hours of actual service, would pay a trainman 50% extra for every hour he works in excess of 8 hours—an additional tribute which the railroads estimate would cost them $100,000,000 per year. The point which the reader should therefore get firmly fixed in his mind is that this so-called 8 hour day was a mere subterfuge—a peg upon which, with clever dexterity, the Brotherhood Chiefs hung their demand for an enormous increase in wages.

Whatever else may be said of railroad managers, they are not a pack of fools and if by adopting a fixed number of hours of service they could have retained in their treasuries the tens of millions of of dollars which they have paid out for overtime in recent years they would have been the first to inaugurate such a change—and it is because such a thing is humanly impossible that they have been driven into giving trainmen a days pay whether they rendered 5 hours or 10 hours of actual service.

But now let us examine a little more closely into the conditions which surround these men who have seen fit to demand a $100,000,000 incerase in yearly wages. To begin with, they constitute only 20% of the railroad employees of the Nation and during the last few years their pay has been frequently advanced. The present average yearly wages of railroad engineers is $2067, conductors, $1850, firemen, $1203 and brakemen, $1095. Mind you, this is the average on railroads big and little, weak and strong—on lines which are floundering in the hands of receivers as well as on the great and powerful systems—while hundreds of engineers, conductors, firemen and brakemen receive as high as $3900, $3000, $2000 and $1700 per annum respectively. Let the average farmer who contends against drouth, floods, pestilence and fluctuating markets and who has perhaps thousands of dollars invested in land and farm equipment decide for himself whether the wolf howls around the door of the average railroad trainman—whether these men who haven't a dollar invested and whose pay checks come as regularly as the passing of the months are entitled to an increase of $100,000,000 per year without at least submitting their demands to impartial investigation? Are there not tens of thousands of farmers in Missouri and elsewhere whose intelligence and thrift compare favorably with that of any class of workmen in the land who would gladly exchange places with these men for the certain annual income they are receiving at this time?

The Refusal to Arbitrate

At the very inception of the controversy the railroad managers offered to submit the whole matter to arbitration either at the hands of the Inter-State Commerce Commission or under the Newlands Act which was passed only a few years ago specifically for emergencies of this kind and which act had the approval of both the railway managements and the railway employees. But the Brotherhoods flatly refused and gave the carriers a choice between granting their demands outright or submitting to a Nation-wide strike. The Railway Managers stoutly held out for the principle of arbitration which is almost as old as our insitutions of government themselves. They took the position that, in the interest of those whose millions are invested in the railroad properties of the Country—in the interest of the million and a half other railroad employees who were left "out in the cold" on this deal and who relatively receive much less renumeration than the

FARM CLUB ORGANIZERS WANTED

In order to push the organization of Farm Clubs into as nearly as possible every school district in the state, THE MISSOURI FARMER would like to employ at least a dozen organizers who are in position to devote the entire fall and winter months to this work—and to the right kind of men we will pay a salary worth while. To this end, if any of our readers know of a man who can make a good school house address and whose heart is in this kind of work, I will be greatly obliged if you will send me his name and address.

It goes without saying that I would prefer real farmers for this work—or at least men who are familiar with farm problems and who are not merely hunting a job. The Farm Club movement is too serious and important to be turned over to the latter class and men of this type need not apply. What I want is men of proven integrity—who stand well with their neighbors—whose hearts are in this work and who have had experience in addressing farmers and who can do so effectively. Possibly there may be an Ex-County Court Judge who has the above qualifications. Or, maybe there is a man in your County who has had experience in Grange work or some other farmers organization. Again, maybe there is a Country minister who could fill the bill. In any case, I will be glad to have every reader of THE FARMER think this matter over carefully and then write me if he can suggest a man who can "make good." Many of the Farm Clubs which have been organized since last winter have saved hundreds of dollars for their members—and the message must be "carried to Garcia" in every school district in the state. Also, when you write, tell me whether you will not undertake to organize a Farm Club in your district if I send you the necessary instructions and literature?

WILLIAM HIRTH, Publisher.

trainmen—and lastly on behalf of the great American public which in the end would be compelled to "foot the bill," they had no right to increase their costs of operation to the extent of $100,000,000 per annum until some duly constituted and impartial authority passed upon the justice and fairness of these demands—protecting the interests of all parties concerned.

In due time, President Wilson sent for the Railway Managers and the Brotherhood Chiefs and the long conferences which resulted are familiar to every reader of American newspapers. Equally familiar is the fact that the President asked the railroads to grant an 8 hour day, or 10 hours pay for 8 hours work—and that the Managers vainly protested that they had no right to barter away millions of dollars in increased wages except through an arbitration which, after due examination into all the facts, had a right to speak and judge for all the people. While the negotiations were in progress, practically every commercial organization in the Country telegraphed to the President and to Congress, pleading for arbitration. Ere the conferences were finally ended and before the President had abandoned his efforts to bring about a peaceful solution, a strike was secretly ordered and September 4th was set as the day when it should be carried into effect.

Throwing Off the Mask

Once this fact became known, the mask was thrown off and Congress was bluntly told either to pass an 8 hour law before the following Saturday night or submit to a strike which would have paralyzed and demoralized the commerce of the entire Country—and with a stop watch held upon its deliberations as one senator put it, Congress—trembling in its boots—abjectly and supinely submitted to a brazen effrontery and dictation which is without precendent in the proud history of the Nation. That the great principle of arbitration was ruthlessly trampled under foot—that there were a million and a half other employees who were forgotten—that this huge burden of increased cost must eventually find lodgment upon the shoulders of the people who always play the role of the innocent by-stander—all these things, profoundly serious as they are, are of as little consequence as the sands in the sea when compared to the humiliating spectacle of the Congress of this mighty Republic bending its neck to the brazen task masters who grinned down in sardonic triumph from their place of vantage in the galleries above! Shades of Daniel Webster, Thomas Hart Benton and those countless other statesmen of revered memory who in years gone by gave to this august tribunal a rank and respect second to that of no other deliberative body in the World! Truly, it is an hour when shame gains the mastery over anger—when one feels that a blow has fallen whose pain will increase as our minds the more fully comprehend all that was intended by those who dealt it and what was accepted by those who abjectly and tremblingly received it.

That it was praiseworthy in the highest degree for the President and for the Congress to do every thing in their power to avert the impending calamity which would have caused tremendous temporary hardship and suffering—on this point there is no debate whatever. But if Congress had turned in scorn and contempt upon the labor leaders and said, "We will take time to investigate this matter in the interest of all the people and we defy you to call a strike in the meantime"—does anybody believe the strike would have taken place? Nor can this remarkable performance be charged upon the ledger of history as a partisan deed. No doubt had the republicans found themselves in a similar position of responsibility on the eve of a Presidential election they would have been equally supine, for it is the natural outcome of the age of political cowardice and expediency in which we live—and it is against this cowardice that we wish to raise a solmen hand of warning at this time for, just as certain as there is a just God above, just so certain do these things mean that we are drifting upon the rocks of National disaster. Gentlemen may make light of it and excuse it on the basis of momentary necessity—but the cold fact remains that the spokesmen of 400,000 men in a Nation of more than one hundred million souls took the Congress of the United States by the throat and said in effect, "Either give us our 'pound of flesh' or we will wreck your Country"—and the sooner we accept that kind of a challenge the sooner we will learn whether this is still a Nation "of, for and by the people." There can be no decent compromise with such an issue, once it is raised, and "Peace at any Price" is as ignominious when suffered at the hands of those who seek to trample upon our National self respect from within as at the hands of those who seek to place this calumny upon us from without.

Unparalleled Arrogance

"If it means more railroad receiverships," said the spokesman for the Brotherhoods, "that is no concern of ours." In other words, if the swag or a hundred million dollars extra per year forces a lot of weak lines into bankruptcy, the people can pay enough extra in increased freight rates to put them back on their feet again. Nor did the fact that thousands of section men who work out in the summers' pitiless sun and walk the tracks at night amid the winters' howling blizzard for $1.60 per day while the trainmen receive $5, $7 and $8 per day in surroundings of comparative comfort disturb his sense of fair play in the least. And finally, he served notice of "unswerving opposition" to the Presidents reccommendation for a duly authorized arbitration of similar disputes in the future—and according to newspaper reports the balance of the Presidents legislative program will, for the time being at least, be abandoned. In other words, if during the next two or three years, the Brotherhoods can think of something else they want, they desire to be in position to repeat the performance of September 2, 1916—a day destined to be long remembered in the political history of the Nation.

In the meantime, it is not the purpose of this article to present a brief for the railroads. That, however, their courageous stand for the great principle of arbitration without which our industrial future will become one of terror and chaos deserves the approval of all right thinking men, this fact needs no emphasis at our hands. Again, their earnest endeavor to protect the public against an increase of scores of millions of dollars in the annual cost of operation—a cost which the public must finally bear or consent to the bankruptcy of every weak railroad in the Country—their insistance that the Inter-State Commerce Commission which is invested with authority to fix the income of railroads has no power to protect the people against unnecessary increases in rates unless it also be clothed with the power to prevent unnecessary increases in the cost of operation—that in this position they were fighting the battle of every farmer, manufacturer, merchant and railroad patron in the land also needs no confirmation from us.

Nor do we deny that the laborer is generously "worthy of his hire" or that collectively they have the right to organize and by this means gain that which is justly due them. On the contrary, the "man with the dinner pail" has, by common consent, been placed upon a pedestal by a preponderance of American public opinion and that eminence he will continue to occupy so long as the principle of "live and let live" shall be the guiding star of his citizenship—but when might tak the place of right—when the wellbei of those without the fold is ruthless trampled underfoot—when the spoke men of labor organizations become daring as to figuratively place a pist at the head of the greatest law ma ing body in the land—that is decided a "horse of another color" and cons tutes a menace so profoundly gra that the sooner the issue is tried o to a final conclusion, the better f the future of the American people.

That the vast majority of the 400,0 trainmen do not endorse what w done by their leaders at Washingt we have not the slightest doubt—f thousands of these men are as go citizens and have as deep and broad love for their Country as any men th live—but nevertheless it is up to the to lose no time in placing themselv right before the bar of public opini which has ruled this Country fr Plymouth Rock to the present ho and which, though temporarily thwa ed, will continue to do so. Let man or set of men mistake this fact.

The Farmers Duty

But, in conclusion, to return to t first paragraph in this article whi shows that the nearly 7,000,000 far ers in the United States wield an i fluence pitiable in comparison to th just demonstrated by the Brotherhoo —and the difference is due to the fa that while these nearly 7,000,000 far ers merely respectfully petitioned, t latter threatened—and promptly g what they wanted—and this brings r to the heart of my plea. The ho has finally struck when the farmers this Country must organize, not mere to gain a "square deal" in the mark place for themselves—but apparent also for the purpose of protecting weak kneed Congress against indu trial footpads whether those footpa speak for selfish capital or for a lab organization drunk with unholy pow If votes are to be the true measure influence, then the farmer has mo of them **than all the other classes co bined!**—and therefore the sooner marshall them in solid phalanx, t better for the Republic which can more endure under a condition of i dustrial terroism today than it cou remain half free and half slave in t days of Lincoln. From the beginni we have fed and clothed the Nation and now we face conditions whi mean that we must also save it fr the selfish forces which theraten destroy it. And thank God the farme of this Country possess both the pow and the patriotism to perform th service. They personify a sleepi giant who, when once aroused, c sweep aside with one stroke of h mighty arm those who menace o free institutions for which generatio have bled and toiled and which co situte a heritage that must be pr served for posterity at any cost.

Taken as a whole, the present a ministration has been one of the mo wholesomely constructive the Count has ever known—and it is all t more pity that the same Congre which gave to the Nation the Feder Reserve Act and the Rural Credi measure should have stooped to th ignominious performance.

Good Apples Wanted

THE MISSOURI FARMER is recei ing numerous requests for apples a if a carload can be made up at yo shipping point, please get in tou with us at once—advising us fully co cerning variety and quality. Al state whether orchards were spraye

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THE LAND BANK BILL

The time is at hand when every farmer should bestir himself on the Land Bank Bill to the end that the necessary Constitutional amendment may not fail of adoption at the November election. As we have frequently stated in these columns we regard this as the most important measure in the interest of farmers that has ever been enacted by a Missouri Legislature—and yet, unless every farmer in the state gets busy, there is grave danger that the amendment will fail to receive the necessary votes. No doubt the Prohibition Amendment will cause an overwhelming "No" vote in the large cities and the greatest activity on the part of every farmer is therefore essential to assure the success of the Land Bank Bill at the coming election.

The fact that Congress has enacted a National Agricultural credit measure should in no wise lessen the interest of Missouri farmers on behalf of the state system, for there is ample room for both of them. Again, the Missouri Land Bank Bill does not require the subscription of stock on the part of borrowers—and in the end we therefore believe that it will prove the most popular of the two. And here let me suggest that no farmer permit himself to be led astray by political criticism of this act, it matters not from whom it emanates. The charge that it is a "single tax measure in disguise" is the merest twaddle and in an early issue of the paper we will touch more fully upon this point. The writer wrote the lions shore of the literature which was directed against the enactment of the Single Tax six years ago and believes therefore that he is reasonably familiar with the subject. Likewise, the claim that the State Treasury cannot supply the initial million dollars capital need frighten no one. If we could issue bonds to build a state capitol, can we not also issue a million dollars worth in bonds to give the farmers of this state the lowest interest rates obtainable? The thing is to adopt the Amendment and iron out the other details later on.

To this end, every farmer should find out how his neighbors stand on this great question and if there are those who do not understand it or who have been misled by mistaken criticism, write us when we will see to it that you are speedily supplied with literature.

WILLIAM HIRTH, Publisher.

WHAT MISSOURI NEEDS IS MORE ORGANIZATION

It was Saturday evening. The train that was to land us at home before midnight was leisurely making its way through the beautiful farming region of Southwest Missouri—a region unlike any other in this great state. On either side were well-improved farms, each with its grove of trees in the center of which was a house—yes, and more: a home. Back of this grove, or at the side, was almost sure to be a big barn. Perhaps, too, there were other barns or immense sheds for hay, for we were passing through a region where corn has no undisputed reign as king.

The surface of the land was only gently rolling—in some cases, most too flat for a wet season. It was beautiful, though, to look upon at the close of this cloudless early autumn day. As the September sun sank from sight behind the low hills beyond which was Kansas, the moon came up full-orbed and beautiful, flooding with its mellow light the wide prairie places. With only a little stretch of the imagination one could fancy that he looked upon the sea and that the lights, which one by one made their appearance in the farm houses, were from ships asail or from lighthouses along the shore. Always this figure of fancy comes to us as we travel through this level land. Especially is it true when we look upon the fields of waving wheat, of timothy or of prairie hay—the latter here plentiful. Sometimes, as the sun shines, cloud shadows float over this make-believe sea like magic ships, each guided by some unseen hand at the helm.

Pleasing as is the picture that fancy paints, it is not more attractive than that upon which we may in reality look. Surely this is a goodly land, largely made so through the worth and the persistence of the people whose homes are here—for nature did not favor it quite so abundantly, did not give to it a soil quite so deep and black, as she gave to some other sections. But she did give to it a citizenship unsurpassed.

Following the dark days of the Civil War there came to Western Missouri many men and women, strong and virile, from New York, Ohio, Indiana and other states to the east and north. These mingled with those from Kentucky and Virginia, not so numerous here as in the Missouri river counties. The two joining with the native Missourians whose very soul had been tried in the border warfare that here raged worst, nobly forgot the past as they built well and wisely for the future. Of such is the citizenship.

This diversity of peoples—yes, and their early struggles—applies with equal emphasis to the crops, many and varied. Here grew countless acres of "bluestem," or prairie grass tall and rank, and here the "longhorns," in great herds, were at home. It was a day of "soddies" rather than of silos. Oxen, three or four yokes working together, pulled primitive plows and slowly turned the tough sod. Crops of corn were planted. Time and again chinch bugs, grasshoppers and drouth came. The war, with its ravages, was over, but there were new battles to be fought and won. Some of the timid and less resourceful settlers, sick at heart and penniless, gave up the struggle. Others stayed. These willed to win—and won.

The growing of corn was not abandoned but new crops were introduced—crops suited to the soil and climatic conditions but less inviting to insect pests. The settlers who stayed had used their heads as well as their hands, had done some real thinking instead of determining to go ahead and farm "just as father farmed back in the old home state."

So it is in this section where the 66,430 bushels of flax that made up Missouri's 1915 crop were grown; where her more than a million pounds of broomcorn was harvested; where most of her 162,924 tons of prairie hay was cut, and where grows most of our English Bluegrass and much of our kafir, Sudan grass and the sorghums generally. Here, too, are clovers—red predominating, but with some of sweet, alsike, Japan and other sorts. And there are wide meadows of timothy and, perhaps best of all, some of alfalfa, soybeans and cowpeas. All these are grown in addition to corn, wheat and oats—yes, and Bluegrass. Never is there a complete crop failure as in a one-crop country.

The resourcefulness of the people and the diversity of crops had been proven at the splendid meeting we had that day attended. This was the sixth annual meeting of the Hudson Farm and Home Improvement Club. It was really a community fair, farmers' institute and neighborhood picnic combined, and seldom have we attended a meeting fuller of inspiration or that gave greater proof of the power of the people when combined and rightly directed.

"Some thought that we ought not try to have our little fair this year'," said one man, "as the season had been unfavorable, but we just didn't want to disappoint the girls and boys, many of whom had worked all summer in the hope of having something to enter. There (and he pointed to a big watermelon), for instance, is a melon grown by a little girl who week after week carried water to keep the vine alive. Do you think we would want to disappoint her? And there are others who worked hard, too. No sir, we can't afford to give our boys and girls—our best crop—a setback." This was the spirit of the occasion; this speaker was but the spokesman for many.

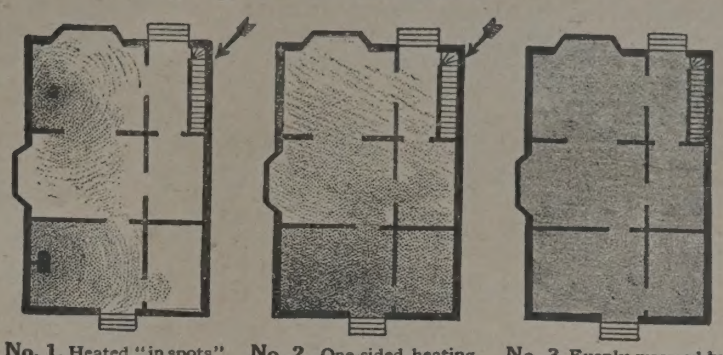
In the schoolhouse—a good schoolhouse, too—was a magnificent display of kitchen and pantry stores and of other work galore. But the real "display" was on long tables in the beautiful grove where a fine dinner was served with that best of sauce—hospitality. After dinner there was good music by the club orchestra, made up of farmers and trained and directed by a young farmer who only a few years ago came to make America his home. Speaking followed the music. Then there were games and contests for young and old. Ah, but it was good to see all the people at play and pleasure—none too dignified, too busy or too old to enter into the spirit of the occasion.

Among the many prizes awarded was one for the oldest couple. It chanced that in our four-mile auto trip from the train we had ridden with this splendid man and woman, whose combined ages total 154 years. But they are not old, not in thoughts. The wrinkles with which time has wreathed their faces are but the smiles of age. For more than a half century has this community been their home. As we journeyed out from town and as the car rounded a curve in the road below which spread a valley full of farms and beyond which were hills, the only ones in view, the car was stopped. Pointing to the hills, the good woman—the "better half" of that more than a century and a half—who helped win this region from the primitive prairie, said, "I call those my mountains and many have been the times when I have come up here and looked away toward them for help and rest and inspiration." As this nature lover spoke and opened her heart, even to a stranger, we thought of the hope once expressed by the late John Muir, the seer of the Sierras. Writing to a young friend, he said he hoped that she "would find that going to the mountains is going home and that Christ's Sermon on the Mount is on every mount."

So as our train carried us toward home at that day end and week end we felt that it had been a privilege to know more intimately such a land and such a people. And the thought came to us that what Missouri needs is more such organizations as the Hudson Farm and Home Improvement Club and the neighboring clubs that have grown out from it, not as competitors but as co-operators. Thus will be developed rural leaders, rural strength, rural pride and rural profit.

W. L. Nelson.

Have this even, healthful *heat* in your home—



No. 1. Heated "in spots" by stoves — **No. 2.** One-sided heating by hot-air furnace — **No. 3.** Evenly warmed by an IDEAL Boiler

The shaded portions of the rooms above show how much a house is heated when a cold northeaster is blowing

Study the above diagram! It is one of the best explanations ever produced as to just what you can expect from different kinds of heating—and it tells you *why* Radiator Heating is the *best*.

AMERICAN RADIATORS & IDEAL BOILERS

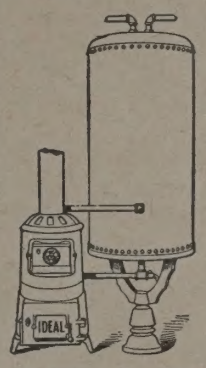
These diagrams show *results* and you will agree that the radiator warmed house (shown in No. 3) is the one way you want your house to be heated.

There is a direct rapid circulation of the heat from the fire to the Radiators—no matter how the wind blows! Then too, the IDEAL Boiler can be run with a *low* fire for chilly days or with a very bright, glowing fire for blizzard weather. Plenty of heat *all* over the house without coal-gas, ash-dust, lugging coal hods, or worry about the fire.

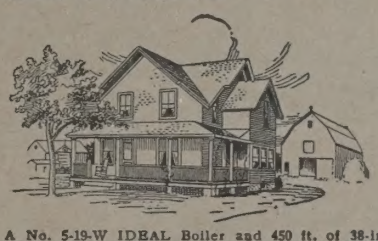
Basement or water pressure not necessary

IDEAL Boiler is set in cellar, side-room or 'lean-to'; and same water is used for years. Put an IDEAL Boiler and AMERICAN Radiators in your house *this* year. Call up the nearest heating contractor and ask him to give you an estimate. Don't put off any longer, suffering the chills of old-fashioned heating methods during these severe winters.

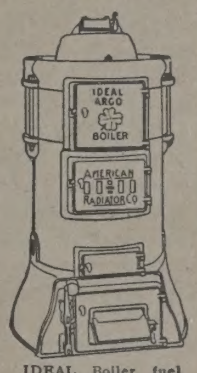
An IDEAL Heating outfit will protect and happify the whole family. It will keep away sickness due to chill spots and drafty floors. Less work than to run one stove. It will burn the cheapest fuel of your locality, screenings, lignite, wood, soft coal, etc.



Our IDEAL Hot Water Supply Boilers will supply plenty of warm water for home and stock at small cost of few dollars for fuel for season.



A No. 5-19-W IDEAL Boiler and 450 ft. of 38-in. AMERICAN Radiators, costing the owner $200, were used to heat this farm house. At this price the goods can be bought of any reputable, competent Fitter. This did not include cost of labor, pipe, valves, freight, etc., which vary according to climatic and other conditions.



IDEAL Boiler fuel pots mix the air and coal gases as in a modern gas mantle, extracting ALL the heat from the fuel.

Write a postal now for "Ideal Heating" (free)

This booklet has full description and many illustrations—tells the whole heating story—send for your copy today

Sold by all dealers. No exclusive agents. AMERICAN RADIATOR COMPANY Write to Department F 32 Chicago

HEALTHY HOGS RESIST CHOLERA

Hogs are not as resistant to disease at this season of the year as they are in the spring when getting an abundance of green forage, and having access to a wide range. It is necessary, therefore, to give them more attention and better care to offset seasonal conditions and danger from new corn.

Do not feed in the same lot, or on the same acre of ground, day after day. This contaminates the feeding places, and also attracts crows, pigeons, and sparrows which may have been feeding with a cholera infected herd. Throw the feed out in a different spot each day, thus giving the pigs a clean "plate" from which to eat.

The water supply is of much importance to the health of the hogs at this time of the year. Old mud wallows are never good, but are not so bad if the hogs can have pure water to drink, but if forced to bathe and drink in the same "tub" serious trouble can be expected at any time. See that they have an abundance of pure water to drink, situated near the wallow holes or feeding places. Pure water will aid materially in keeping the herd cholera free.—E. R. Spence, University of Missouri, College of Agriculture.

THE STORY OF AN OLD FARM

Editorial Note.—If any reader has not read the previous articles in this series by Mr. Lyon he had better hunt them up and read them now to get the full benefit of what he has to say on keeping up the fertility for one hundred years. "It is interesting to note" says Sam Jordan" that while Lyon's farm has been in cultivation for over one hundred years there is no worn out land on it. Yet the hills are so steep that I would not know how to go about it to farm them. His system has and is producing gratifying results."

NUMBER 5

We have never made a practice of burning straw, corn stalks or weeds, in order to clear the land for breaking, although we have sometimes done so, one instance being last spring, when I burned thirty shocks of good corn fodder, and one time I burned some two tons of straw, but in both cases, it seemed that the time and labor necessary to remove the material, were more valuable than the straw and fodder as manure would be.

Certain it is, that I would never have done so thirty years ago, when I had so many bare places on the farm where neither weeds or grass grew. To balance this waste, I will say, that two seasons I cleared an acre or more of heavy thicket land, and did the work in July when the leaves were on. The bushes were piled in small heaps and these were loaded on the sled, hauled to some clay points and dumped off to rot down there, a little job that paid me as well as any work I ever did.

When we grew so much small grain that we failed to use the straw as bedding and feed, whatever was on hand when a field was to be broken, was scattered on the thin spots; this, of the wet half rotten stuff, the dry straw being put on bare spots on the unbroken fields.

There are many natural ravines or hollows on the farm, most of them being of such a character as to admit of their being crossed by farm team and implements, but all of them subject to washing when the fields are cultivated.

Blue grass is indigenous to this country, and in the three years between the seasons our lands are regularly broken for crops, the sides and the bottoms of these hollows get well set with it.

In breaking, we raise the plow and leave a strip of grass two to six feet wide where the water has to pass, but in the course of eight or twelve years of this practice, the natural bottom of such a hollow will become higher than the sides, and we may get two gullies instead of one, so this grass strip seldom stands more than eight years, when it is plowed with the rest of the field, the grass roots generally preventing washing.

In some cases I have hauled stone and built dams across ravines too large to cross with team, but the water tends to cut around such dams, and we find it a better plan to put one or two good loads of stone in a place and break them up well. I have patched four or five places, five feet wide and two or three feet deep in this way, so that we now plow across them, not touching the stone with the plow bottom. The stone catches the soil from above, the soil catches grass and weed roots, and in a few years a bad ditch is crossable, and what is better, the stone beds furnish good drainage.

In 1915 I saved tons of soil, by throwing a small locust log, eight feet long and six inches in diameter, across a hollow below its forks where two hollows came together, and making a sort of dam with brush and sticks.

I was surprised to see how much soil this crude dam caught, as the field above did not wash badly, and in July I sowed broom corn and millet seed on the field. Mr. Jordan can tell you what it looked like last August (1915), and I may say the soil is all there yet, with heavy grass growing on it.

On our steeper hillsides, we always sow rye instead of wheat, sow it early in order to get a good growth before winter, sowing a gallon of timothy seed per acre at the time of sowing the rye, with a seeding of clover in the spring.

The rye is not cut, and as we have some twelve acres not fenced, on this land it is not pastured. This twelve acres, being as Mr. Jordan said, "so steep I would not know how to go about it to farm," has probably grown more corn and tobacco per acre, and has made us more clean cash than any other twelve, or even fifteen acres on the farm, and a friend who has known it for fifty years says, "that land continues to get better year by year."

We use little manure on this land, and it is of a character that burns crops over fertilizer, yet the going down of the rye and clover, keep it in a high state of fertility, and absolutely prevents washing.

This series of articles has already overreached the original intention of the writer, and if I was on the institute platform before a MISSOURI FARMER audience, I could, in we will say an hours talk, tell of our methods and results with greater facility than I can record them here.

Fifty years ago, a thirty bushel per acre corn crop was considered a good one yet I have made a crop of eighty-three bushels by weight, in the '60s we seldom grew over eight bushels of wheat per acre, and my average, 1881—1897 was twenty-six and a half bushels, another of forty-five, and still another of twelve acres, forty-four and a half bushels per acre machine measure.

As a boy we grew 900—1100 pounds of tobacco per acre, and 1900 to 1906 our average was 1450 pounds, since that, two six acre crops of near a ton per acre. Last year tobacco was light, but we made 1300 pounds per acre, and count on 1600 pounds on seven acres this year.

As in the church service we may say, "We have done the things we should not have done, and omitted the things we should have done," but in the main, I think I can say without boasting few farms 125 years old are producing as good crops as this one of ours.

If there was not a family to keep, taxes, interest, insurance, and repair bills on farm buildings to pay, I would not fear to attack any worn down farm, and in ten to twenty years have it in a fairly good state of fertility.

I would expect to do this with cowpeas, clover, rye, sweet clover and perhaps soy beans, growing these crops, not for harvesting, but to go down on the land to seed future crops.

The man who has but a few acres of worn down soil, can, by beginning with cowpeas, growing a crop or two and letting them go down, then sowing rye and clover start the land on the up grade, and in a few years have it producing good crops.

Dairying is the quickest and surest way of building up worn land, but this is another story. C. D. Lyon.

For crime committed the penalty must be paid, some time, some how, some place by somebody.

If only the criminal had the suffering to do, it would not seem so sad.

SENSE AND NONSENSE

By Sam Jordan

If you think your neighbor not so good as you are, and not nearly so smart, your opinion differs widely from that of the country round you.

* * *

However, you are a very fair average.

* * *

Have you made a real estimate of yourself to find just how much you are worth to your community? Are you playing your best an honest part? Do you really think you are making the community glad to have you among them? If not why not go somewhere that you fit?

* * *

The quality of your neighborhood will attract the same kind of people. Good roads, good schools, good homes, clean fields and clean folks, will bring new-comers who like these things. Scrubs like scrubs and do not feel comfortable among any other.

* * *

Why has the world almost forgotten E. H. Harriman, the railroad man who had so many millions of dollars, and why will it never forget James J Hill, the railroad man with so many millions of dollars? Because in the gaining of their millions the one did not serve humanity, and the other one did.

* * *

Most people in this good old world have not been able to think out new ideas, but if we will just pick out the good old ones that some body else worked out, and make them a part of our life and action, we will not go very far wrong, will we?

* * *

Your "dreaming" may be worth while, even though you cannot "make your dreams come true." The great thoughts and ideas of the world have been worked out by dreamers who "made their dreams come true."

* * *

Did you ever notice how good our own children are, and how bad the neighbors kids are?

* * *

What angels the children would be if their neighbors had the management of them.

* * *

A man's credit is his greatest business asset, and his credit depends upon how good his word, not his bond, has been.

* * *

And did you ever notice that the man who will not pay his honest debts always dies poor?

* * *

Modern ideas are good nowadays in most every thing but politics. In politics the "ways of the fathers" are all that go.

* * *

Good Will Is Worth A Lot

If a passenger buys a ticket that entitles him to cross a state line he must pay about a half cent a mile more than the state rate. If you buy a ticket at Omaha or St. Louis for the east, or at Kansas City for the west the half cent is added even though in the two cases only the rivers are crossed and the other just the state line. Scores of people buy at Omaha to Council Bluffs then rebuy and at St. Louis to East St. Louis, and in going west buy only to the last point before crossing the line, then rebuy to destination. The people think they are imposed upon and that the railroads are taking advantage of a technicality.

The railroads have done much, at great expense to secure the good will of the traveling public, but it is a large question how much this practice has had in destroying the good will that has been secured at such an enormous expense.

* * *

Does it not look like a foolish thing for a parasite to kill its host, thereby destroying its own life? The meat packers are "killing off" the meat producers, and compelling the meat eaters to "let up" on eating meat.

* * *

Why can Congress not compel the packers to stick to the packing business the same as it compelled the railroads to stick to railroading, letting other lines of business alone? Or do the packers control Congress? Looks much like it.

* * *

A new farmers co-operative elevator at Sweet Springs, doing a fine business.

* * *

Why has the number of beef cattle in this country decreased from 50 million in 1900 to 37 million in 1915? Ask the packers!

In that time cattle production went down 25% and population went up 25%, yet less meat consumed by the 102 million people in 1915 than by the 75 million in 1900. Ask the packers why?

* * *

If the packers make small profits, how did it happen that the capital of one of them increased 800% in 17 years and others in a similar manner prospered. Now listen—If the Wall Street Journal is rightly quoted in 1915 Swift & Co. declared a dividend of 18.7 on their capital stock, Armour 55%, Morris 77.3% and Cudahy 17.6%. In 1914 Swift & Co. paid a dividend of $5,250,000.00 and placed $4,200,000.00 to surplus. Armour's net earnings in 1914 were $7,400,000 and in 1915 it was the enormous sum of $11,000,000. Yet producers lost money, and many were made bankrupt, and dressed meat prices went so high that many could not afford it very often. Maybe it can be seen from the figures as to how it all came about. Packers of course do not want any investigations by Congress, and it also seems that Congress does not want to investigate them, wonder why? Then what are we going to do about it? That is what the packers ask.

* * *

The packers are in almost complete control of the nation's food, but what are we going to do about it? Ask Congress to give relief when Congress does not want to render relief? Packers control if reports are true, the prices on all sorts of domestic meat animals, including poultry and poultry products, and very largely the dairy products. They control laregly the fruit and vegetable market, because they control cold storage warehouses and refrigerator cars, and terminal facilities. They control the fertilizer industry, and the shoe industry by controlling the price of hides. They control the industries where horns and hoofs are made into buttons, combs, etc., into glue. They control very largely the great city stock yards, and banks that lend money to feeders. They are great factors in controlling wheat and corn prices by manipulations on the boards of trade. They are in control largely of the output of cotton seed products, hence they have a barrier insurmountable at this time, between producer and consumer. But what are we going to do about it? That's what the packers want to know. Had we better ask Congress to investigate when Congress does not want to investigate?

THE CONSTRUCTIVE BREEDER

Most of us fail to appreciate what has been given us by the efforts of our forefathers. We are ourselves merely potentialities of our ancestors and therefore, periodic expressions in a never-ending strain of life. Life we now know to be guided and directed in some degree by the efforts of man and molded to meet his fancy for beauty, pleasure and profit. The theories and known laws of heredity have come to us through the experience of our forefathers and the research of modern scientists.

We see before us every day the fruits of these efforts. In the city streets we notice the sleek, attractive dappled gray or black horses moving immense loads with apparent ease. This power, weight, form, action and quality represent many centuries of selection which has finally molded this type of horse that the world pronounces today the greatest breed or draft horse, the Percheron. In a drive along a country road we admire a graceful, maternal, docile, fawn-like cow that we recognize as a Jersey, or the larger, more rugged, black and white kind known as Holstein-Fresian. These represent the animals that make it possible for the American farmer to supply with profit the necessary products from the cow, of milk, butter and cheese, to the city and farm home. The sheep that graze on the hillside are uniform in appearance and type; we know them as Shropshires, Southdowns or Merinos. Do we realize that the efforts of breeders of these animals are responsible for the clothes that we wear and the meat that we eat?

The breeder of livestock has, indeed, a calling of service for the welfare of humanity. The qualifications of a "true" breeder are those of a real man. The "master" breeder of livestock is rare; like the "master" painter, he is born and not made. We can become constructive breeders by study and application, but to be a "master" few can hope to attain. Can we learn anything from the lives and efforts of the men who molded our breeds? If so, what are the characteristics upon which their success was based?

Most significant of all is an inherent love for things that have life. In particular is this devotion associated with the special kind of livestock that is bred. In the breeding of livestock, as in almost every other phase of occupation, the specialist knows more about his animals and therefore can make better use of this knowledge. Devotion to the breed being bred gives pleasure and satisfaction through sentiment, but it also gives an intimate knowledge of the animals that are bred. Animals have their individuality as do humans; to know their qualities, both good and bad, is important. The breeder must weigh these qualities in his mind when mating takes place. Mating such animals that possess the greatest degree of merit in common and the least weakness, brings success when the ancestry of such animals are also of merit for the same characters.

The degree of success with which the breeder has purified his animals with reference to ideals of type and usefulness determines in a large measure the permanency of his efforts. Devotion to animals is therefore a trait necessary in the "master" breeder's character for pleasure and permanent success. Animals themselves seem to prosper and respond to devotion. The following quotation refers to Thomas Bates, one of the foundation breeders of the Shorthorn breed. "Those who walked with him in his pastures recalled how the cows, and even young heifers, would lick his hands and seem to listen to every gentle word and keen comment as if they penetrated its import."

The breeder is also an idealist to the extent that he pictures in his "mind's eye" his ideal. This requires imagination, because the ideal is not secured at once. Often its reward comes after years of effort and sometimes not at all. Truly, the breeder who can mold living flesh is an artist of rare merit.

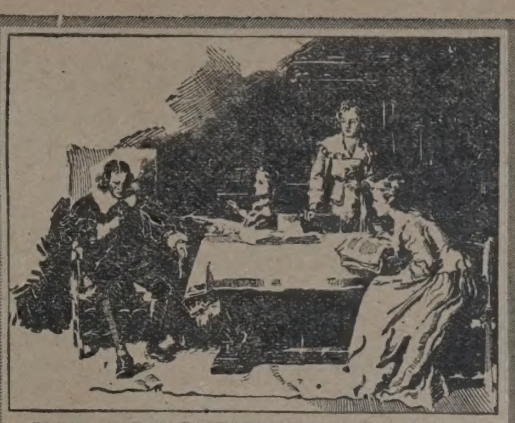
Patience and steadfastness are traits that are well defined in these men. Success with no effort is rarely permanent and applies likewise to improvers of livestock. An ideal that is fixed and well defined usually is attained by the patient breeder. Along with these attainments comes honesty. Honesty in his dealings with himself as well as others is found in the breeder. Heredity does not follow the path of deceit, and the successful breeder soon learns that this is so. A breeder should be a close student of all things that will asist him. A thorough understanding of the requirements of the body in its nourishment, health and disease are fundamental. A knowledge of the kinds, amount and time to feed certain feeds is necessary. A good breeder is a good feeder and he always remembers that heredity will express itself only so far as environment will allow for its expression.

Knowledge of theories and laws of breeding are significant. With them the breeder can direct his operations with more certainty. In this respect the breeder of today has a greater opportunity than those before him, who had to rely solely upon their own experience for information. He is also a good judge of livestock and is able to carry a mental picture of an animal for years at a time. He makes a study of the ancestry of his animals and knows in detail their degree of merit.

His ideals are practical, his animals are produced with economy of production in mind and the special needs for which they are to be used. He is a man of business judgment, utilizing such feeds and pastures as are cheap and yet efficient for good results.

A study is made of the markets where his stock can be sold at a profit to himself and where the value of his stock will help others. A keen endeavor is taken in stimulating interest in behalf of improved livestock in the immediate community, at local fairs, at large fairs, at National and International shows. He is a regular attendant at these gatherings, meeting the men who are doing the things he is doing, learns from them their experiences of success or failure, and likewise gives them information when called upon. At these shows he studies the types of animals present and those receiving show ring rewards. He becomes familiar with these animals and their parentage. He exhibits his stock and is there with the idea of winning on merit. If he fails to receive an award he does not complain, but resolves to come back for another trial.

A breeder has resources from which to draw. Livestock means expenditure of money, but the "best" breeders have rarely began on a large scale. A simple beginning with gradual constructive forces at work is the surest and safest policy for the man who aspires to become a "master" breeder of livestock.—B. O. Severson, Pennsylvania Agricultural College.


BLIND MILTON DICTATING TO HIS DAUGHTER
From the original by Munkacsy, in New York Public Library

The Vision of the Blind

"Thousands at his bidding speed,
And post o'er land and ocean without rest;
They also serve who only stand and wait."

Was the spirit of prophecy upon John Milton when, more than two hundred and fifty years ago, he dictated those words to his daughter?

Did the "blind poet" have a vision of the millions of telephone messages speeding instantly over hundreds and thousands of miles of wire spanning the continent?

"They also serve who only stand and wait." The Bell Telephone is your servant even while it "only stands and waits." The whole system is always prepared and ready for your instant command.

Every wire and switchboard and telephone instrument is kept alive and responsive by an army of telephone workers.

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AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES
One Policy *One System* *Universal Service*

AMERICAN ROYAL LIVE STOCK SHOW

The management of the American Royal Live Stock Show has provided a real thriller for the entertainment feature. This is a series of contests by cowboys, which will be given in Convention Hall five nights, starting Tuesday. The show itself starts Monday, Oct. 2, the judging taking place in the afternoons in the hall. At night, there will be parades of the prize-winning stock and the cowboy contests. There will also be at each evening program one or more horse show numbers, saddle and harness events.

The entertainment feature is a real wild west show. The impression seems to have prevailed that only in the broad expanse of Wyoming, and on the plains, could such an elaborate affair be conducted. But people who have seen horse shows and sports in Convention Hall at Kansas City know that the great arena of that building looks as big "as all outdoors," and that it is an ideal place for holding roping and bucking contests, and horse races. Harking back to the older days of Convention Hall, citizens remember the thrilling races in the classes for "4's" and the wild horse taming events.

There will be fancy and trick riding; bucking contests; cowboy and cowgirl pony races; wild burro racing; steer roping; fancy and trick roping; and many novelty events. Wild burros will be brought from Oregon, and longhorn steers will be shipped in.

The organization which stages these events is well established, and has a large following of the real thing in cowboy and cowgirls. There will be also many local entries, and entries of cowboys from nearby states, in numerous of the contests, but the success of the show will not depend entirely on such entries. The prizes attract the greatest experts. Homer Wilson of Mulhall, Okla., is manager of the show—and he's the champion roper of the world.

"Hogging Down" Corn

"Hogging down" corn is one of the most efficient ways of feeding the hog, in that it saves the labor of harvesting, provides exercise for the hog, and allows him to balance his own ration (a thing he can do better than the feeder) says the animal husbandry department of the college of agriculture, Lincoln.

Shoats weighing 100 to 150 pounds are turned into the corn as soon as it is well dented, and do best if they have access to an adjoining field of alfalfa. If this is not available, tankage may be fed in the self-feeder. When the grain is nearly cleaned up, the pigs may be removed and finished in dry lot.

Brood sows may take their place in the cornfield to finish cleaning up the grain. Alfalfa or tankage is used to supplement the corn and care being exercised not to permit the sows to remain too long in the corn, or eat too much tankage.

Pastures are commonly mown after most of the weeds have ripened seeds. That is almost a waste of time.

THE MISSOURI FARMER

Devoted to Better Farming, Better Farm Homes and Better Citizenship.

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Geo. B. Ellis, - - Managing Editor

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Agents Wanted. We want some one to represent us in every community and make up clubs for which we will pay liberal commissions. Write us for terms and sample copies.

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To render service is our aim and we will endeavor to answer all pertinent questions or have them answered by competent authority. When answer is desired direct always inclose stamp.

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WHAT A FARM CLUB CAN DO

Sometimes we hear farmers say "we do not know anything a farm club can do" but if they would just get down to work they would find a lot of things they could do that would make or save them good money. Last spring we gave an account of the saving made by the farmers in the Hinton neighborhood in Boone County. By clubbing their order more than $50 was saved in the price of binding twine besides quite a lot on woven wire, flour and other things. By selling their wool as a whole a better price was received. Recently the club bought 10,000 pounds of flour at a saving of 52½ cents a hundred compared with the retail price, which made a total saving of $52.50 to the club.

Suppose this same rate of saving could be made in every one of the 10,000 school districts of the state. On this basis the farmers of Missouri would have a reserve fund of $1,500,000 coming absolutely as a windfall to their bank accounts. Most men will clearly see that this is only the beginning and that a saving of three or four times that amount can be made in most any district in the state.

Farmers, do you not think it is about time you should get busy? Will it do you any good to stand back and growl that some one has an axe to grind in this movement? The time has come when we must do something besides sow and reap our crops if we would get our share of the profits.

If THE MISSOURI FARMER could get the co-operation of 50,000 or 100,000 good farmers in this saving business we could give them a dollar for every cent that comes to us in subscriptions.

TWO DAYS FOR GOOD ROADS

The Governor has set aside two days, October 4 and 5 for Missouri good roads days and requests all road officers and all citizens to co-operate in improving the roads. The time is too late to do grading but there is a lot of work that can be done to good advantage if the people will turn out to do it. In places there are stumps and rocks that ought to be cleared off the road way and this is a good time to do that kind of work. There are many places where a new culvert is badly needed and if these two days were devoted to building concrete culverts all over the state perhaps more lasting benefit could be accomplished than in most any other way.

This is a good time to keep the roads smooth with the drag and it would not be a bad idea to have some one look after the dragging of all roads needing it on these days. The best time for dragging is just after a rain when the soil is moist but on these special road days if all the roads in the district which have not been kept in good shape by the use of the drag were smoothed over it would have some influence possibly on the people who have taken little interest in road dragging. There is no time of year when it is more beneficial to keep the road dragged than in the fall. Keeping the road smooth now will prevent ruts forming when the fall rains set in and if the road can be kept smooth until it freezes it will give a good road all winter.

Some neighborhoods have made good roads days a kind of social affair and the women prepare dinner and the whole neighborhood turns out to help improve the rough places and this is not only good for the roads but it is good for the neighborhood. It matters not whether we like the Governor or not we should show an interest in our community affairs and when everybody does that there will be great forward strides in this state. Every neighborhood, every county and the whole state need team work and to have team work that counts every man must find his place and then do his part.

IGNORANCE IN HIGH PLACES

It is astonishing how much ignorance there is among some of our public men concerning the every day practical things which are of benefit to the people. What has called forth this statement is a purported interview with a United States Senator, Hon. Thomas Taggart of Indiana, in which he flayed Congress for its extravagance in the appropriation of money. We think Congress needs lambasting for its extravagant waste of the peoples' money but all the money that is appropriated is not wasted and surely it is the business of a member of the United States Senate to investigate and find out the things which demand the aid of Congress. To show how utterly ignorant Senator Taggart is, he crticised the expenditure of money for the eradication of the cattle tick as a useless expenditure. Millions of dollar have been saved to the cattle raisers of this country by the work of the Bureau of Animal Industry in co-operation with the different states in eradicating the cattle tick. Before this work was under control frequent outbreaks of tick fever occurred throughout the principal cattle growing states and the loss was many times the annual expenditure of the Bureau in cleaning out the ticks. Gradually the line of tick infestation has been moved south and there are now thousands of square miles absolutely safe and free from ticks and without an outbreak of tick fever as compared with a former loss of hundreds of thousands of dollars. This free territory is found in most of the southern states including Virginia, the Carolinas, Georgia, Tennessee, Arkansaw, Missouri, Oklahoma and Texas.

One of the benefits accruing from this work has been to afford the cattle breeders of the North a place to sell their breeding stuff while on the other hand it has enabled the southern farmer to get the blood necessary to improve his cattle. Before tick fever was under control the work of improvement in the scrubby southern cattle was very slow but now cattle are coming to our great markets from that section that compare favorably with the beeves of the Central West.

There is a crying need for cutting down expenditures by our Congress and by our legislatures but appropriations that are productive of so much real monetary benefit are not the ones to cut down. If we had a few big cattle men and farmers in the National Congress they could easily put the politicians of the Taggart kind right on appropriations.

SHOULD ENCOURAGE SHEEP HUSBANDRY IN MISSOURI

We have frequently called attention to the natural advantages offered to sheep raising by Missouri and we believe at this time too much can hardly be said for the encouragement of sheep husbandry in the state. Just now the price of both wool and mutton is attractive to the sheep grower and it is the belief of those best informed on the outlook that good prices are almost certain for several years. At this time there seems to be a shortage in the number of sheep and in the supply of wool and it will doubtless take several years after the European war ends to make up this shortage.

The man engaged in growing sheep does not have the uncertainty before him of the fruit grower or the grain grower because these crops are so easily overdone. The sheep and wool crops are increased so slowly and the products being among the actual necessities that the farmer who engages in the sheep business can at least count on a reasonable profit.

If those who are cultivating the hillside land of this state have not already found out they are plowing too much they will find out sooner or later but it may then be everlastingly too late.

It is much easier to begin with a half-worn soil and seed it to grass than it is to do the same thing with a field with all the top soil worn away. We have thousands of acres of hillside land in Missouri, some of it in the better counties, too, which are already in the half-worn state. Sheep and other live stock with blue grass, clover, alfalfa and other forage crops will redeem these lands and make them profitable and it is about the only way it can be done. Of course with a system of intensive cultivation and expensive manuring it is possible to redeem most any worn out land but it will be another century or more before we have reached a condition of markets and human labor that will make such a system profitable.

The extension service of the department of agriculture in Pennsylvania has undertaken a project to build up the sheep business of that state and we think a similar service could be started in Missouri to the great advantage of thousands of farmers. During the last six years the production of wool has decreased about one-third in Pennsylvania and it is stated that the greatest cause of the decrease has been the ravages of dogs. Missouri has probably just about held her own in the number of sheep but the fact remains that we have room for ten times the number now found on our farms. Not every farmer is favorably situated for growing sheep but certainly a survey of most any neighborhood will show a number of farms that could grow a flock of sheep on the weeds, brush and feeds which now go to waste.

The extension service in Pennsylvania proposes to gather directly from the farmers who keep sheep, accurate data as to breeds, methods of handling, pastures, feeds, etc., and to have the accounts concerning many flocks showing the profits derived therefrom published in the farm papers and in the county papers so as to make the farmers thoroughly familiar with sheep husbandry and the reasonable profits of the business.

We do not know of a better way to create an interest in any industry, or in any line of lievstock production than to get first-hand facts from farmers and publish them so other farmers can study them. Without wishing to appear in the attitude of a critic of our own Missouri extension service it does seem to us that the one greatest weakness in the plan pursued is in the lack of publicity. Where one will read a circular or a bulletin or a circular a hundred will read a farm paper and if plain stories of what certain farmers are doing in any line were obtained by the extension men and furnished the farm press no reading farmer need be in the dark very long. We think the results of all the work that is being done and all the money that is spent could be many times multiplied if a wider and better system of publicity was inaugurated.

This last suggestion may be a little off the subject we started to write about in this article but will help to get more sheep on Missouri farms if it is carried out.

THREE BIG FAIRS

The people of Missouri have ample opportunity to attend a big fair and to see the best live stock and grains and the improvement that is being made in farm machinery and many other lines of industry.

The first of Missouri's big fairs this year will be the State Fair to be held in Sedalia, September 23 to 30 inclusive. There are many educational exhibits to see at the State Fair, in fact most of the exhibits are educational but we think one of the most valuable features will be the machinery exhibit. Farm power and machinery has become a very important factor in the management of farms these modren days and no farmer or farmer's wife should attend the fair without making a close study of the improvements management of farms these modern equipment of a home with some kind of improved heating system and lighting system will give the farmer's family the same advantages as the city folks enjoy and will do much to stop the unrest of country life. The gasoline engine that can now be bought for a very moderate sum can be made to do the hard work of washing, churning, house cleaning, wood sawing, feed grinding, water pumping, turning the grind stone and many other things that have made farm life a burden but now turn it into a continuous pleasure. Most all these processes will be in demonstration and will not cost a penny to see after you get inside the gate.

One of the attractive features at the State Fair this year will be the exhibit in the University building which our readers will find near the main entrance to the fair grounds. This exhibit will be made up largely from the College of Agriculture and School of Engineering.

The week following the State Fair the American Royal will be held in Kansas City, this is the greatest exhibit of purebred live stock in America, if not in the world and no young man can spend a week anywhere and gain so much valuable information about the leading breeds of live stock as he can at the American Royal.

The great St. Louis fair will also be held the same week October 2 to 7 and this fair being under the management of John T. Stinson, who for several years so successfully managed the State Fair insures a high class exhibition.

BARNYARD GOSSIP

We often here merchants complain about farmers buying by mail order. Now, suppose a farmer finds he can buy an article by mail for 80 cents that would cost a dollar at home he sends away 80 cents, pays the railroad 5 cents and has 15 cents out of the dollar left in his pocket. If he buys the article from the merchant for a dollar his pocket is empty, the merchant has 15 cents to warm his pocket and the 85 cents finds its way to the railroad and the manufacturer just the same. You have a richer merchant and a poorer farmer in the latter case but I fail to see how you have improved conditions any. The thing to do in this case is for Mr. Merchant to wake up and find a simpler way of doing business so as to cut down expenses, to co-operate with his fellow merchants in buying in larger quantities thereby getting better prices and saving in freight so he can make me a better price. I want the merchant to live but not altogether at my expense—I want him to render some real service for what I pay him. I am not willing that all the cost of the community shall be charged up to Mr. Farmer. We need merchants, we want to preserve the town, certainly we do but we do not want to put too heavy a load on Mr. Farmer to do it—else all we will have will be the shifting tenant farmer and he does not make the best customer for the merchant.

Do merchants think there is no way to compete with mail order houses? There is a way and merchants must find it or take the consequences.

But while I always try to defend farmers in their rights in buying where they can buy to advantage I do not overlook the fact that it is a good thing for a farmer to live close to a good live town. You can not have such a town unless the farmers patronize the merchants and co-operate with them in all matters looking to the public good. We have often pointed out the disadvantages of patronizing mail order houses and we believe that the farmers around any good town will find it to their advantage to buy most articles of ordinary retail merchandise from the home merchants. The competition is so sharp in most lines that goods are usually sold at a close margin. But when the buyer feels that he is not getting a fair price it would be better to quote prices to the merchant and compare the quality of articles and give him a chance to meet them. In most instances you will find you can meet the mail order prices and have the satisfaction of standing by your home town.

Recently the farmers of a Missouri neighborhood thought they were paying too much for flour. They clubbed their orders, went direct to the mill and the miller gladly gave them the same cut on prices that were given the grocery men and the farmers saved 12½ per cent on the price. Where there is a mill in a town what sense is there in the miller selling his flour to a groceryman in the same town at a price 40 to 60 cents a hundred below the price he charges the farmer. It is the grain grower who makes the miller and the miller should protect the men upon whom he depended. The greatest saving farmers can make in buying is, first, to club their orders wherever that is possible and then give the local merchant a chance to furnish the goods. But in buying heavy articles such as salt, coal, feed, grain, etc., the farmers can usually save money by getting in touch with the growers or dealers and by buying direct in car lots thus saving commission, storage and extra handling. This is a business however that farmers can handle only by and through farm clubs.

AT THE FORK OF THE ROADS

There shall be strikes and rumors of strikes. The railway men, the coal miners, the drivers of milk wagons, and the car men pass in continual procession in front of us, impressing us with the fact that the toilers of the city find it harder and harder each year to keep the wolf from the door. Once in a while, the spirit of greed dominates, rather than the spirit of need, but usually a strike is the answer to necessity. As food goes higher, wages must keep apace. But what of the toilers at the other end of the line? Are farmers getting rich as the price of food goes higher? Statistics say no. Who then profits from the toil of the men of the farm and the toil of the men of the city?

When the middlemen charge 54 cts. for carrying 46 cents worth of farm products to the consumer, it is easy to understand one reason for the high cost of living. Pirates once sailed the seas and took their tribute from commerce. The modern pirates don't sail the seas, but they get their tribute just the same. Shall we continue to live here in this "Land of the free and home of the brave" and allow the pirates of industry to exact their toll?

It was written in the Book, "The husbandman shall partake of the first fruits of his toil." The pioneer farmer took for himself the first fruits of his toil and so received his reward. When we sit down at the banquet table to partake of the fruits of our toil, the modern vampires worse even than the vampires of old mythology times, reach forth and snatch the fruits away. Mythology describes this vampire as a winged monster, ravenous and filthy, with the face of a woman and the body of a vulture; long claws and face pale with hunger. "Before it, every good thing vanishes quite." When whole flocks of these vampires circle above us, it is time for us to get together for protection. Our forefathers handed down to us the spirit of independence. The way for us to retain our independence is by being dependent on each other. We must decide to day. The crisis is here. We are at the fork of the roads. One road leads to the land of run down people on run down farms—to the land of poverty and peasantry; the other road leads to the land of plenty and prosperity. Which road are you going to travel. Are you waiting for directions? On the road which leads to the land of prosperity is a sign board, and on this board is written these two words: Educate and Co-operate. Educate ourselves so that we may bring science to our aid. Science is knowledge. Knowledge will enable us to maintain the fertility of our soil and to get the maximum returns for our labor. But we must do more than educate. We must do more than raise the big crops. We must get a just reward for it after we have raised it. We must co-operate if we are to get a square deal in the halls of the law makers and the markets of the land. Are our interests respected in either place? "Fall to each, whate'r may fall, The farmer, he must feed them all." Yes, we feed the world but we have little to say, even about the things that concern us. Is ours to be the lot of the toiler and nothing more? It was written, "In the sweat of thy brow shalt thou eat bread," but never was it written "In the breaking of thine heart." Is the spirit of freedom which burned in the hearts of the heroes of the Revolution, to die? Is ours the fate of the peasant farmers of the great nations of the past? Are we to descend to the plane of the peasant farmers of Europe and Asia? Hordes of toilers on the farms of India receive as little as 5 cts. per day. The Chinese farmer raises but little more than he needs to keep from starving. Is the time coming when the successful American farmer is to be the one who can live the cheapest? Some tell us the time is coming. Some say peasantry is in store for us. It depends upon us. We are living "in an age upon ages telling." Ours is the grand duty of deciding the future standing of the American farmer and the American nation. Are we to drift along in the course mapped out for us or are we to don our fighting clothes and fight a manly fight. If we can not make enough money to maintain our position in society, government, and the economic realm, we will have to descend to a lower plane.

Is there light? Yes, there is light. The dawn of a new era is here. Increased yields obtained by the application of science and labor saving machinery means increased profits if we get an honest market for those products. So ours is a bigger problem than growing two blades of grass where one grew before. After we have garnered the fruits of the soil we must co-operate so that we may get our reward.

But immediately there comes to us the mournful wail, "It can't be done, it can't be done." That's what they exclaimed when Columbus said "I am going to sail around the world. "That's what they exclaimed when Edison said, "I am going to talk along a wire." The way of the transgressor is hard. So, also the way of a new idea is hard. Say not that we can't co-operate. It can be done, it has been done, it is being done. With the fact staring us in the face that it is being done, some will still wail, "It can't be done." That is either foolishness or coward-

(Continued on page 12.)

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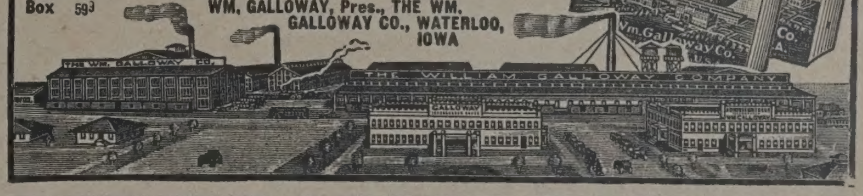

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Ask about the Ro-San Washstand—Hot and Cold Running Water Without Plumbing

CO-OPERATIVE LIVE STOCK SHIPPING IN WISCONSIN

For several years the marketing of livestock was an interesting problem to me. It had always seemed to me that there must be some method by which a farmer could get his stock to market without putting a profit into the pocket of a local buyer. The farmer was the one man who "got his" both going and coming. I know of no place in marketing that the farmer sets the price upon his product. In other lines of work the producer usually sets the price on his wares. Prosperous farmers in every community have for years shipped their own stock to market provided they were fortunate enough to have a car load. In our little community we reasoned that if it was profitable for the farmer who had a car load of his own livestock to ship, it would be profitable for several farmers to go together and make up a car load and ship it. Our experience has proven that our reasoning was correct and that all that was needed was an organization and system to make it effective.

Our organization is very simple, consisting of a group of farmers who have agreed between themselves to ship their livestock together. This group got together in November, 1913, decided to give the plan a trial and selected a president, secretary-treasurer or manager, and yard man.

A farmer who desires to ship stock with us must list his stock with the manager. The manager keeps a book in which he puts down the name of the farmer, the number and kind of animals he has to ship, and the approximate weight. One farmer may have a dozen hogs, another twenty hogs, another one hog, another a calf, another a cow, etc. When the manager sees from his book that he has a car of hogs or cattle or sheep, as the case may be, he steps to the telephone and calls the railroad company and tells it he wants a stock car on a particular day. He then calls up the various farmers who have stock listed and tells them that on a certain day they can bring in their stock. On the day appointed the stock is received at the yard by the man hired for that purpose, who weighs the stock and marks it. He keeps a list of the stock, the weight and the mark that has been given each shipper. The stock is then loaded and shipped either to Chicago or Milwaukee depending upon the size of the load, the quality of he stock, etc.

When the stock is received at the central market it is unloaded, fed and watered. If it is a shipment of cattle the cattle are sorted according to owners. If it is a shipment of hogs they are sorted according to grade. It is possible to sort hogs according to owners also but the result is a heavier shrinkage than by doing the other way. The stock is sold and weighed and the commission house to whom the stock was shipped deposits the money in a bank to the credit of the Shipping Association the day the stock is sold.

You may ask how does the commission man know how to sort according to owners? The manager prepares a shipping bill the day the stock is shipped setting forth the name of the owner, the weight of his animals and the mark. This shipping bill is mailed to the commission house handling the stock in the central market and reaches there as soon or sooner than the shipment. After the sale in the central market the commission house makes a report of the sale to the manager of the association, in which he sets forth the amount charged for freight, yardage, commission, insurance and feed and this is deducted from the gross amount of the sale. Upon receipt of the report from the commission house the manager prepares his sales sheet in which he sets forth the home weight, the central market weight, the central market price, what the individual's stock brought at the central market, the individual's share of the central market expense, the charge against the individual for feed put in the car at home and the charge against the individual in the way of commission to defray home expenses, and the net amount due the individual. He then prepares a statement for each individual and draws a check for the amount due.

It is a very simple matter to make out the sales sheet for a shipment of cattle because each man's cattle are weighed separately at the central market. In the case of hogs this is not the case and it is necessary to pro rate the shrinkage using home weights as your basis. The central market expenses are pro rated on home weights but it can be done on the central market weights just as well.

The charge for feed put in the car before the car leaves the home market is based upon the number of animals in the car. In the case of hogs the usual charge is from five to eight cents a hog, depending upon the amount of corn put in the car and the number of hogs in the car. To cover the home expenses and create a small reserve fund each shipper who belongs to the association is charged three cents per hundred upon cattle and hogs and fifteen cents a head on calves. If the shipper is not a member of the association he may ship by paying five cents per hundred commission on cattle and hogs and twenty-five cents a head on calves.

The revenue raised in this way goes into the treasury of the association and pays the manager his salary, the yard man and helpers for their labor, and the losses that occasionally occur through the loss of an animal by death en route or the lessened value due to being crippled en route. To charge the loss of a hog up to the car in which it was shipped would be a great hardship on the other fellows who happened to be unfortunate enough have hogs in that car, but by our method the individual shipper does not know that there was a loss unless he happens to see the sales sheet that comes from the central market.

Now, what about results? During the past year we shipped fifty-six car loads of stock as against forty-three in 1914. One hundred and fifty-five different farmers used the association during the year 1915. One individual shipped with the association during the past year nine different times, others six times, some five times and so on down to those who tried but once with the assurance that they would come again as they were well pleased.

It is difficult to say how much money has gone into the pockets of the farmer that would not have gone there had he sold his livestock at home, but I believe I am safe in saying that from five to twenty-five cents per hundred more. I have had men tell me that they have made twenty-five dollars on a single shipment but I believe these to be extreme cases and rare. The shipper stands a chance of losing as well as gaining unless the manager watches market conditions quite closely. If the load of stock gets into the central market and strikes a drop of twenty-five cents per hundred the shipper will probably wish he had sold to the local buyer.

Time does not permit me to go into the subject of preparing stock for shipment and other phases of the subject. But I find that the farmer who is using the association is watching the market closer than he ever did before and is getting to know livestock values better than he did before and you cannot offer him any old price and expect him to take it.—R. M. Orchard, in the Banker-Farmer.

ARE YOUR CROP YIELDS DECREASING?

There is no system of farming that can be considered entirely satisfactory that does not increase or at least maintain the fertility of our soil. Occasionally conditions arise that prevent us from taking the future into consideration as much as is desirable. In periods of low prices or when a large mortgage is staring us in the face, we are forced to cropping practices that we will discontinue when market prices become normal or when our debt is reduced to a safe minimum.

Farmer Must Know "Whys" of Handling Soil

There is nothing that can do so much in a business way for an undertaking, as a clear understanding of the facts and principles, which if intelligently adhered to and applied, lead with certainty to success. This holds true for the proper handling of our soils. Our system of farming in the past has been, and in the present is, to a large extent to crop our land without giving any study to the soil. Before we can successfully manage any soil that is to produce large yields permanently, we must understand the underlying principles of soil management. We must know the "whys and wherefores".

No land can produce large crops for any length of time without special care and treatment. All our poorly managed soils show a decrease in their crop producing power. While on the other hand soils that have been given good treatment not only retain their fertility, but show a gradual increase from year to year. These are not mere suppositions. They are facts. Look into the agricultural history of any community and we find that soils that have been given proper care, such as proper tillage, crop rotation, the turning under of green manure crops, the addition of the available barnyard manure and an occasional application of lime, are producing as much more or more than formerly. While the same kind of soil in the same community with poor care and treatment is producing crops that are no longer considered profitable.

Growing Crops, a Feeding Problem

The business of producing crops on any soil is primarily a feeding problem. As we look upon our green pastures for feed for our livesock, so we must look upon our soil as a pasture from which our crops obtain their food. Plants feed and they get their mineral food from the soil. The little plant roots, with their root hairs, push their way between the soil particles; and our crop yields are always in proportion to the success the roots have in getting food from the surfaces of the soil grains. Each crop has certain set requirements for its best development and it is the business of the grower to find out what these requirements are and then see if his soil can supply them; and if not, what steps are necessary to obtain them.

For best crop production, we must develop or have present in our soils three fundamental conditions. These are:

1.—The presence of an abundant supply of plant food material, not necessarily available to our crops but which becomes the business of the farmer to make available from year to year.

2.—A good supply of humus, which is not so much an element of fertility but rather a releaser of fertility.

3.—Our soil must be in good tilth or crumb-like condition.

What Causes Loss of Fertility?

Since then even our poorer soils contain sufficient mineral elements of fertility, what then causes this loss of fertility? If we examine a sample of one of these soils that have gone backward, we find it gray in color. It lacks that characteristic black color that we associate with a fertile soil. It breaks up in the field into hard clods even with the best cultural methods and in periods of drought crops growing on it suffer very quickly. The soil constituent which is lacking or has been reduced in these soils is the organic matter and humus.

Humus is that black waxy substance resulting from the breaking down of the organic matter in our soils. It is that substance that gives to our soils the characteristic black color that the farmer associates with a fertile soil. For many years prior to the time our soils were cultivated, they were covered with vegetation, grasses, trees, etc. These died from year to year and decayed on the ground. They became mixed with the mineral portion of our soil. Rains washed part of the material into the soil and together with the decaying roots our soils became well stocked with this vegetable mold and humus. They were productive when we first tilled them, due to then humus content and are becoming less productive due to this loss of humus.

Why Humus Makes the Soil More Productive

It has been said that humus is the life of the soil. It not only contains plant food material necessary for crop production, but in the breaking down of the vegetable matter organic acids are formed. These acids in turn work upon the mineral constituents of the soil and dissolve them so they charge the water surrounding the soil particles, where the root hairs have easy access to take up the plant food and build up the growing crop. It is in this indirect fertilizing capacity that we must look to humus in bringing up our worn out soils and poorer soil to a higher state of fertility. These soils contain the plant food but it is locked up and and our problem is to release it.

Humus also improves the physical condition of our soils. It increases the water-holding capacity and aids materially in putting our soils in good granular condition. It makes our heavy soils more friable and much more easier to work. With our sandy soils it lessens the tendency to blow and binds the individual soil particles together.

Good Tilth

In addition to having a good supply of plant food material and humus, we must also have our soil in good physical condition. Our soil must be in a good mellow condition so that our crops will develop root systems large enough to take enough plant food material to support a large crop. The roots are the foragers for the part of th crop that grows above the ground and the first requisite for a good strong vigorous root system is plenty of room. Our soil must be in such condition so that the roots can force themselves between the soil particles in their search for food without too much exertion. When the soil particles are close together as they are in our heavy clay soils a good root system cannot develop. Crops grown on soil in this condition are first to suffer from both lack of water and plant food.

A soil in good tilth has an open crumb-structure. The Individual soils particles are grouped into compound grains or crumbs, allowing space for root development not only between the particles themselves but also between the crumbs. The roots can push down through the soil with ease and come into intimate contact with the surface of the soil particles where the film water is charged with plenty of plant food. Each compound grain acts as a sponge taking in water and holding it against the force of gravity until the crop is ready for it. The surplus water drains off readily due to the larger channels between the soil crumbs. Ventilation is better as we have a condition developed which is not only favorable to the development of a large root system but also to the development of the activities of the various soil organism which are so necessary for the maintainance of soil fertility.—C. V. Ruzek, Oregon.

BLANCHING CELERY

Proper blanching is half the battle of successful celery raising. Most markets refuse the unblanched article entirely and those of us who grow it for home use know that green celery is unwelcome on the table. The heart blanched by the plant itself is much better, and properly blanched celery is all heart.

In the "new celery culture" the plants are set six inches apart each way in beds, so only the outer rows need shading, for blanching is really another name for shading. The plants are sometimes grown in double rows so as to reduce the labor and material to half of what is needed when single rows are used.

No matter which of the many methods of blanching is used the proper time is always the same—when cool fall weather has come to stay. Banking before hot, burning weather is over may induce rust, especially if earth is used.

Earth is the best and commonest blanching material as it is usually the cheapest and imparts a nutty flavor not secured without it, but its use makes it necessary to set the rows or beds far enough apart so plenty of earth for banking can be secured.

Hilling may be done by hand with a small turning plow or with a celery hiller, but when horse tools are used, it is usually necessary to finish the work with a hand hoe. A better job can always be done if tillage throughout the season has been so thorough and judicious that the soil is fine and easily handled.

The earth should cover the entire plant below the lower edges of the leaves in such a way as to drain the plants well, as too much moisture will result in dirty and perhaps rotten celery. Special care must be taken never

to hill or handle the plants in any way while they are wet. As the plants grow and the soil settles, a little more earth may be added to keep the mounds up to the leaves.

The greatest economy of garden space may be secured by using blanching boards, held together at the top by stiff, wire hooks and at the bottom by a little earth banked against them. The same boards can be used several years if carefully stored under cover, so the cost is not excessive.

Some less usual methods include the use of a drain tile carefully placed about each plant; building paper or even newspaper wrapped around the plants; and individual patented veneer sheets, similar to those sometimes used in protecting young trees from rabbits. These individual methods, however, require so much work, care, and patience that they are unprofitable on any but very small plantings for home use. Earth blanching is best, especially for the late crop.—J. S. Gardner, Missouri Agricultural Experiment Station.

FARMERS WANT A FAIR MARKET

Whereas, on about June 19, 1916, our Government did post advertisers (in Kansas City, and other places), for bids on 62,000 and odd, horses and mules, and in so doing, some corporation did get the contract to furnish same, said corporation not having said number of horses and mules, must purchase same from the farmers or producers, said corporation immediately sends out buyers with established price. Farmer or producer must accept said established price, or keep said horses and mules.

Therefore, be it resolved that this Farmers Club does condemn such a practice by our Government as tending to create a combination in restraint of trade, and be it further resolved that in the future when our Government needs such supplies, we recommend that said Government advertise for same, and throw the market open to all competitors alike; to the end that every producer may offer that which he hath to sell, and receive the same consideration from the Government, purchasing agent, inspector, as any other individual or corporation, thereby permitting each and every citizen to exercise his inalienable right to compete in the market.

And be it further resolved that we recommend that our Secretary forward a copy of said resolutions to our representative at Washington, Mr. C. W. Hamlin, and urge that he endeavor to obtain legislation to this end.

And we further recommend that our secretary forward another copy of these resolutions to THE MISSOURI FARMER at Columbia, Mo., and urge and request that he co-operate with us, in obtaining such legislation by communicating with other Farmer Clubs of this state, and ask their concurrence in these resolutions, to the end that all of Missouri's representatives in Congress may unite to obtain such legislation.—Elm Park School District Farm Club, D. M. Stoll, Sec'y.

JUST AS IT HAPPEND

The two boys and I were busy putting up hay, with Bob Broxton assisting at $2.25 per day of twelve hours. The boys and I worked fifteen hours, but Bob came rather late and had to get home before sundown, for Mag, his 186 pound wife, is "afeard of haunts."

Just seven candidates called in the four days we were haying, and each one took up at least an hour's time of three men, for son Bill is too young to vote and he worked on while the candidates told us three voters why it was necessary to vote for them.

Bob was more deeply interested in the talk than either son Sam or me, for we only pay $46 tax a year, while Bob does not pay any, and as he has four dogs, the prospect of dog tax worries him.

* * *

The fourth day, just at 10 A. M. up drove the preacher, his wife and three children in their new automobile. He came to the field and insisted that we keep on at work, but as Bob swears so awkwardly and so frequently, I lied, and said we were not so busy anyway, and went to the house with him, all the time with a "good eye Jerry" on the mean looking cloud in the northwest.

As we were eating dinner at 12:30, the thunder began to roll, and Bob, who was seated just as far from the preacher as we could possibly put him, said "—— —— ——"; my sentiments exactly, but by telephoning for Jones, and all of us but the preacher putting in two hours of the fastest work on record we only got about a ton of our best hay well soaked, and I did not care much, when I heard next day that the preacher stuck in the mud a mile and a half from town, going home.

* * *

The next imposition practiced on us came thus. About dark a young man came up to the house and asked my wife if we could keep him all night.

She has considerable confidence in my ability to judge a man's character, and after I had pried myself loose from the Jersey heifer I was milking for the first time in her life, looking the young man over and asking him if he was selling patent medicines or fruit trees, I told him to go up to the house, sit down on the porch and rest.

Supper was over, but the girls and wife lit up the oil stove, cooked him some ham and eggs made him a cup of coffee and gave him a piece of pie. The boys and I got in at 8 P. M. and a little inquiry proved that our guest was selling a book; a Guide to Success at $2.65; $3.90 in full morocco, in order to get money to put him through medical college in Virginia! !

* * *

The next morning wife and the girls subscribed for the book—$2.50 in cloth, the 15 cents reduction representing the agent's idea of pay for a bed and two meals. Three weeks later, another fellow delivered the book, and there in black on white, on the medical students order book, was my wife's order for a copy in morocco binding at $3.90, and hang me if he did not bluff the folks into taking it, for for I was not at home.

The sum of $1.40 was too small to pay to chase the fellow, but he has played the same game at other places. I could enter this in the profit and loss column:

Dr. To Seven hours, Bob, Sam and self, candidates	$3.75
Dr. To One ton hay spoiled, acc't of preacher	11.00
Dr. To Amount stolen acc't of Book Agent	1.40
Dr. To Two meals, Book Agent	.70
	$16.85

* * *

We had some twelve squares of roofing to do, and the pirate who runs the local lumber yard, asked me $4.25 per thousand for shingles, so I told the boys that we would use a felt or rubber roofing, and another home talent pirate wanted $2.40 per square for 3 ply. It is only 50 miles to a good city and there I went, at a round trip expense of about $4.00 buying from a reputable concern, fifteen rolls, mill end 3 ply roofing at $1.10 per square

Gray had paid $20.00 per thousand feet at the lumber yard for a lot of miserable cull stuff, so it was me for the train again, and for a saw mill fourteen miles away, where they sold me good mill culls at $12 per thousand, and the railroad charges on 1000 feet was $1.50 to our station, one square from the lumber yard. I measured it up when piling it, and had 1125 feet, while Gray complained that his fell short 75 feet.

* * *

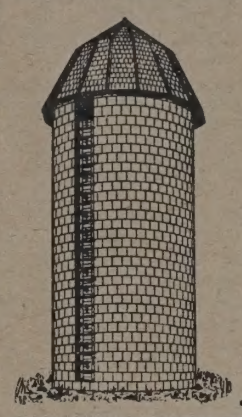
The mill end roofing fell short from 10 to 12 per cent, as I expected it would, in all other respects it was as good as what Gray paid $2.40 for, and he had the same as I did, twelve rolls or squares. We will now compare our bills, as this time the profit and loss account is in our favor.

Gray—	
12 squares roofing at $2.40	$28.80
1000 feet lumber at $20	20.00
	$48.80
Us—	
12 squares roofing at $1.10	$13.20
Trip to city	4.00
Freight on roofing	.90
R. R. fare to saw mill	.45
1000 feet lumber at $12	12.00
Freight on lumber	1.50
Shortage in roofing	1.50
	$33.55

Only $15.25 saving, or if we add $1.40, the value of the extra lumber sent us $16.65, not to charge him with $1.50 shortage in his lumber—we both paid cash.

Brother farmers, do you know that very little organization would save every one of us many dollars a year.

Eli Kirk.



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DO YOU SEE THE BEAUTY ABOUT YOU?

A long time ago a Grecian philosopher, Aristotle, said, "There is a relation between the beautiful and the good." This statement is just as true today as when first uttered. It is undoubtedly true that the desire for the beautiful, as seen in well kept city homes and in the splendid parks, has had its influence in causing many to move from the country to the city. This is true in spite of the fact that in the country there is beauty so superior that all the city can hope to do is to approach rather than equal or surpass it. The great trouble has been that our eyes have not always been trained to see this beauty. Did you ever have a stranger, as he passed your farm home, say, "What a beautiful, well kept place over there"? If so, you have felt a thrill or satisfaction, the value of which can not be measured in dollars and cents. Have you ever, as you turned in your own front gate, thought that here is one of the most attractive places I have seen on all the day's journey? If so, it is probably such a place as will continue to appeal to you and to your children.

Where do you and the members of your family find your recreation, pleasure and entertainment? When you have a few hours time to use just as you wish, do you take the children to the moving picture show in the nearest town, or do you, with an inviting lunch, go to some attractive spot in the country for a little picnic or outing? The manner in which the child spends his vacation will have much to do with his ideas and ideals in later life. The boy who knows nature, who has been taught to appreciate the beautiful in the country, who knows the many likely fishing holes where the perch or cat bite best, who can name the birds that he sees or hears sing, who can build a good camp-fire and fry bacon over the coals, will be very much more apt to stay in the country than will the child whose idea of entertainment is confined to the picture show, the circus or the store.

What the country needs most is not so much more beauty as a greater appreciation of the beauty that is there.

W. L. Nelson.

PEACH TREES CUT BACK NEED SUMMER PRUNING

In many parts of Missouri fruit buds of the peach were killed by late frosts. As a result of this the trees were usually and properly pruned back severely to renew this year's growth of wood lower down.

As a result of this heading back and the moist season, the trees are making an unusually vigorous dense growth of new branches. In order to secure the best form of tree according to the experience of the Missouri Agricultural Experiment Station this dense growth of new limbs should now be thinned. If all these branches are left crowding each other, they will fill the center of the tree which will result in their being shaded and weakened. This will prevent the proper fruit bud formation in the body of the tree.

Enough thinning of the dense branches in cut back peach trees should be done to open up the center of the trees to admit sunlight and air. Space the branches so each one will have room to make full development and mature its fruit buds for the coming season. Pruning should be most abundant in the center of the tree in order to form rather an open center and to encourage the formation of a low, wide, spreading head. The tendency of much of this new growth is directly upwards. In many cases strong inner branches growing straight up may be tipped back to outward growing side branches to secure lateral spreading form of the tree.

Give this strong new growth plenty of room and light and a fine crop of fruit buds will result next year, but if they are too densely shaded, the fruit buds cannot develop and mature to best condition.—J. C. Whitten, Missouri College of Agriculture.

No permanent system of agriculture has yet been devised which did not include live stock, and agriculture is the basis of our bank accounts. Upon it rests the commerce which feeds and clothes the world the transportation which distributes where needed and the banking systems which pay the bills. The prosperity of the farmer is the prosperity of the world and live stock is its carburetor.—I. D. Graham.

AT THE FORK OF THE ROADS

(Continued from page 9.)

ice. They say we can't stick together. I say we can stick together if the right sticking stuff is used. What is the proper sticking stuff? Necessity. Necessity pointed the Danish farmers toward co-operation; necessity points us in the same direction. Necessity pointed the toilers of the city toward co-operation in order that they might live; necessity drives us to co-operation in order that we can have more than a mere existence. The Mills of the Gods grind surely. So do the mills of the packers. They are grinding us down to the point of action. The challenge for a fight to the finish is flung into the teeth of each farmer of America. Are you going to fight or lay down?

When I look into the faces of the farmers gathered together in the school houses to organize, the whipped cur look is not there. On every face is stamped the same indomnitable spirit of the countryman, which in the past has conquered the wilderness and made this country the crown and glory of the nations. The call to day is for men.

"Men to match the mountains,
Men to match the inland plains."

The Macedonian call goes up from every country home in the land. How well we rally to the call will tell the story, for we are living "in an age upon ages tell, in a grand and awe full time."

B. P. Smoot,
Centralia, Mo.

SOME PRACTICAL QUESTIONS

To The Missouri Farmer:

I want to drill rye on my corn for fall and spring pasture and to improve the soil. To make it more valuable I want to sow hairy vetch with the rye and plow all under in May. Where can the culture or bacteria for inoculating the vetch be obtained? Would soil from an alfalfa field inoculte for the other legumious crops? Since the bacteria is similar I thought it might be possible to use the alfalfa soil in the spring on land to be sown to soy bean or oats and vetch. Where can I obtain lime for liming old corn ground to get it in readiness for seeding to alfalfa. I have been fairly successful with alfalfa but after taking every precaution as to seed bed, seed, etc. I find it difficult to get a really good stand.

The last issue of "THE FARMER" contained an article that gave me exactly the help needed in saving the hay—the idea of leaving it and letting it heat without being disturbed is contrary to general practice but is exactly what I had thought to be the right method but very few know this. Lyon's Practical Farm Papers gave it very explicitly and I greatly value the suggestion or advice.

I have one field of 35 acres that slopes in such a way that I find it difficult to farm it so as to prevent washing and the major part of the land is too valuable to put into pasture. It is largely rich branch bottom but rises to a point. The corn washes out on the slopes and covers up in the bottom to a great extent. It would lend itself perfectly to terracing and that would solve the problem but where can the right help be obtained for this work. This would not be done until spring as it has a corn crop on it at present but I should like very much to do this work the coming season.

In preparing a yellow clay hill-top for a lawn I will plow deep and dress heavily with barnyard manure—clean manure from fattening cattle pens—disk in and work down for a seed bed. Now, I would like to know what else I should do to prepare for sowing blue grass this fall. The top of the hill was graded somewhat for building which of course leaves only clay but I have a spreader and as much manure as needed. If you can suggest a fertilizer, kindly tell me what kind and where to obtain it. Although I take and read a number of farm papers, I see very few advertisements of fertilizers except ready prepared and practically none for cultures for the legumes.

Hattie D. Sutton.

Sowing rye and vetch in the corn to afford fall and spring pasturing and to give a cover crop for the protection of the land is a most excellent practice and ought to be more generally practiced than it is. Just now vetch seed is so high in price that it is doubtful if farmers can afford to pay the price but it is a good plan to sow rye alone. If farmers would try they could grow their own vetch seed and solve that problem. Hairy vetch or winter vetch as it is sometimes called is the only variety to sow. For the culture for inoculating vetch write the bureau of plant industry Department of Agriculture, at Washington. A number of firms make these cultures and sell them at a reasonable price.

The bacteria from an alfalfa field will not do for vetch. Alfalfa and sweet clover have the same bacteria but the other crops, vetch, clover, soy beans and cowpeas must be inoculated with their respective bacteria.

There are a number of places where crushed lime can be bought. Your nearest being at Breckenridge and Kansas City. Generally speaking the better class of soils in Northeast Missouri do not seem to be in need of lime but where the land has been farmed heavily it may be profitable to use. The only way to determine this accurately is by making a trial with the application of a ton or more per acre. Wherever there is a good quality of limestone it will pay farmers to form a club and buy a crusher and operate it among themselves. Quite a large saving can usually be made by doing this. Your failure to get a good stand of alfalfa may have been due to inoculation and it may have been poor seed. In buying seed it is a good plan to first get a sample and have it tested by the Seed Testing Laboratory in the Agricultural College. This will cost you nothing and will show you the purity of the seed and the percentage of good seed.

The method of curing clover you mention has been explained in THE MISSOURI FARMER but is not always entirely satisfactory. If green, clover or alfalfa is put into a tight mow and enough of it put in at one time to give weight enough to pack the hay well so as to exclude the air the results ought to be satisfactory. The principal is about the same as in siloing green crops. Sometimes legume hay is put in green in large stacks and a few inches on the outside will cure out then a ring of mould a few inches deep will form which excludes the air and inside that ring the hay will cure out by its own heat. In using this plan the hay should be entirely free from any moisture from dew or rain. The hay should contain nothing but its own moisture.

In our own practice we have generally aimed to use a modified plan of the green method. We like to cut the hay in the afternoon, say from 2 o'clock until sundown and let it lie until well wilted, say about noon the next day, then put into the barn. If the hay is heavy it will be only partly cured but will be very much lighter to handle. There is always some danger of spontaneous combustion when handling green hay, but the danger is much more if there is dew or rain on it when going into the barn. The hay will get very hot but it must not be torn up or aired out in any way else it will be damaged.

For help in laying out a system of terracing we suggest you write the department of soils, University of Missouri and the United States Department at Washington for bulletins and suggestions if you may need an engineer to help lay out the terraces.

For preparing a clay soil for blue grass, we would suggest a very liberal use of the manure and coarse manure will be all right if you can get it well worked into the clay. Apply the manure before plowing, then if available put on some well rotted manure after plowing and when a good seed bed is obtained seed with a mixture of grasses. September is a good time for seeding. A number of mixtures may be used but the following suggested by the U. S. Department is perhaps as good as any: In the proportion of 17 pounds of blue grass, 4 pounds recleaned red-top, 3 pounds perennial rye grass and 1 pound of white clover mix the seed and of this mixture sow from 4 to 5 pounds for every 1000 square feet of surface. This is very heavy seeding but as a lawn is not usually very large it is better to seed heavily than to fail to get a good stand.

$1,000,000 for Furs!

We have a million in cash ready to pay you for your furs. This means safe, prompt returns. We pay full prices shown on our price list. No deductions made on pretext of commission, transportation or anything else. **No one pays more.** If higher prices are quoted beware of deductions. Thousands of hunters and trappers make sure living by depending on our fair dealings. Farmers who quit others stay with us. Why run risks of losing a whole season's work by sending furs to someone you are not sure of? Remember, $1,000,000 in cash and a thirty-year reputation are behind our offer. Write today for price list. Then we will keep you posted on every turn in the fur market, so no one can mislead you. Originators of Classified Price List.

Becker Bros. & Co. Dept. C5, 416 N. Dearborn St., Chicago Dept. C5, 129 W. 29th St., New York

SPECIAL JERSEY BARGAINS!

Due to poor crops and to reduce my herd to winter accommodations I will sell about 20 cows; 20 heifers from 10 months to two years old; and 15 bulls from calves to yearlings. The famous Blue Belle-Golden Rosebay breeding. Send for circular. No reasonable offer will be refused for this stock. All registered.

THE ENNIS STOCK AND DAIRY FARM,
(Just south of St. Louis.) HORINE, MISSOURI.

FARM WIFE NEEDS SCREENED PORCH

(Prepared for The Missouri Farmer by Nellie Maxwell of the Department of Farmers' Institutes of the University of Wisconsin.)

The screened porch opening into the kitchen and overlooking the flower garden, which every woman loves and should take time to enjoy, is one of the delights that is coming for every farm wife. This porch may be used all summer for the outdoor dining room and for a sitting room, too, if there is not another porch, (also screened) on the other side of the house

This porch with its view of the lovely garden and shrubbery is a delight from early spring when the first plum and cherry blossoms come, to the time of late autumn flowers. Why should the view which is seen so often from early dawn till dewy eve be a chicken coop or a pig pen?

Chicken coops, pig pens and barn yards are indispensable but why not arrange to have the often unsightly spots screened by shrubs? The beautiful elder grows in profusion nearly everywhere and there is no expensive shrub bought in a nursery which has more grace and beauty. It grows easily and spreads so that in a few years one may have a lovely background for the garden in front. It is doubtful if the Psalmist could have written so charmingly if he has not been able "to lift his eyes to the hills, whence cometh my help."

The tired housewife standing behind the washtub or dishpan who is able to lift her eyes to the hills or woods or a beautiful stretch of waving grain, is rested and inspired by the sight. Have the window over the table or sink looking out on the most charming view to be had. Most of us spend the greater part of our daylight in the kitchen.

On this porch she may prepare her vegetables for dinner, here she will pick over the fruit for canning, even iron and mend, and the porch might be extended to the upper story making a delightful sleeping place for the family. How nicely this would save the care of the bedrooms, for when we camp out each is supposed to make his own bed. There is absolutely no chance for debate as to the value of a screened-in porch; the sleeping porch has come to stay.

The expense of screening a porch is an item that must be considered and yet where the man of the house is at all handy with tools it may be done with little expense outside of the cost of lumber, screens and paint. The amount of comfort enjoyed by the family on such a porch can not be estimated in dollars and cents.

In ordinary seasons it may be used for an outdoor dining room, and sleeping porch for baby from four to six months of the year. What home convenience at the same cost would be the comfort to the entire family?

WHY SOME BOYS LEAVE THE FARM

The case in mind is that of boys who have been born and reared on the farm. Their fathers went in debt for their farms and by good management and with the help of their boys' labor succeeded in paying for their homes. They had plenty of work to keep their boys busy. The fathers did the planning and the boys did the work with the help of the hired men. The fathers handled all the money. If the boy had any money he got it by asking his father for it. For from four to seven years before they became of age most of these boys did a man's work; but it was for their father, and they considered it due them from their children.

So when these boys became of age, they knew how to work but they did not know anything about how to use money and very little about farming. In most instances, the father would give the son, when of age, a hundred dollars, a horse, or something of about equal value. The son would like to go to farming for himself, but he hasn't enough capital to make the start. What is he to do? He knows that a farm hand's time is worth from twenty to thirty dollars and board per month for about six months out of the year. And he reads the papers enough to know that in the cities some employees are receiving seventy-five dollars or more per month. The industrious, worthy farm boy goes to the city in order to get a start. Since he must work for wages, he goes where he thinks he can get the most for his time.

Sift the facts out in the case of plucky, industrious farmers' sons and you will find them to correspond with the foregoing. Too many men raise their sons as farm hands rather than as farmers.

The dutiful son who has done his father's bidding until he became of age knows far less about the value and use of money than the young fellow of the same age who has had to rely upon himself for four or five years or more.

If the farmers would give their sons when seventeen or eighteen some land to work on the shares and some stock on the same conditions and act the "father" rather than the "boss," it would keep many a young fellow on the farm.

Some children have an insight into numbers but not into language. While with others it is the opposite way. Time, patience, and a good teacher can give any child of good mind a working insight into any subject that may come up in the course of study. So of farming. Many boys reared on the farm do not see into farming. They could be shown, if they had a good teacher.

L. C. McLeod, Taylor.

BUCKSHOT BY THE PROFESSOR

In an early issue of this paper, I trust that "Jim" Riley person will please inform us why he hasn't paid his last years' taxes.

* * *

This is a grand old state but we'v got a lot of barns that are better than the school houses we compel our children to go to school in.

* * *

Some fellows can't do a good job of "whittling" until they get about a nickles worth of Horse Shoe stuck in on the "off" side of their faces.

* * *

I can hear the low rumble of distant thunder—and I believe it means the "gathring of the clans" for the greatest farm organization movement this Country has ever known.

* * *

We'v heard a lot about "swatting the fly" and "swatting the rooster" but what we really need is to "swat" the fellows who are fixing an unfair price on the fruits of the farmers toil.

* * *

Judging by the number of fires, the convicts down at Jefferson City evidently prefer to take their chances in burning up rather than in staying in that institution as it is now conducted. Surely there's something wrong with it somewhere.

* * *

Please don't ask me how I stand on Woman's Suffrage. I got up the other morning feeling grouchy and after kicking the cat off the back porch, I incidentally remarked to my wife that I thought a woman's place was in the home and kitchen—and for the next five minutes I was busy dodging frying pans and numerous other things.

* * *

Like as not, if you and your neighbors would organize a Farm Club and then get in touch with THE MISSOURI FARMER it would help you to save about a dollar per ton on next winter's coal supply. It would also put you in position to buy bran, shorts, flour, cotton seed meal, fertilizers and coal at the wholesale price. Now can't you take a "hunch" when a mule kicks you straight in the face with both feet? Get busy!

* * *

Old "Sam" Jordan wouldn't cut much ice at a beauty show but all the same he is one of the most useful men this state has ever produced and if you fellows have never heard him you ought to write to the State Board of Agriculture and have them bill him for a speech in your neck of the woods real soon. Then you ought to give him an audience of a thousand farmers. He may "hang your hides up to dry" on a barbed wire fence—but a lot of you need "skinning" anyyway and old "Sam" knows how to do it to a queen's taste.

* * *

A new visitor arrived in Hades the other night and with a great deal of pride the Devil was showing him around over his establishment. Finally they came to a big room which seemed hotter than the rest where a lot of fellows were hung up by their heels on big pegs in the wall. The newcomer surveyed the scene critically and then inquired, "What's the matter with them fellers?" "Oh," replied the Devil, "those are farmers who don't believe there is anything to farm organization. You see they'r so d——— green we have to dry 'em out a bit first."

* * *

I see where the Agricultural College has hired E. H. Bullock of Edina to help out in lecturing on Agricultural Extension Work—and thereby they have displayed almost human intelligence for this man Bullock is a real farmer and one of the biggest farm leaders in this state. He is President of the County Farm Bureaus of Missouri and every Farm Club in the state should write to the College at Columbia and ask them to bill Bullock for a speech. Then be sure to give him a good crowd—for he will give you one of the best talks you have ever listened to. But when you ask for a man like Bullock or "Sam" Jordan, give them a big meeting—for these men are too useful to be raced half ways across the state to talk to merely a handful of farmers. They can talk to a thousand at no greater expense—and it will inspire them to the best effort there is in them.

Why not help out the "kids" in getting their lesons a little bit these long evenings? It's a mighty fine way to entwine their heart strings around yours.

* * *

Don't you let any politician get you prejudiced against the Land Bank Bill—for the politicians to the contrary notwithstanding, it is the greatest act in the interest of farmers ever passed by a Missouri Legislature.

* * *

If you and your neighbors should organize a fine little school house Farm Club—and if once every two weeks you met to discuss farm problems and the other great questions in which every farmer is vitally interested—don't you think farm life would look just a little brighter to you?

By Old Jim Riley

I see where some durn fool Professor says there aint no "soul element" in kissin' a pretty woman—that you kin git th' same sensation out uv strokin' a cats back. Well, there aint no "soul element" in a mules kick neither—and if a mule was to land on his head with both feet he couldn't give him concussion of th' brain 'cause he aint got any. Most Professors ought to be took out and drowned like stray cats shortly after they are born. If there's a Professor feller around in these parts that don't like my smoke, he kin locate me down at old "Hez" Brown's store whenever he gits ready.

A Gratified Subscriber

Dear Mr. Editor:

I have been a subscriber to your paper for a number of years. And have only one thing to say. "An editor that tries in so many ways to help the farmers as you do, and if you have not a great host of friends there is no use for the other fellow to try to be friendly to the farmers. We certainly are grateful to you for your help.

Enclosed please find an addressed envelope. Please send me information concerning the buying of coal direct from the mines, and oblige.

Very truly yours,
J. L. Buntin.

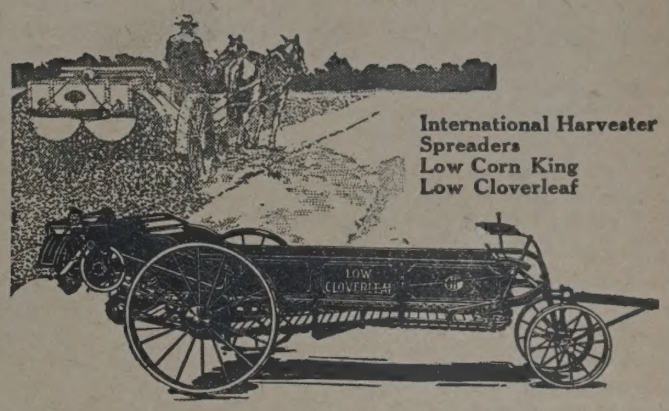
Two New Livestock Associations

Missouri is boasting of two new livestock associations as well as good records made by a number of older ones. The new ones are The Johnson County Livestock Association and the Knox County Poland China Association. In Johnson county the president selected is George Russell of Chilhowee, and the secretary is F. A. Gougler, Warrensburg, County Agent employed by Johnson county, the Missouri College of Agriculture, and the United States Department of Agriculture co-operating. In Knox county the president is E. B. Baker, Knox City, and the secretary is E. P. Byrne, Edina.

The St. Francois County Hereford Association has sold a great many animals already, although it is not very old and has promoted the interests of its members in a number of ways. Its latest sale being one of 83 Hereford bull calves to one man at one time for the range trade.—S. T. Simpson, Missouri College of Agriculture.

WON HIGHEST AWARD PANAMA-PACIFIC INTERNATIONAL EXPOSITION SAN FRANCISCO 1915 DEPARTMENT OF AGRICULTURE

Eight Feet Wide, or Better



ONCE you have seen both kinds of work you will say: "There is certainly a wide gulf between the ordinary spreader and the modern **I H C** machine, with its good, wide-spreading device. Give me the up-to-date, time and labor-saving spreader."

International Harvester spreaders—Low Corn King and Low Cloverleaf—are made with wide spreaders that throw the manure out in a wide, even spread, and broken up into fine particles by the disks that give it a second beating. In this condition the soil takes up quickly and evenly the fertilizing elements.

Though they are narrow, conveniently handled spreaders, easy to drive right into stables for loading, they spread to a width of 8 feet, or better. This cuts the spreading time in half, increases the tractive power of the spreader by keeping the wheels off the slippery manure, and gives you the best machine made for top dressing. **I H C spreaders** are simply built, and very strong. They are low for easy loading. They are built in sizes to suit any buyer, and they do work that is uniformly satisfactory.

Be sure to see the **I H C** dealer who can sell you a **Low Corn King** or **Low Cloverleaf**—or write us for catalogue.

International Harvester Company of America
(Incorporated)
CHICAGO USA
Champion Deering McCormick Milwaukee Osborne Plano

COCKEREL S. C. BROWN LEGHORN
Direct from hens with over 200 Egg record, $1.50 each.
BROWNIE POULTRY FARM,
R. F. D. No. 2. O'FALLON, MO.

Mississippi Farms for Sale

For sale, Mississippi farms in the Vicksburg district. Grasses green nine months in the year. The best location for stock raising. Prices $7 per acre and up. Barbour Realty Co., Vicksburg, Miss. 1t

Need Any Jersey Cows?

Elsewhere in this issue, the Ennis Stock & Dairy Farm of Horine, Mo., is advertising a fine lot of Jersey cows, heifers and young bulls and those of our readers who are in the market should read this advertisement carefully. The dairy game is a safe game for many farmers to play and here is apparently an opportunity to pick up some registered stuff at a low price.

Williamson's Polands and Shortorns

Mr. H. G. Williamson, the well known breeder of Big Type Polands and Shorthorns at Centralia, Mo., writes us that he has 24 gilts and 72 boars left from his spring crop that are as fine as any he has ever raised—and he is an old hand in the breeding business. Continuing he says: "These animals were sired by five as good boars as any herd can boast and are out of tried herd sows whose pigs have always given complete satisfaction to my customers. All my hogs are immune and I guarantee all stock to be exactly as I represent it in quality and value—or I will refund the money if the stock is returned to me in good condition. Could any man ask more?

In Shorthorns, I have a splendid working herd of 60 head and can furnish almost anything wanted. Many of them are extra fine milkers. My prices are reasonable and I guarantee satisfaction." Last spring Mr. Williamson sold 60 head of his fine Poland gilts to the Missouri Agricultural College—the buying having been done by Prof. Weaver. This shows that Mr. Williamson breeds the right kind.

BOWSHER Feed Mills

Crush ear corn (with or without shucks) and **grind** all kinds of small grain, cotton seed and **head kaffir.**

Stock Thrive Best on Ground Feed

Bowsher Mills are differently constructed from others. **Light running**—handy to operate. In 10 sizes from 2 to 25 H. P. Sold with or without elevator. We also make Sweep Grinders. Write today.

FREE *Catalog and folder on values of feeds and manures.*

T. B. BOWSHER CO.
South Bend, Ind.

Tractor Free

SEND NO MONEY-JUST YOUR NAME
You can become the owner of this $645 BULL TRACTOR, without cost, as a result of a few weeks spare time work in your own community and I'll pay the freight. Don't delay, write today for my new, easy plan.

V. O. WESTPHAL, Sec'y., St. Paul, Minn.

REGISTERED PERCHERONS,
39 heavy 3 and 4 year stallions, 68 rugged 2 yr. olds. Can spare 25 reg. mares, 24 reg. Belgian stallons. Priced worth the money. Near Kansas City.
Old Fred Chandler Ranch,
Rt. 7. - - Chariton, Iowa.

Live Stock Notes

Seed Wheat and Rye Wanted

THE MISSSOURI FARMER is receiving numerous inquiries for good wheat and rye seed and those having any for sale will please advise us of the variety, quality and price.

Shetland Pony Sale

Geo. Aid of Gallatin, Mo., is closing out a herd of Shetland ponies and those desiring to buy should get in touch with him. Here is a chance to make a start in a paying branch of live stock.

Cottingham's Closing Out Sale

Elsewhere in this issue appears notice of J. A. Cottingham's closing out sale of stallions and jacks at Moberly, Mo. Those of our readers who are in the market for stock of this kind should look up the advertisement and read it carefully.

Blackwell's Angus Cattle

J. D. Blackwell of Fayette, Mo., offers well bred registered Angus cows, also two year old heifers, bred to one of his show bulls, due to calve in early spring; also, yearling heifers, yearling and two year old bulls ready for service, at reasonable prices.

Taylor's Durocs

Chas L. Taylor, the well known breeder of Durocs at Olean, Mo., writes us that he has some extra fine spring boars and gilts by his Champion boars out of large, mature sows which he says are good enough to go into anybodys herd anywhere. Those of our readers who are in the market will do well to get in touch with Mr. Taylor who owns one of the best herds of Durocs in the state.

Brockman's Durocs

A. C. Brockman, the Duroc breeder at Centralia, Mo., is offering some high class boars and gilts of March, April and May farrow. These animals are out of splendid boars and big, growthy sows and have the best dark cherry color. They represent the best Duroc breeding all the way through and Mr. Brockman guarantees satisfaction. He will exhibit at the State Fair this fall.

Cooke & Son's Holsteins

"We are pleased to report very substantial sales from our Holstein herd in the past year. We have sold over $12,000 worth of breeding stock, and can truly say we are more than pleased with the individuality of the calves sired by our new herd bull, Prince Segis Walker Pietertje 123995, recently purchased of Emblagaard Herd, Mich. We now have 20 of these from 1 month to 10 months old. That these are going to add to the high standard of our herd is certain, for their sire's dam, grandam, and the 10 nearest dams of his sire, average for the 12, 29.75 lbs. butter in 7 days. Six of these are 30 lbs. or over. His five nearest dams all test over 4 per cent; his dam, 30.13 lbs. butter, tested 5.07 per cent; his grandam, 30.80 lbs. butter, 4.68 per cent, and the lowest testing dam in five generations is 4.15 per cent. Two of the dams in this five-generation line are two of the only four 30-lb. cows of the breed who have produced 30-lb. daugthers, who in turn have also produced 30-lb. daughters." —Holstein-Friesian Register.

Hill's Offerings

"For the next few weeks I am going to make a special offer on our spring boars. If the readers of THE MISSOURI FARMER are in need of boars, here is an opportunity to get a boar that will make money. I say this because these spring boars are properly bred, sired by big boars and out of big sows, and they should produce large litters of large pigs. These are spring boars, have been well grown, have plenty of size, stretch, bone, and quality, and are going to make big boars at maturity. Some of them are sired by Golden Tat, a big 800 pound son of Tatarrax Again, the reserve grand champion of Kansas State Fairs a few years ago. Others of these spring boars are sired by Col. Wonder II., the 2nd prize boar at the Missouri State Fair in 1913, he being a son of the grand champion boar of that show. Col. Wonder II is a lit or mate to the grand champion sow of the Missouri State Fair in 1914, so his breeding is excellent. Along with this breeding the boars by Col. Wonder II. have the size, substance and bone, the easy feeding qualities, and the conformation which most farmers and breeders desire to produce big pigs that make good breeding and market hogs. We are shipping out nothing but good boars, that the buyers will be glad to own, and boars that are a credit to our herd, and inquirers and purchasers can feel assured that they are getting good individuals. They can depend upon it that they will get a good boar, even though they do buy by mail order, and they can rest assured that we will stand behind our guarantee to please. We will ship out these boars and if the buyers are not satisfied with them on receipt, they can ship the boars back and we will refund the purchase price.

We have a few bred gilts left, due to farrow this fall, priced reasonably.

I have a good Shorthorn bull calf dropped May 19, 1916, that I am offering for sale. He is a bull with plenty of size and substance, good bone, a broad head, deep wide chest, a good top and underline, carrying his width well from front to rear, and well marked with white, the body being red. He is sired by College Knight, the bull which heads the herd of the Missouri College of Agriculture. The dam of this bull calf is Missouri Flora by Rejected Count, out of Shadewell Flora by Master of the Grove, tracing to imp. Flora 6th. College Knight is a straight Scotch bull. This bull calf will make somebody a good herd bull, and he is ready for shipment now."

Bob Hill, Columbia, Mo.

THE ADVANCE IN THE PRICE OF STOCK

Four or five years ago when the price of beef cattle in our markets showed such a rapid and unexpected advance in value, most stockmen began to realize that the announced shortage in cattle was something more than a prediction—it was a stern reality. The price of feed in the country had something to do with the sudden enhancement of values that sent fat steers up to $10 and $11 per hundred, but persons in touch with market conditions and with the cattle industry could plainly see that the question of supply was an important factor.

Livestock journals sounded a warning of depleted farms and abandoned ranges and counselled farmers to breed more cattle. At that time I contributed an article to farm papers calling attention to the fact that while there had been a large increase in the value of steers, both fat and stockers, there had been practically no enhancement in the price of purebred Shorthorns, and advising farmers to lay the foundations of herds while these cattle were going at such moderate prices and so be prepared for the brisk trade in cattle that there was good reason to believe was coming. Some took advantage of the opportunity and began breeding Shorthorns and so are now reaping a financial reward, but to many others, opportunity knocked in vain and they continued to grow corn and pay high prices for feeders.

The price of purebreds increased slowly, but hardly kept pace with the increase in the value of steers until during the last six months. A demand for them so sharp and insistent has sent values up to a level that will give abundant reward and great encouragement to those breeders who were loyal to the breed and who maintained their herds during years when prices were low and profits small. And while it is a hopeful and an encouraging condition of this active buying that among the buyers are many new it is one of the anomalies of trade that farmers who refused to buy cattle when they were selling so low a few years ago are now eager to get them at four or five times their values at that time. But in this case, as in some others, it is "better late than never." The purchase of a foundation at that time would have been a very wise investment, but purchases of good cattle made now and handled with intelligence will give a good return to the investor.

The success of raising and selling purebreds depends on the quality of stock and on the intelligence and skill of the breeder as a feeder, fitter and salesman, but to the farmer who does not wish to raise purebreds, there is still strong encouragement to grow steers for the markets, either finished or as feeders. For this purpose Shorthorns have always held favor with me.

The prices for steers that have pre-

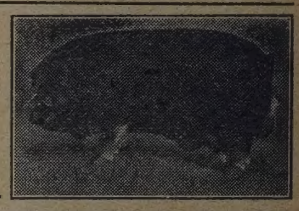
POLAND CHINAS

SPOTTED POLAND-CHINAS!
All Spring Pigs Reserved for Fall Sale, October 18, 1916.
Thirty-five head will be sold and they are of the big boned, big type, spotted kind. Ask for catalog.
JAS. A. THOMPSON, - - - - - HOLT, MISSOURI

Smooth Columbus
THE BOAR THAT PUT MISSOURI ON THE MAP. HEADS OUR HERD
SMOOTH COLUMBUS BLOOD has held the record in Missouri for two years—it will do it again next year. Fall pigs, either sex, by this great boar, now offered for sale.
BENNETT BROS. R. 5. LEE'S SUMMIT, MO

Spring Boars by the Grand Champion
A desirable lot of early spring boars by The Giant, acknowledged to be one of the greatest young Poland China boars of the breed. Prices within reach of all.
WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

Poland Chinas & Shorthorns
Bred sows and gilts. The real big kind with bone and quality. A few serviceable boars. Several extra good young bulls and heifers. Satisfaction guaranteed.
H. S. Williamson, Route 6 Centralia, Mo.



BAKER'S REAL BIG-TYPE POLANDS
We have a number of extra good spring boars sired by Big Look that we are offering worth the money. Need the room and must sell.
W. A. BAKER & SONS, BUTLER, MO.

Linhardt's Polands
I have a choice lot of extra good fall gilts sired by outstanding boars. Customers in 26 states. GIANT MAMMOTH 68375 and CHIEF BIG BONE 75856 in service. Priced for farm trade.
H. O. LINHARDT, LOHMAN, MO.

DOOLEY'S SPOTTED POLANDS
Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pair and trios no relation. Also registry furnished. Send check with first letter.
EDGAR DOOLEY, - Etterville, Mo.

THRIFTY HOGS
Are the money makers. They can not be thrifty and have worms. The worm preventative recommended by the College of Agriculture sells for only 3c per pound.
JESSE J CULP, - Warrensburg, Mo.

POLAND CHINA BOARS
I have a few extra good Boars for sale at Farmers prices. March farrow. The big boned type. Immune and well grown. Also any thing you want in Jersey Cattle.
J. B. SMITH, - Platte City, Mo.

DUROC JERSEYS

D. C. Thomson's Early Spring Duroc Boars!
We are now offering the trade a Select lot of early spring Duroc boars. Sired by Col. Wonder II, and T's Cherry Chief. The big kind with quality. Everyone buaranteed.
W. H. & GEO. E. THOMSON, - - COLUMBIA, MO.

Durocs With Size and Bone
I am offering a choice lot of early spring pigs with unusual size, bone and quality. Bred right and priced right. Visitors welcome.
A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

Adenhill Duroc Boar and Gilt Bargains
I can supply readers of this paper with choice yearling gilts bred for fall farrow. Also extra good spring boars. My Durocs are noted for size and quality. Satisfaction guaranteed. Inquiries gladly answered.
R. L. (BOB) HILL, ADENHILL FARM, - - COLUMBIA, MO.

RED POLLED

RED POLLED CATTLE
Herd established 16 Years
Young stock for sale. Young bulls sired by LOGAN 13500; Calves sired by KNOCKER 28791. Bred for milk and beef. Also offer spotted Poland China hogs and Rieds Yellow Dent seed corn.
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vailed for five years should encourage farmers to raise them in every community, as they did in the days before the competition of free grass on the western ranges drove cattle from farms in the corn belt. So whether it is to be production of purebreds or grade steers, Shorthorn blood will be found an important aid to success farm life. B. O. Cowan.

COMMON DIGESTIVE DISTURBANCES OF THE HORSE

Probably at no time of the year should the farmer be more careful in feeding the horse than now. This is due to the fact that new hay and grain, most of which is not yet thoroughly cured, are now being fed, and that the horse is required to work long hours with short time for feeding, so that it may be said that he has to engorge himself with an entire change of feed in from ½ to one hour.

New hay and grain are not as digestible as the older feed. If fed in large quantities it frequently is not digested but ferments and causes the bowels to become greatly distended the gas bears so hard on the import- the gas bears s ohard on the important organs as the heart and lungs that they cannot function properly. In some cases rupture of the bowels or diaphragm results with death in but a very few minutes.

Another result of improper feeding is what is known as spasmodic colic or cramps, in which the animal has very severe bowel pains at intervals between the pains the animal is quiet and may even feed. This is brought on by drinking large quantities of cold water while warm, sudden change of feed and exposure to cold, as standing out on cold nights without blanketing.

Musty and mouldy feed frequently cause diseases as digestive disturbances, heaves, pneumonia and especially nervous troubles. While the majority of the moulds do not produce disease themselves, they leave the feed on which they are growing a suitable seed bed for other growths which may cause numerous disturbances. However a few moulds are poisonous. These canot be distinguished on the feed but require laboratory examination for their classification.

Other causes of digestive troubles are, feeding grain before hay, and watering the animal after feeding. As oats requires more time for stomach digestion than hay, it can be seen that the practice of either of these methods will produce the same result, oats not having enough time for proper stomach digestion, will also not digest as thoroughly in the intestines, indigestion being the final result.

In summary it can be said that most bowel troubles are due to improper feeding. Improper feeding implying, feeding too large a quantity at a feed, too sudden change of feed, feeding musty or mouldy hay, feeding grain before hay and watering after feeding.

No one treatment can be given that will prove successful as each case requires a definite diagnosis and a study into the cause of the condition.

Preventative means are the most successful in the eradication of this trouble from the farm. A close study of the food requirements, which differ greatly in different animals, and supplying the animals with clean, sweet, well cured hay and grain, in amounts which he will just clean up at a feed, will prevent the majority of digestive troubles so common at this season of the year.—A. R. Hahner, Veterinarian, Idaho.

CORNFIELD LAMBS PAY

The light corn crop this fall makes it necessary to get the most possible out of the field. The practice of utilizing the undergrowth in the cornfield and the lower leaves of the corn stalks by pasturing the field with lambs has become quite a common one.

Fifty-three to sixty-pound western feeding lambs are used. The lighter lambs are used by those who wish to make a 90 to 120-day feed, finishing off the lambs in dry lot the last 30 or 40 days. The heavier lambs are used by feeders wanting to make a 60 or 70-day feed. Good to choice lambs are commonly fed. The number of lambs per acre will depend upon the amount and condition of the forage. Usually three to four lambs per acre will be sufficient.

A single deck carload of lambs will be about 150 or 160. Lambs can be purchased at the Kansas City, St. Louis, St. Joseph, and Omaha stock yards through any reliable commission house.

The following is a reliable quotation from a sheep commission company on the Kansas City yards: "Lambs have been fattened very successfully in the cornfield by a good many of our customers. Conditions may be a little different on account of the dry weather, and no doubt the lambs will require a 30-days' feed in the feed lot before they are considered finished.

"We look for a good high market throughout the fall, and if we are going to make a guess as to the market the first of December, we would say from $10.50 to $11.00. There is more reason for us to expect high prices this year than last."

The Department of Animal Husbandry of the Missouri College of Agriculture will be at the service of any Missouri farmer who wishes help in buying lambs or assistance in the management of them.—H. Hackerdorn, Missouri Agricultural Experiment Station.

SHELLED OR EAR CORN FOR HORSES?

A Cole County correspondent asks which will give best results for work horses, ground corn, shelled corn or ear corn? For horses with good teeth the ear corn is preferred. Corn that is kept over winter is fresher and sweeter if kept with the husk on and ear corn that is husked will be more free from dust and moulds than shelled corn. Another advantage in feeding ear corn is that it is masticated better because it is eaten more slowly. In the summer time corn meal does not keep long without the oil in it becoming rancid and for this reason we would place shelled corn second to ear corn and the meal last. When corn is ground for feeding only a small amount should be ground at a time. Ground corn and oats or ground corn and bran or shipstuff mixed with cut oat straw or with hay makes a good feed for horses. The cut straw gives bulk and also compels better mastication than where the meal is fed without it.

A variety of corn that gets very hard or for feeding old horses it will be better to grind or to soak in water before feeding. When the corn is soaked care should be taken not to let it sour. The better way for soaking is to have two tubs putting enough corn in the water at morning for the noon and night feeds and at night for the morning feed using fresh water each time.

Corn and oats one-half each we think make a better ration than either one alone and when these two grains are worth the same per pound we would feed one half ration of each to all work horses with two parts oats to one of corn for young horses.

Cut sheaf oats make a good feed to go with corn for horses but the custom is not very common in the Middle West, perhaps because of the extra labor in cutting the oats.

Only Healthy Animals Profitable

Sunlight is a most effective germicide. To prevent the contraction or spread of disease it is therefore important that the stables of farm animals be well lighted, with the possible exception of fattening animals feeding for short periods of time.

For the maintenance of health, exercise is another essential. The only exceptions to this rule are fattening animals soon to be marketed which make more rapid gains if not allowed to move about too freely. Abundant exercise is of special importance with breeding animals.

Farm animals are creatures of habit, and once accustomed to a routine of living show unrest at any change. The feed stable or lot, therefore, should be free from disturbance, and the providing of feed and water should be uniform in time and manner. Animals soon learn when these are to occur and as feeding time approaches the secretions begin pouring from the various digestive glands in anticipation of the coming meal. The system of feeding and watering and the character of the rations should be changed gradually, and only for good cause. In feeding operations a changing period is usually a losing period.—University of Wisconsin.

Worm Remedy For Hogs

If your hogs show indications of worms try this remedy which is recommended as a good worm extinguisher:

Santonin, 35 grains.
Areca nut, 15 drams.
Calomel, 15 grains.
Sodium Bicarbonate, 15 drams.

The above should be fed mixed with corn meal and shipstuff or tankage, feeding one-tenth of the above amount for each 100 pounds of live weight. Vermifuges should always be fed after the hogs have fasted for at least 12 hours.

Holstein Bulls, Cows and Calves!

We are now offering for sale at $25 each, a number of extra good bull calves sired by Campus Josephine Lad and out of excellent producing cows. Also 2 high grade strippers, bred to above bull. Also one yearling pure-bred bull—will make a herd header—priced to sell.

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Three mammoth Jacks, one 16, one 15-3, one 15-1 standard measure all registered.

This stock has proven good breeders, plenty of colts to show. Sale commences at 2 P. M. Oct. 4th, 1916. Rain or shine. Time can be arranged for. Catalogues Sept. 10th.

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Wanted to rent a good 160 or 200 acre farm. Land must be good for corn and small grain and be well improved, fenced and watered with some good pasture so I can handle live stock. Desire to rent for from 3 to 5 years on shares or for cash. Location desired in North Central part of state. Would consider raising live stock on shares. Can give best of references. H. H. Waugh, Rfd. 19, Chilhowee, Mo.

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"THE CRUSADERS"

That the great Farm Club movement has taken a real hold on the farmers of Missouri there is no longer the slightest question for every mail brings us many requests for a suitable Constituion and By-Laws and other helpful literature. In this connection, we desire to state that we have recently prepared a new pamphlet on Farm Club organization which will be ready for distribution in about a week and we will mail it free to every reader who sends us a two cent stamp to cover postage. We believe you will find it the most helpful thing ever published on this subject, for it tells you what a Farm Club can do for the farmer and how to go about organizing one in your school district. We have only printed 5000 copies for general distribution and those who desire a copy of it should therefore lose no time in writing for it—for the supply is certain to be exhausted very soon.

We also wish to announce that we have engaged the services of Mr. B. P. Smoot as Farm Club Organizer—and elsewhere in this issue you will find an article from him. For several years Mr. Smoot has periodically lectured all over Missouri for the State Board of Agriculture. He is a young farmer of near Centralia, Mo., and one of the best posted men on farm problems in the state and a forceful speaker whose heart is on fire with the great Farm Club movement. Mr. Smoot has spent the last two weeks in Chariton County where he has organized a Farm Club at some school house every night. If there are any communities which desire his services the farm leaders in those sections should make application to us at once. Before we will consent to send Mr. Smoot to you however, you must agree to plan at least a dozen good school house meetings for him in advance—or one meeting each night for two consecutive weeks and the meetings must be thoroughly organized so that Mr. Smoot will be sure of a splendid audience at every school house. We make no charge for his services but the above co-operation we must have without fail before we will feel justified in incurring the expense of sending him to you. We will positively not send him to Clubs which are already organized or merely to make two or three addresses. Our sole object is to organize at least a dozen new Farm Clubs in each community to which Mr. Smoot goes. Then, later on, when these Clubs are in a flourishing condition we will try to send another Organizer so that the good work may be still further extended.

One trouble with such organizations as the Grange, Farmers Equity Union and other similar splendid organizations in the past has been that they have been too scattered and isolated and hence the co-operative good which they could have accomlpished has been enormously minimized—and THE MISSOURI FARMER is trying to overcome this in the present movement by organizing a Farm Club at as nearly as possible, every school house within a given county. Once this has been done, we can organize a County Farmers Ass'n and with this larger and more efficient machinery we will be in position to really do effective work. The two great elements we are after are power and enthusiasm and these can be obtained only when our system of organization reaches into every school house and when these small units are placed in position to finally speak through a strong county President, Secretary and Board of Directors.

In the meantime, THE MISSOURI FARMER is the friend of every Grange or other farm organization which is now in existence and we welcome an opportunity to aid them in every possible way—for it is results we are after and the name of an organization is a mere form which is of little consequence.

Many Farm Clubs which have been in existence only a few months have already saved a lot of money for their members and we are merely standing on the threshold of these possibilities. But the need of the hour is for those Clubs which are already on their feet to help organize neighboring districts. The other day we received this letter from an enthusiastic Farm Club leader: "We have a half dozen fine Farm Clubs in our community and the other day we got all the officers together and got a dozen farmers to agree to take three automobiles and organize a new Farm Club at some school house every night until snow flies. We have already tried it out at two school houses and had a crowded house each night. After we told these farmers how much money our Clubs had already saved and how enthusiastic all our members are—how it is giving all of us more interest in our farm work and the hope we have of eventually forcing a "square deal" for farm products—every man in the house voted to organize at once. We call ourselves "The Crusaders" and are enjoying the work immensely. And you would be surprised to listen at some of us make speeches. Some who could hardly get up to "second a motion" a few months ago can make the "rafters ring" almost as well as some of the old trained spell binding politicians—and what is more, we believe what we say which is more than most of the politicians do. We are going to make the "fur fly" from now on and before the snow flies we expect to have 25 or 30 Farm Clubs doing good work in our part of the countf. In the meantime, please send us a lot of sample copies of THE FARMER and some more Consitution and By-Laws. Our hearts are with you in the great work you are doing for no other farm paper ever tried to do half as much for us—and all of us are going to show our appreciation by planking down a dollar on subscription."

Now why can't a lot of other Farm Clubs follow suit? Why not put one thousand Farm Clubs on their feet in Missouri between now and the time "snow flies" as this man puts it? While the politicians are tearing their hair because they are having to talk to empty benches, why not set this great state on fire with the greatest farm organization movement the Country has ever known? In the first place, it means money to every farmer who joins a live Farm Club. In the next place it means that he and his neighbors will get together at stated periods to discuss the great farm problems and public questions of the day—and it will put new zest as well as new dollars into farm life. If there is a Farm Club in your neighborhood which isn't doing good work, call a special meeting at once and put new life into it. Have your Secretary to write us at once for the things we are co-operating on with Farm Clubs at the present time. Get busy. You will enjoy life more and you will be contributing your share toward making the World better.

In conclusion, those communities which desire the services of Mr. Smoot should plan a series of a dozen good school house meetings without delay and then get in touch with us. Also do not fail to apply for a copy of our new pamphlet on Farm Clubs.

William Hirth, Publisher.

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About 90 per cent of this extra value goes into this Bate-built chassis. It goes largely into extra strength. There are 440 parts which are drop-forged or steel-stamped — three times as strong as castings.

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Don't judge by demonstrations only. All new cars run well. Go into the hidden facts. Get the records on endurance. Above all else, judge by the man who builds it.

Go deep enough, and you are bound to choose the Mitchell. Many noted engineers have done so in buying cars for themselves. Your Mitchell dealer will show you a list of them.

You will get in addition the most complete car that's built. In the Mid-Year Mitchell you will get 73 new conceptions. Our designers examined 257 of this year's models before completing this one.

Ask us the name of the nearest Mitchell dealer, if you do not know him. For your own sake, see the car he has. (122)

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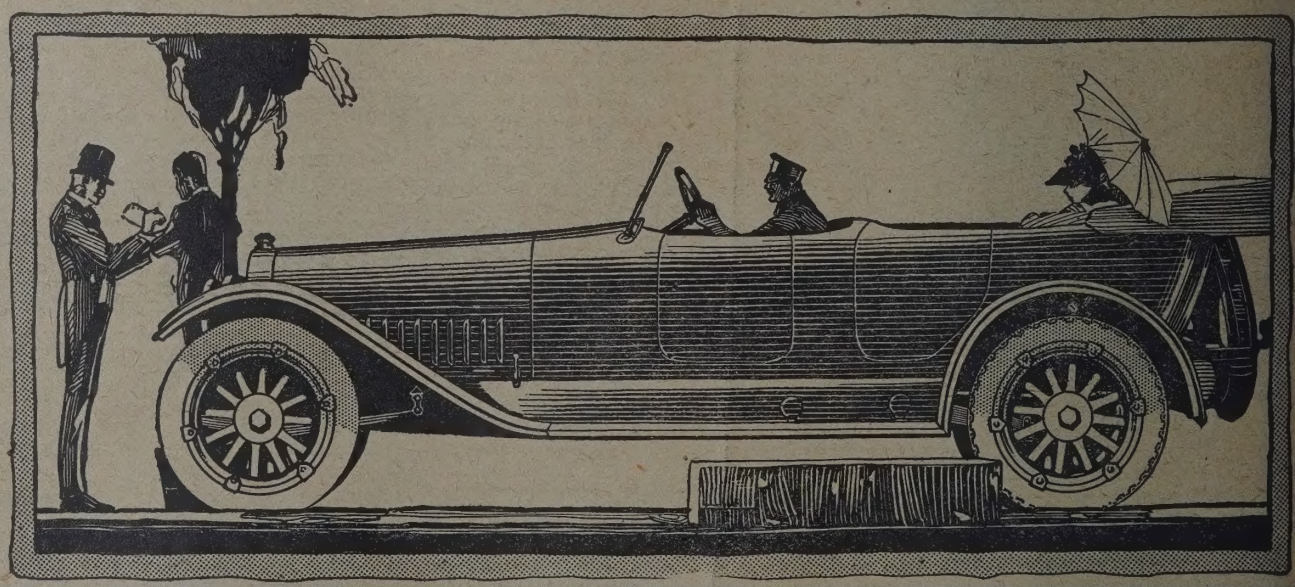

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The School Boy

The other day, as I looked out of a train window, I saw a little group of school children wending their way homeward along a quiet country road—and as I watched them wave their hands at the speeding juggernaut, it brought back a flood of memories of my own school days in the long ago. Once again I saw myself as a tow-headed youngster with tufts of hair sticking out like the quills of a porcupine on that "first day" when, standing awe struck before the fat old school master he asked, "Do you know your A B C's?" to which I returned a muffled "No." Next he inquired, "Can you count?"—and again I muttered "No." Then, with mock severity he roared, "Well what do you know?"—and not without a degree of challenge I blurted out, "I don't know nuthin!"—whereupon he threw back his head and laughed a laugh in which the whole schoolroom joined while I, with the lurking tears not far off, glared around defiantly at all of them. But soon we were fast friends and as time passed, the friendship grew—and many were the occasions in the after years when he recited with shaking sides the little dialogue above. They buried him a few years ago and when I read of it, it seemed to me the World was more lonely and less bright than it had been before—and yet this is but one of life's tragedies which the high and the lowly must endure.

Once more I wonder whether the noon hour will never come. Once again, after hurriedly gulping down a couple of biscuits sliced with ham I am out on the play grounds with the other boys "choosing up"—and then the ball flies and again I experience the joy of "stealing a base" or hear the jibes and taunts at being "put out" when I failed to make the final slide fast enough. Once more I am swopping jack knives and marbles. Again I hear shrill voices recite, "The Boy Stood on the Burning Deck" or "Curfew Shall not Ring Tonight." Again I wander down to the old crabapple trees in Devanny's slough or divide my hickory nuts with Mary Pierce whom I liked just a little better than any of the other girls—and once more I hear the whispered joy as the first snow flakes, like the soft down of Angel wings, come silently sifting through the lowering skies of a bleak December afternoon.

But my purpose is to give a little helpful advice to the school boys of today: In the first place, get it out of your head that the schoolroom is a "necessary evil." On the contrary, it is life's greatest "door of opportunity" for every boy who makes the most of it—for, until you have "made good" at your books, destiny will not give you the key to the realm of victory and accomplishment which lies beyond. So, realize in the beginning that going to school is a very serious business. Try to get the fundamental facts of all your studies firmly fixed in your mind and when you don't understand things, go to your teacher openly and frankly—for she will be glad to patiently explain the matters that trouble you and it will save you a lot of mental worry and make things easy that first seemed hard. And here let me suggest that you make the teacher your firm friend if you have not already done so. The teachers position is a trying one at best and every boy and girl should strive to make it just as pleasant as possible—and rest assured that he or she will deeply appreciate it. Keep your books clean and your desk neat—for the habits you form now will cling to you in the after years. Be courteous to the girls—for courtesy to a girl or woman proclaims the gentleman—and this is a title for which every boy should strive. So live, act and play that the other boys will respect you—and if you do this you will have few quarrels. Remember that brains rather than fists win the World's battles—that it is the clean faced, clear eyed boy rather than the bully who succeeds and thus, let each passing day find you a little bit better equipped for life's great struggle than the day before. The World is anxiously waiting for you to become a man—a real man—for there is so much for a real man to do.

—**By the Author of After-Thoughts.**

GEO. B. ELLIS
MANAGING EDITOR

VOL. VIII OCTOBER 1, 1916 NO. 19

WILLIAM HIRTH
PUBLISHER

ROTATING WHEAT AND GRASS

A few miles from Monroe City, Missouri, is located the 350-acre farm of Tom Dawson. The farming methods on this farm differ from those followed on most farms, in that wheat and grass are the only crops grown.

"In this loaclity it is desirable to plow for wheat as early as possible," said Mr. Dawson to me. We would like to get the ground plowed in July but it is seldom that we can do that when we follow wheat with wheat, on account of delay in threshing, and delays in haying when we plow sod. We can generally get onto the ground early in August. Getting it plowed early gives the ground a longer time to settle and pack. My experience is that the harder the ground packs before the seed is sown, the better it is for the crop of wheat that is to follow. One trouble this Fall is going to be that the soil at the time we sow the seed will be loose and soddy, because it is being plowed so late on account of the delays in harvesting and in haying. Also, we have the additional complication of big weeds this year. While the rains have delayed threshing and harvesting generally, they have helped the growh of the weeds and grass in the stubble. As I plow shallow—not more than three inches, —it is going to be very hard to bury the weeds deep enough so that they will rot and allow the soil to pack hard in the short time that must elapse between plowing and seeding this Fall. I am a believer in shallow plowing on this soil, for I notice that the shallow-plowed fields have the best crops. After we plow our ground, we generally harrow twice and then drag and roll to get the ground as compact as possible. I usually sow the wheat about the 10th of October, but some years I sow as early as the latter part of September. As to sowing late to escape the fly, one man near here waited until the next Spring to sow his wheat and then had flies in it.

"I have been using fertilizer on my land for the past 15 years; and have used several different combinations in my fertilizers. All seem to produce good results, but during the past two or three years I have been using fertilizers high in phosphoric acid. I apply 150 pounds per acre. I have brought the land up from a point where it would produce but little wheat to a point where we are sure of a good crop every year. This year we have threshed out 27 1-2 bushels to the acre, and some that we have not yet threshed will yield more. Some years I have left unfertilized strips to compare with the fertilized ground and have found a difference as great as 8 bushels per acre. And it must be remembered that I am using a fertilizer only a part of which is available the first year. Therefore the difference was made by only a part, perhaps less than half, of the fertilizer I applied. There is another thing that counts greatly some years, and that is that the fertilized wheat ripens up fully a week ahead of the unfertilized grain. This often facilitates the harvesting and gets the ground clear for early plowing.

"One man living near us says he does not believe in fertilizing. But one year we induced him to check fertilizer in his corn. As he left no unfertilized corn for comparison, he was not impressed with the fact that he had a good corn crop—said he might have gotten that anyway. But the next year he put wheat on that ground, and when his wheat came up it began to show the checks on the corn the previous year. By the time the wheat was fully developed the wheat over the places where the fertilizer had been on the corn hills stood several inches higher than the rest of the wheat, and the whole field presented a most unusual and beatuiful sight, of those elevations in the wheat all over the field. It was a most convincing illustration of the value of fertilizing, to any fairminded person."

Henry F. Thurston.

WHAT PROFIT DOES A FARMER DERIVE FROM A COLLEGE EDUCATION?

My attention has just been called to circular No. 77 issued by the University of Missouri on the above subject in which the writer, Mr. O. R. Johnson shows by comparison that the college educated man is much more prosperous and, of course if the more prosperous would naturally be of more benefit to his surrounding neighbors by leading in the business of farming. He arrives at this conclusion by the comparison of the rural educated man and the college educated man and from his data as he gives it this conclusion is formed from the wealth of the two. Mr. Johnson says "The farmers were divided into two groups containing respectively 554 farms whose operators have received only a rural school education and 102 farms whose operators have gone further than the rural schools. The training received by this second group in addition to their common school education amounted on the average to practically two years in the high schools of today. Further down the circular shows that the better educated man operates 44.2 more acres or 33 per cent more land. He owns four-fifths of the land he operates, while the man of inferior education owns only a little over three-fifths of the land he farms. The man with more education has about 11 per cent higher investment for each acre of land he operates. The higher investment per acre usually means better land—in other words, land that will give higher yields.

In making this investigation did Mr. Johnson investigate the different environments that surrounded the college man and the rural man to see if there was not something besides education that had a bearing on the difference between the two groups. Might it not be that the parents of the college group were more wealthy than the parents of the rural group and were able to give them a college education while it is possible that the parents of the rural group could hardly give their boys a scant rural education and not being able to give them only scant rural schooling were unable to give them the necessary outfit for high grade farming including farm implements and a good piece of land, while the father that could give his boy a college education could, and in many instances, did outfit the boy with all the necessary implements and a good piece of land? No doubt that many of the 554 farmers who were under this investigation commenced farming for themselves by first being a hired hand on some rich man's farm.

The statements as made by Mr. Johnson are very unfair and misleading and at first glance would leave the impression that the rural educated farmer was inferior to the college educated one, while upon fair investigation, we find it different; my observation has taught me that that college education has nothing to do with farming. The boy may be sent to college (I don't mean an agricultural school) until he has mastered all the science of mathematics, can read Greek and Latin, studied the dead languages until he can "talk to the dead" and may not be able to tell a tobacco plant from a rag weed and if he was to see a tobacco patch and told what it was would want to know when it would "plug out." No; college education has nothing in common with farming.

I can call to mind several cases where the college fellow and the rural fellow farmed side by side with the result that the rural farmer came out ahead. The richest and best farmer that we have in our neighborhood can barely write a legible hand, while by the side of him is a farm that one of these college fellows tried to run—having the farm left to him through the death of his father—and made a failure and left the farm. Another case near me is a college learned man and a very poor scholar lived near by, the rural farmer always had plenty, while the college farmer lived in poor circumstances and yet had much the best tract of land.

In doing institute work once I heard Prof. Carrington, who at that time was state superintendent of public schools, make the statement in a public address that "the best educated man he ever knew could neither read nor write. He was a tobacco grower in Kentucky and had his business so well in hand that the tobacco dealers were anxious for this man's tobacco and paid a little more for it because it was better."

Education is all right if educated along the right line, but it is a piece of folly to send a boy to college to make a farmer out of him for the more college education he gets the further from the farm he gets. He gets the idea that he must be a professional of some kind and loses his taste—if he ever had any—for farming.

If Mr. Johnson will talk about giving the boy an agricultural education, I will say amen for that is what we need. If we can have agriculture taught in our common or rural schools then finish up with the agricultural college, there is no danger in giving him too much of agricultural education—we will soon be in advance of what we are today and can save the expense of the county farm advisor.

Such data as Mr. Johnson gives out in the circular is much inclined to discourage the farm boy who has been deprived of the opportunity of a college education. He feels that he is handicapped to start with and in many cases will give up at first little misfortune that he may have and quit the farm and try something else.—Geo. W. Williams, Humansville, Mo.

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The Missouri Farmer

VOLUME VIII | OCTOBER 1, 1916 | NUMBER 19

Lafayette County Points the Way

By William Hirth, Publisher

Slowly but surely the Farm Club movement is taking definite form in Missouri. On the 14th and 15th of September the farmers of Lafayette County held a big two days picnic or "round up" at Higginsville and it is doubtful whether any group of farmers in the history of the state ever came together with greater determination or with a more clearly defined idea of what they wanted to do than these men of Lafayette whose performance and plans merit the close study of the farmers of every county in Missouri.

On the first day, the big crowd was addressed by "Sam" Jordan who needs no introduction to the readers of THE FARMER and also by Prof. Childers of the Agricultural College of Missouri who, for a number of years, has contributed valuable services in soil work.

W. D. McKee of Polo was the first speaker on the second day—and like Mr. Jordan he is personally known to many of our readers..

The question of Farm Club organization which was the object and culmination of the big two days meeting was then taken in hand by the writer in an address of an hour and a half's duration—and the action which followed deserves the close study of every thinking farmer in Missouri, for it furnishes a pattern which should promptly be taken up by the farmers of every community in the state. Since last winter, when in response to the appeals of THE MISSOURI FARMER, the Farm Club idea was first taken up in Lafayette, perhaps 15 clubs have been organized in as many school districts—and through these organizations the big "round up" meeting was planned and carefully organized in every township. Fully six weeks of this preliminary organization work preceded the "round up"—and to this the splendid meeting owed its chief success.

A County Ass'n Formed

At the conclusion of the writers address, a motion to organize a Lafayette County Farmers Ass'n was carried unanimously and John Dryer, President of a Farm Club near Lexington was chosen President of the County Ass'n, while E. Showengerdt of near Higginsville was made Vice-President and H. E. Slusher, of near Lexington, Secretary. All of these three men are "wheel horse" farmers who are known all over the county and whose names carry the highest of respect in every community—and what is more, every one of them is a fighting Farm Club man. A Campaign or Organization Committee of seven leading farmers was then named in every township in the county and by this time these different committees, under the direction of the County officers, are at work organizing Farm Clubs at the different school houses all over the county—and the reader can get an idea of what these men have in view when he is told that they expect to organize a Farm Club in at least 100 out of the 129 school districts in the county between now and the first of the year. Assuming that the Clubs will average a membership of 20 to the Club, this will mean that 2000 farmers will soon be marshalled under the banner of the Lafayette County Farmers Ass'n.

And one of the fine things about this movement is the fact that it is fast developing farm leaders—farmers who can get up and make a forceful school house address and instead of waiting for outside help, these Lafayette County farmers will divide up and several "Organizing Squads" will be busy addressing the farmers of several new districts every evening in the week until the county has been fully covered. As one enthusiastic Farm Club worker put it to the writer, "When we first organized our Club there wasn't a one of us who thought he could get up and talk. Now we'v got a half dozen, anyone of whom can help to organize a new Club"—and thus it goes. The word is telephoned to a few leading farmers in an unorganized district to get all their farmers together at the school house on a certain evening. Then an "Organizing Squad" of four or five farmers get into an automobile and before the evening is over a new Farm Club has been brought into existence. In the meantime, the organizers have lost little time from their work—and every one of them enjoys the experience immensely, secure in the knowledge that they are fighting for a "square deal" for themselves and for their fellow farmers.

The Objects in View

And now, what is it these Lafayette County farmers have in view? Is it, as so many of these movements have been in the past, a mere sentimental affair? Not at all. On the contrary, it is more practical than any other farm organization plan that has ever been proposed—and much farther reaching and comprehensive. To begin with, the Lafayette County Farmers Ass'n expects to take over the entire buying of such commodities as coal, bran, shorts, flour, potatoes, hay, corn, farm seeds, cotton seed meal, cotton seed cake, fertilizers and salt. It is not making war upon the country merchant in the regular fields of merchandise where close competition usually guarantees a fair price—but the above commodities, the most of which are produced on the farm and which are "side lines" in many small country towns, the Lafayette County Farmers Ass'n proposes to furnish at the lowest wholesale price to all its members—and that the saving will be worth while goes without saying. Through the Marketing Dep't of THE MISSOURI FARMER—whose services are at the disposal of every Farm Club in the state—the arrangements for the above wholesale prices were made months ago and scores of Farm Clubs have recently bought their coal at a saving of from 50c to $1.00 per ton. Likewise many of them have saved an average of $3 per ton on fertilizers, $2 per barrel on flour and they will also be able to save from $3 to $5 per ton over the average retail price of cotton seed meal—and on other like commodities in proportion. The saving in the buying of farm seeds will also be considerable, once this phase of the plan has been fully worked out. Arrangements have also been made to buy potatoes in carload lots direct from the Northern growers—and at this writing we believe that these potatoes can be laid down at the average point in Missouri at from $1.20 to $1.25 per bushel and if the reader will ascertain the present retail price at his market he will have a definite idea of the saving. Likewise, corn and hay will be shifted from those communities which have a surplus to those which have a shortage—eliminating all the middlemens profits. Had this plan been in working operation in every county in the state during the drouth years of 1913 and 1914 when the farmers of Missouri were compelled to ship in trainloads of hay from other states, it would have meant the saving of hundreds of thousands of dollars—but that in any year, good or bad, the buying and selling of the above commodities will affect a saving of millions of dollars to the farmers of Missouri there is not the slightest question.

Concentrating Power

By being able to speak for 1500 or 2000 farmers, the officers of the Lafayette County Farmers Ass'n will have much more power than a dozen or so little Farm Clubs could exercise by merely speaking for themselves—and hence the effort to organize a Farm Club in as nearly as possible every school house in the County. Relations have already been established to sell Missouri apples by the carload to the farmers of Nebraska, the Dakotas and other states where few apples are grown—and that this dealing direct has tremendous possibilities and that it will mean more money to Missouri growers as well as a lower price to these farmers in other states is apparent to any one who has ever inquired into the subject—and the same is true of the potatoes we buy from them. Then there are the splendid possibilities of the fresh egg trade for farmers wives with the big metropolitan hotels, cafes, dining car systems and well-to-do private families

NOTICE TO OUR READERS

Since the first of the year the cost of print paper has practically doubled and as a result, hundreds of publishers throughout the Country are facing the necessity of either increasing their subscription price or discontinuing their publications. In common with other publications which use large quantities of paper, this advance is visting a tremendous hardship upon THE MISSOURI FARMER—and after viewing the matter from every angle we feel we have no other alternative except to advance the yearly subscription price from 50c to 75c or two years for one dollar instead of three years as formerly.

However, this new subscription rate will not be put into effect until October 20th—and all of our old readers therefore who send us a dollar between now and that date will receive the benefit of the old offer of three years extension. Hence, if your subscription is not paid in advance at this time, we trust you will take advantage of this opportunity at once by sending us a dollar by return mail. A dollar bill can be sent at our risk. If you haven't a dollar bill at hand, a check will do equally as well. Also, if you have some neighbors who are not receiving the paper at this time, ask them to give you a dollar under the old offer.

Stern necessity alone compels us to take this action—but, after all, we believe that whether he gets the paper two years or three years for a dollar will make little difference to any real friend of THE MISSOURI FARMER which is fighting the battles of the farmers of this state as is no other farm paper in the Corn Belt. The hundreds of Farm Clubs which have been organized throughout Missouri during recent months are the direct outgrowth of the fight which THE FARMER has made—and through our Marketing Dep't we are making it possible for every member of these organizations to save many times the subscription price of the paper. And that a few cents more or less in our subscription price will make any material difference with the thinking farmers of the state whose hearts are with us we do not believe for one moment—for the great movement which we are leading, if the farmers of Missouri will rally to our support, means not merely the saving of millions of dollars to them during the next few years but a happier and more enjoyable farm life in general. The new rate simply means placing the paper on a 50c yearly basis because 90% of our readers will remit a dollar for two years instead of sending 75c for one year—and if THE FARMER isn't worth 50c a year it isn't worth anything.

WILLIAM HIRTH, Publisher.

—all questions which farmers cannot solve in their present disorganized state. In other words, for the first time these Lafayette County farmers are about to take in hand the great question of "Farm Marketing" of which we have heard so much in recent years and yet which, up to this time, has never progressed beyond the "talking" and "theory" stage.

And yet, splendid as is this program, it is merely the beginning of the greater tasks ahead—the rumbling of the distant thunder of a storm which shall gather force until we are strong enough to shake off the strangle hold of the Packers Combine, the Grain Gamblers and others who have been crushing the joy and profit out of farm life in recent years—until, like the manufacturer, the merchant, and other forces we are in position to demand the production cost, together with a reasonable profit for the grea staples of the American farm. It is therefore a demand for a "square deal" in the Market Place rather than an effort to "buy everything cheap that actuates the thinking, earnest men back of this great new movement —and those who are under the impression that it presages a reign of the "Farmers Store" of the old "Wheel" days are greatly mistaken. Every intelligent farmer knows that we must "live and let live"—that we sell the lions share of our surplus products to those who live in the town and city and that therefore we cannot afford to annihilate such communities.

Saline Getting in Line

The Lafayette Farm Clubs also expect to meet at least twice per month during the fall and winter months to discuss pertinent questions in which every thinking farmer is interested. In other words, they expect to "gird up their loins" and in the "Melting Pot" of these little school house meetings thresh out the great questions which confront the farmers of the Nation at this hour. And now why not follow suit in your county? A delegation of Saline County farmers who watched the way the Lafayette County "wheel-horses" performed at Higginsville held an informal caucus at the conclusion of the meeting and here is the program they mapped out: They said, "We are going back to Saline and call 25 or 30 leading farmers together from different parts of the county at once. Then we will ask these men to act as an executive committee which will address an appeal to three leading farmers in every school district in the county to meet us at Marshall on a given day—and then we will adopt the Lafayette County plan and organize a County Farmers Ass'n." The writer has agreed to address the Saline County meeting and we believe the program here outlined furnishes a splendid plan of "setting the ball rolling" in any county in the state. And here is an appeal to every farmer who reads this article to "pull off his coat" and "get into the fight." There is no time to lose. The hour for action has come. Let us set an example here in Missouri of what farmers can do, once they are aroused. Then let's send the good tidings to the farmers of Iowa, Kansas, Nebraska, Illinois and other states and bid them do likewise—and surely the "game is worth the candle" for it means justice not only to those who toil in the fields and feed lots today but justice also to our children in the years to come who will be even more helpless than we are at this hour if we fail to go to their rescue while rescue is still possible. We have recently published a splendid pamphlet on "The School House House Farm Club" which we will gladly mail to any reader who sends us a two cent stamp to cover the cost of mailing. It explains fully how to organize a Farm Club in your school district and contains a suitable Constitution and By-Laws.

SENSE AND NONSENSE

A Dog Show

Not long since I had the pleasure of attending the Missouri Valley Fox Hunter's Ass'n meeting and was billed to make a speech. Of course it was presumed that I would talk "dog" and not having much experience along the dog line, I feared that I was going to have some hard sledding, or rather some difficulty in talking "dog," but on looking into the subject diligently for some weeks, I found men and dogs alike in so many respects that it was not so difficult after all. I once in awhile got a little mixed as a part of my talk will show, and it was somewhat as follows—"Ladies, gentlemen, and fellow hound dogs:—After that eloquent introduction by my friend McKee, I feel much like an unfortunate dog I once heard of and feel that after you have heard my speech you people will feel like disappointed dogs.

From that fine introduction one would infer that I am going to talk "corn," but I am not going to do it, for I assume that on this momentous occasion, you do not care any thing about corn nor soil, nor cattle, nor hogs, but that it is dog you want, so I am going to talk "dog." Will say that I don't know much about dogs, but do know a lot about folks and since I have for this occasion looked up dogs a little and find them (men and dogs) a lot alike. I owned a dog once, myself. I don't know what kind of a dog he was, just dog, I guess, but he was a pretty onery cuss.

I think it was Sam Jones that said "We are all born equal, half human and half dog. Some of us are feeding the human and starving the dog, and others feeding the dog and starving the human," and that seems about right on a careful examination. I am some dog myself, that is I belong to a secret dog order. The ancient ana illustrious order of little yellow dogs," so you see I am a yellow dog at that. This order is supposed to have been founded before the building of the Egyptian Pyramids, and that Julius Caesar and Alexander the Great were members, and I am told that Charles Evans Hughes and Woodrow Wilson are "brothers of the same 'kennel'." So you see to belong to this order you must have some "class" about you. The initiation ceremony consisted, in part, of questions to indicate the applicants dog knowledge, and one was whether or not I had ever kicked a dog. I plead guilty, then I was asked if I ever tied a can to a dog's tail. Having been a boy once I had to plead guilty; then "Did you kick the dog and tie the can to his tail to gratify yourself, or for the good of the dog?" I assured them that it was always for the good of the dog.

Now, I assume that this great audience are not here primarily for the good of the dog, but to emulate those traits in dog character, that commonly surpass that of men—namely—Loyalty to his master, true friendship, and defense. Many fine stories might be cited in evidence, and this is well.

Dogs and men are alike in many things. They both stay out late of nights, they growl a lot some times when there is nothing to growl about, they are brave when they have the other fellow on the run, and when they want to "kill sheep" they go away from the "home grounds." There's a few differences, though, in the dog favor, one is he never gets drunk, th he neither swears nor abuses his wi

Another thing about dogs, there a so many kinds. Long dogs, short dog hound dogs and "dog days," and de ones. Then there are four legged dog those with two legs, and some wi no legs at all, but have only two en and a middle, mostly middle. Th are so long that they travel in se tions, and are served the same w at lunch counters. Some dogs have very fine scent and some men ha a lot of it, then there are dogs th ought to be shot.

I never could get it through my he why a man should like a dog so we when so many beautiful ladies a not yet captured, but when I look in a mirror, and also recall some of n gentlemen acquaintances, I can rea ily see why so many women are fo of dogs. They just must love som thing, you know.

I read in the paper not long ag about a lady whose dog died and t paper said that she was prostrat with grief, and went into "half mour ing," of course I do not know whi half, the paper did not say, but a way her "man" went to fight Germa and got shot, and I presume she p the other half in mourning for hi the paper failed to state, or maybe s will not take up his case till she done mourning for the dog, when doubt, she will give him proper atte tion, if she does not secure anoth "man" in the meantime.

Another thing about some men a some dogs—they have fleas!

There are many fine stories of t dog's true friendship, devotion a loyalty. Not long since I read of soldier whose dog persisted in follo ing him to the trenches. In the e gagement the master was dangerous wounded, and when the battle w over and the dead were placed in t shallow trenches for burial, the dog master was thought to be dead, a he was covered with dirt, but t faithful dog refused to leave the gra and he was allowed to remain. T dog then dug the dirt away and lick his master's face. A sentry saw t dog and upon looking down he sa signs of life in the man's face, and a result he was taken to a hospit where he recovered. He owed his li to his faithful, dumb friend.

The dog is loved if he is a goo sport. And a man who loves goo clean sport is nearly always a might good fellow, and this "dog show" I understand it is to emulate good fe lowship.

Thus ended the dog (tail) tale.

Sam Jordan.

A LITTLE HEART TO HEART TALK

I want to have a little heart to heart talk with the readers of THE FARMER about a number of things. In the first place, I want every farmer who believes in the great fight we are making for farmer organization to write me a letter by return mail because there are certain things I want to say to you. The time has come for every thinking farmer to get into this great fight. We have been drifting with the current long enough. Why should the farmers in your community be stumbling along in the same old rut when the farmers of Lafayette County and many other sections of the state are so splendidly aroused? I want every farmer who is living in a school district in which as yet no Farm Club has been organized to get in touch with me at once—for between now and New Years I want a thousand new school house Farm Clubs to be brought into existence—and I want you to be one of the leaders. Inclose a 2c stamp to pay postage on our splendid new Farm Club pamphlet which includes a Constitution and By-Laws and which tells you just how to proceed in every detail. You owe it to yourself, your family and your Country to shell off your coat and get busy—and every neighbor will thank you for helping to point the way.

And now here is a thing for you to bear in mind: This movement does not rest upon mere theory or sentiment. If you and your neighbors will organize, we will immediately put you in position to save a lot of money on coal, bran, shorts, flour, cotton seed meal and cake, fertilizers, salt, etc. In other words, we are ready to help you begin saving money right now—not in the dim and distant future. And now here is another important matter: We can buy a carload of Northern potatoes for you at from 90c to $1.00 per bu. F. O. B. the shipping point —and this should lay them down at not to exceed $1.25 at your station. Already in many towns the local price is $2.00 per bushel—and since the Country is harvesting the shortest Potato crop in years they are certain to go higher. But if you and your neighbors want a car of these Potatoes there isn't a moment to lose—for within two weeks they will have been bought up by the dealers.

So let me once more entreat you and your neighbors to wake up! Before the coming winter is over, I want to see the farmers of Missouri organized as the farmers of no other state ever were before—and it is up to the farmers of your school district to say whether you want to have a part in this, the greatest and most practical farm organization movement that has ever been started.

WILLIAM HIRTH, Publisher.

IS OUTDOOR EXERCISE NECESSARY FOR HOGS?

Editor of The Missouri Farmer:

Dear Sir—I have a book on Feed and Feeding by W. A. Henry. In th book I read that the Danes excel th world in bacon production. I wa talking one time with a Dane (rathe an old gentleman who talked broke English) about their method in the ol country. He said the Danes in the ol country kept their hogs up in clos quarters in buildings all their live and that they hardly had a chance t see out doors. Now the query: Wha is the crying need for out door exer cise for a hog? Why do we Amer cans lay so much stress on exercis or how do the Danes affect the deman if nature requires it?

I have been studying the care an management of breeding hogs and pig

uite a good deal, but have never had ings shaped up to suit me and do ot know whether I could design plans at would just suit me but the ought occured to me that if out door xercise was not essential for the hog e matter of planning for convenience handling them would be much simified. Of course under American onditions of farming, hogs will be out oors a great deal of the time any way, rowsing over pastures and fields in ixed fashion but such weather condiions as we have much of the time xes my wits. Old sows and pigs ipping down on the ice part of the me and at other times draging rough mud and snow and slush in n effort to get to and from ther feedg places. No place out doors fit for lay ground.

Then again the matter of keeping ach sow with litter of pigs separate rom all the others. It is easy enough a building, but the matter of keepg up lots and pastures and fences condition for out door exercise beomes a problem and also entails a lot f extra work at feeding, watering, etc. would like to know just what is reuired and then plan to meet it. If here is any good way to eliminate the actor of exercise without detriment o the hog I would like to know how, o I could keep them up or let them ut just as it suited my convenience. When it comes to fattening time that s easy because the closer the quarters he better. The whole pen can be overed over for that and the whole arth cemented. But keeping the old ows and boar in proper condition and rowing the pigs up properly especially winter pigs so as to develope bone nd muscle and bacon qualities--there s the problem. I would be pleased to get the best advice you or any of your readers can give. W. T. Cary.

Editorial Note: The above article was submitted by Mr. Cary some time ago and was accidentally misplaced but it brings up the question now just at the time when farmers should be thinking about the proper housing of their hogs.

We would like to hear from our experienced breeders on this subject and will be very glad if they will use our columns freely to discuss the question in all its phases.

FARMERS OF ADAIR INTO THE FIGHT

The farmers of Adair County held a splendid "get together" meeting some miles north of Kirksville on Thursday, Sept. 21 and perfected plans to form a County Farmers' Association at once. The meeting was addressed by the Publisher of THE MISSOURI FARMER and a new note of determination and enthusiasm was manifest upon the part of every farmer in attendance. A strong Executive Committee of 30 farmers representing every section of the county was named and this committee will at once get in touch with three leading farmers in every school district who will be called together at an early date—and then the active organization of schoolhouse Farm Clubs will be pushed in every direction.

Chief among those who "set the ball rolling" up in Adair, were D. V. McClelland and G. A. Leavitt, Secretary and President respectively of a splendid community farmers' organization which has been in existence for some time and which has been doing splendid work. It would be difficult to find two more enthusiastic farmers for Farm Clubs in the state than these two men who stand high in the estimation of their neighbors and who are body and soul back of this great new movement. Others who are also putting their shoulders to the wheel in fine fashion are John Dye, S. A. Vaughn, S. E. Capps, John C. Mills, Jr., E. A. Ross—for to this bunch of determined men was largely due the success of the initial steps which will soon lead to a strong Farmers' Association in Adair county.

One of the noticeable things about the Farm Club campaign is the fact that the big, well to do farmers as well as the little ones are fighting side by side and that with such a condition of affairs success is assured in almost any county there is little question. It is not an uprising of calamity howlers. For the first time the big and little farmers are moving off together and doing real "team work."

THE GRANGE IS RETURNING

The series of Field Meetings held this year, by the local Grange accounts for the above condition.

The meeting held near Tina, on Aug. 29, in Carroll County, was a success and will result in greater work for the future. The crowd was estimated at from three to five thousand.

The meeting near Avalon on Aug. 30 held under the auspices of the local Granges of Livingston County was well attended and already the patrons of both counties are planning to repeat the work next year.

The meeting near Kirksville, Audrain County on Sept. 1st was up to the standard of former years.

The work of the order was expounded by National Master Oliver Wilson, of Peoria, Ill. A review of commercial conditions was given by Hon. L. D. Lozier, of Carrollton. Mr. Naylor, with the Cement Manfg. Association discussed the needs of the farmer and some needed legislation in his line of work.

On Sept. 2nd the Ninth Annual Corn Roast was held by Maywood Grange at Maywood, Lewis Co., and was well attended. Hon. Noah W. Simpson, Hon. Oliver Wilson, and Rev. Scott, Pres. of LaGrange Baptist College were the speakers.

On Sept. 6th the writer in company with National Lecturer Edw. E. Chapman of Ludow, Mass., and Farm Adviser, Mr. C. M. Long of Pettis County, attended a meeting of farmers at Maplewood Hall near Sedalia and after the speakers had spent the evening in discussing measures of direct interest to the rural community, we left the people in a friendly mood, looking to the organizing of a Grange at that place.

On Sept. 8th the second annual Field Meeting was held by Masonic Hall Grange, 4 miles south of Centerview, Johnson Co., with a large crowd in attendance. Bro. Chapman kept the audience in fine humor from start to finish. The Farm adviser of Johnson County, Mr. Gangler was present and the audience appreciated his presence and the splendid address on the work of Farm Adviser.

On Sept. 9th the patrons of Cass County met near Pleasant Hill and again a feast of oratory as well as that of fried chicken was enjoyed by a large crowd, and Bro. Chapman returned to his home well pleased with his first visit to the Central West and the patrons of Missouri.

I forgot to state that on Sept. 6th we were invited to attend the first annual chicken dinner, at the park in Sedalia, held under the auspices of the Pettis County Sr. Poultry Association, and the dinner was all that the name implies. It was presided over by its Pres. Mrs. Stevens, and after all visitors had partaken freely and the table was cleared, Mr. Long, organized the Junior Poultry Association and the interest manifested by the boys and girls present was evidence that Mr. Long has the work well in hand.

Since this series of meetings were held one Grange has been organized in Carroll Co., with 36 charter members and one in Pettis Co., with 32 members, with several good prospects in view.

Never since I have been connected with the order has the interest been more pronounced among the farmers for organization and even with a great political struggle on the farmers are ready to lay aside all party differences and come together for the betterment of the rural districts.

The question of Rural Credits is being discussed and the farmer will vote on November 7th for the Amendments, on the Missouri Land Bank Bill and are not so much concerned as to the present bill, believing that if any changes are needed the next Legislature will make all needed corrections.

If there are any communities that believe a Grange would help them solve some of their problems, we are ready to help, we need your help also.

C. O. Raine,
Master State Grange,
Canton, Mo.

Will Help You with Your Concrete Work

Rural contractors specializing in concrete work, especially those building silos and other farm structures, also contractors or others who would like to specialize on such work, will be interested in knowing of a cooperative plan now being carried out by the Extension Division of the Portland Cement Association.

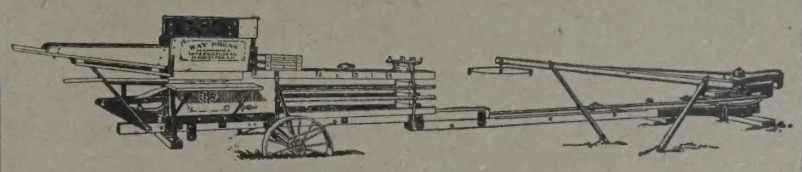
Any one interested in concrete contracting work or in taking up such work, is urged to address a letter to the Director, Extension Division, Portland Cement Association, 111 West Washington Street, Chicago, for some information that will prove valuable, and that can be obtained without cost or other obligation.

A Fine Opportunity

The good housewives in the homes in which THE FARMER is a regular visitor should read the advertisement on the last page in this issue carefully —for if you are in need of a new dinner set, here is an opportunity to get a good one mighty cheap. In any event, it will not hurt to look into the matter and ask for further particulars.

Why not send us a dollar bill at our risk and have us renew your subscription for three years while the old offer still holds good? This dollar will help us to pay some of our debts and give you a better paper.

Buy an International Hay Press



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THE CHALLENGE

When Napoleon led his soldiers beneath the shadow of the pyramids, he said to them "Forty centuries look down on you." Forty centuries yet to come now look down on the American farmer. We are at a critical point in our journey. We are at the fork of the road. Shall we slink along the road that leads to poverty and peasantry, or shall we rekindle the fires of freedom that burn in our breasts, give fight to the vampires that suck our life blood, and assert our right to travel the road that leads to the land of prosperity? Truly, we are living "in an age upon ages telling." Shall the story be told of a noble class of farmers sinking lower and lower till ambition and independence are dead, or shall the story be told of a triumphant fight against poverty and peasantry? It is for you to say. The challenge is to you.

Is your blood thick and red, or is it thin like water? Are you going to fight or are you going to slink along and whine at your fate?

When I look into the earnest faces of farmers gathered together in the little school houses of the country, I see it is to be a fight. The sturdy spirit of the countryman has never yet been cowed and never will be. Other farmers, of other lands, have slipped backward into oblivion, and they didn't have the chance we have. With science as our servant and cooperation as our slogan we will win. This is the game of life. Clubs are trumps. Get into the game. Play your best card. If you havn't a club, organize one. Primitive man conquered the beasts that roamed the forests by using a club; we will conquer the monsters that grapple at our throats if we will only use clubs. Clubs are trumps. Organize!

B. P. Smoot.

"WISE OR OTHERWISE"

Editor, Missouri Farmer:

Would it not be well for us as farmers in the great Commonwealth of Missouri to take a backward look over the past year (one of the most unusual from several viewpoints for a number of years), and try to find some lessons, that will be of benefit to us in the years to come? First, a rather late cold spring. Many early planted potatoes rotted and had to be planted over. About the only safeguard against that would be to be sure to plant on well drained soil, well filled with humus, so the soil will not become heavy and clamy. Then do not cover too deep. All ground intended for early gardens should have a good coat of coarse manure like an old stack bottom, or horse manure. After spring opened up toward the last of March the ground got in nearly perfect condition for working, also for washing, which it surely did good and plenty. Thousands of farms lost tons upon tons of the best of soil, and many ditches started that may take considerable effort to stop, and some will never be stopped. It seems a disgrace to the business of farming to see the way some of the best farms in the country are cut up with ditches. Each with its accompanying fringe of weeds and bushes from five to twenty feet on each side.

Many a farm in this vicinity where forty years ago no ditches to speak of were to be seen, now have great gullies from five to forty feet wide and from four to ten feet deep, which could have been prevented if taken in time. A few bars of hedge brush, trimmings from the orchard or brush from the timber well staked down, with a little straw, corn fodder or refuse of any kind thrown on the upper edge to catch the wash, will surprise one who has never tried it, to see how soon a bad wash can be filled. I have seen washes four to six feet deep completely filled in two years by putting poles across every few rods according to the slope of the ground, staking them in place and stakes driven into the bottom of the ditch and a few forkfulls of straw thrown in to catch the wash. On Valley View farm we try to nip every ditch in the bud, either with rock, brush, or straw bars, and as our land is quite rolling it takes some work.

Where a fence crosses a draw we put in rock high enough to spread the water out and prevent cutting out below. Not one of those beautiful weed fringed ditches can be found on the 240 acres comprising the farm.

We have used the crab rooted slough grass, where washing was unusually hard to control as no amount of water will cut it out after it gets rooted and it grows very readily anywhere. I wish every Missouri farmer could read an article in the National Geographical Magazine for June describing the manner the ancient Toltec and Astec races of South America gained a living from the rocky slopes of the mountains, digging out the rocks and building terrace above terrace and filling in a certain kind of subsoil and putting on a soil layer carried sometimes for miles in baskets from the stream beds, with irrigating ditches sometimes cut in the solid rock and sometimes built up with rock, aquedocts ten to fifty feet high, and compare if comparison were possible with the conditions as they are with us.

It might start a train of thought that would cause our surroundings and advantages even in a cold, wet, hot, dry, cold season like the present to be better appreciated. Well, I did not get very far along with the subject matter, but may try another chapter later on. Uncle Rube.

EFFECT OF RATION AND AGE OF CALVING ON DAIRY COWS

Many of the most thoughtful breeders are asking agricultural experiment stations if it is possible to follow any method of feeding and management of dairy heifers that will make it more certain that the heifers will be good producers. It is another application of the question as to the relative importance of heredity and environment. Does a good dairy cow or an inferior one derive her special dairy characteristics by inheritance, or is it a result of her treatment from birth to maturity? Is a good dairy cow born that way or made what she is by her owner?

It is a well-known fact that there is considerable difference in practice among cattlemen in regard to the feeding and handling of dairy heifers. We find radically different views on some points. Some hold that a cow should be fresh at a very early age to insure the best development of the milking functions. Others take a directly opposite view and prefer a cow to be quite well-matured and state that only in such animlas are the milk-producing functions the most highly developed. Some who raise dairy cattle feed their calves only bulky feed and in rather scant quantities. Others feed largely with grain and grow them as rapidly as possible. Some hold that if a heifer of a dairy breed is allowed to get fat when young she develops a tendency to use her food for body fat all her life rather than to produce milk. Others hold that the dairy qualities of a cow are not influenced in any way by the method of feeding when young and that no harm comes from a heifer being fat. Some desire to develop the largest animals possible for the breed. Others prefer cows medium-sized or small for the breed.

There must be some general law or laws in regard to these points that can be found by experimental work. Apparently there are a number of questions along this line which cannot be answered definitely as a result of common observations or there would not be this wide difference of opinion. Having these facts in mind, the Missouri Agricultural Experiment Station in 1906 undertook an investigation for the purpose of determining, if possible, some of the principles upon which practical methods of raising dairy cows should be based. It was thought that by raising dairy heifers in the University of Missouri herd under different conditions and keeping full records from birth until the cow had been in milk two years it would be possible to come to some more definite conclusion regarding the possible influence of the treatment when young upon the future usefulness of the animal for dairy purposes.

The general conclusion from the work of the Missouri Agricultural Experiment Station investigations is that "it is possible to influence the rate of growth, size when mature, and type to some extent, by the liberality of the ration during the growing period, and the age at first calving. Within limits of variation, even far beyond the normal, the character of the ration with reference to amount of nutrients supplied does not exert any appreciable effect upon the milking functions of the cow when mature.—C. H. Eckles, Missouri Experiment Station.

FERTILIZING THE WHEAT CROP

Eleven years' work on the soil experiment fields in practically every section of Missouri has shown on most of the soils—especially the thinner and more worn ones—that the addition of available plant food has materially increased the yield and quality of wheat and has paid good returns on the money invested in fertilizers. On medium to poor lands the amount of available plant food is always one of the limitnig factors in wheat production.

The average farmer cannot greatly change the fertility of his soil in a

When Nature Turns Outlaw

"Blow, winds, and crack your cheeks! rage! blow!—
You cataracts and hurricanoes, spout . . . . . ."

Thus King Lear, in Shakespeare's tragedy, defies the elements. But man, even today, cannot challenge nature with impunity.

The unsinkable ship goes down like a rock from the impact of an iceberg. The fireproof building is burned. The monument, built for unborn generations, is riven by lightning or shaken down by an earthquake.

There are storms which make train service impossible, which delay the mails and which close the public highways to the usual traffic. Even in the cities there are times when the street cars do not run, and neither automobiles nor horse-drawn vehicles can be driven through floods or high-piled snowdrifts.

Such conditions increase th dependence on telephone wire which themselves are not exemp from the same natural hazard Fortunately, however, the Bel System has faced these danger and well-nigh overcome them Masses of wires are buried un derground and lonely pole line even the most stoutly built, ar practically paralleled by othe lines to which their business ca be transferred.

Each year the lines are stronge and the guardians of the wire are prepared to make repairs mor quickly. So each year increasin millions of subscribers find thei telephones more dependable and within the limits of human powe they count upon their use in storm as well as in fair weather.

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short period of time, but he may often temporarily increase its productiveness to a very marked extent. This is most commonly done by the addition of barnyard manure or some form of commercial fertilizer. Manure is, of course, the material most advisable so long as it lasts, but most farmers, especially those on the thinner lands, find their manure supply exhausted long before their fields are covered. Then in order to obtain the best yields from the rest of their land an application of some soluble plant food must be made. It is a general practice among farmers to add manure to the corn crop and apply commercial fertilizers when necessary before wheat. Wheat is the most universally fertilized cereal This is largely because it responds more readily to treatment than the other grain crops. Like cotton it is a cash crop of considerable value and the money expended for fertilizers is recovered as soon as the crop is sold.

Nearly all of the thinner soils of the state are comparatively low in available phosphorus. Applications of this element in soluble form usually gives the largest and most profitable returns. It is the cheapest and most easily obtained of any of the important plant food elements. The supply for this part of the country is found mainly in bonemeal, acid phosphate, or in various mixed fertilizers. Bone meal may be applied at the rate of from 125 to 150 pounds an acre but sixteen per cent acid phosphate should also give good profit if applied at the rate of about 150 or 200 pounds per acre, and mixed fertilizers which carry a small supply of nitrogen as well as considerable phosphorus will give good results on lands that are deficient in nitrogen and organic matter. Most of them should be applied at the rate of 125 to 150 pounds an acre. Nitrogen gives good results with wheat but it costs so much in fertilizers containing more than two or three per cent of it. Potash is another fertilizer that is good in increasing wheat yields but is entirely too high for use at present on account of the European War which has cut off the supply from Germany.

It must also be remembered that the use of commercial fertilizers alone is not to be considered a reliable or practical means of keeping up soil fertility or insuring high yields, but rather as a temporary method of increasing crop yields and enlarging the profits from thin or worn lands. In this way they enable the farmer to put more money into the improvement of his soil. However, the sensible use of fertilizers must go hand in hand with the best systems of crop rotation, manuring, green manuring, and systematic soil management that will tend to maintain or increase the organic matter and nitrogen content of the soil.—F. L. Duley, Missouri Agricultural Experiment Station.

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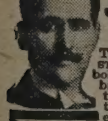

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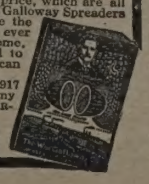

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SEED SELECTION IN THE FIELD

Autumn is the time to prepare for a profitable corn crop the following season. At corn-ripening time drop all other business and select an abundance of seed corn. The process is too important to be conducted incidentally while husking. When selecting seed corn give the process your entire attention. Get the very best that is to be had and preserve it well; and your increased yields will return you more profit than any other work you can do on your farm.

In 13 years' investigations conducted upon Scioto River bottom soil near Piketon, Ohio, with Woodburn White Dent, U. S. Selection 77, the yield was raised from an average of 63 bushels of dry shelled corn from 1901 to 1907 to an average of 75 bushels from 1907 to 1913. The principal influence producing this increase in yield was the selection and the care of seed corn.

The only proper way to select seed corn is from the stalks standing where they grew, as soon as ripe and before the first hard freeze. As soon as the crop ripens, go through the field with seed-picking bags, and husk the ears from the stalks that have produced the most corn without having any special advantages such as space, moisture, or fertility. Avoid the large ears on stalks standing singly with an unusual amount of space around them. Preference should be given the plants that have produced most heavily in competition with a full stand of less productive plants. In all localities the inherent tendency of the plant to produce heavily of sound dry, shelled corn is of most importance. Late-maturing plants wih ears which are heavy because of an excessive amount of sap should be ignored. Sappiness greatly increases the weight and is likely to destroy the quality. In the Central and Southern States, all other things being equal, short, thick stalks are preferable. Short stalks are not so easily blown down and permit thicker planting. Thick stalks are not so easily broken down and in general are more productive than slender ones. The tendency for corn to produce suckers is hereditary. Other things being equal, seed should be taken from stalks that have no suckers.

The same day seed corn is gathered the husked ears should be put in a dry place where there is free circulation of air and placed in such a manner that the ears do not touch each other. This is the only safe procedure. Good seed is repeatedly ruined because it is thought to be already dry enough when gathered and that the precaution mentioned above is unnecessary. Many farmers believe that their autumns are so dry that such care is superfluous. Seed corn in every locality gathered at ripening time will be benefited by drying as suggested. If left in the husk long after ripening it may sprout or mildew during warm, wet weather or become infested with weevils. The vitality of seed is often reduced by leaving it in a sack or in a pile for even a day after gathering. During warm weather ,wih some moisture in the cobs and kernels, th eears heat or mildew in a remarkably short time. The best possible treatment immediately after gathering is to string the ears . Ordinarily the best place to hang strings of ears is in an open shed or loft. Wire racks are more convenient, and in the end cheaper than binder twine. Such racks may be made from electrically welded lawn fencing. The cutting of the fencing ino seed-corn racks is done without any waste.

Only during unusually damp weather at seed-gahering time will fire be necessary. If heat is employed in a poorly ventilated room it will do the seed ears more injury than good. If used, the fire should be slow, long continued, and situated below the seed ears, with good ventilation above them.

After hanging in the shed or lying on the racks for two months the seed ears should be as dry as a bone and contain less than 10 per cent of moisture. They can remain where they dried or be stored in mouse-proof barrels, boxes, or cratse during the winter, but in either case they must not be exposed to a damp atmosphere, or they will absorb moisture and be injured. Some farmers place the thoroughly dried seed ears in the center of a wheat bin and fill the bin with loose, dry wheat.

In localities where weevils and grain moths injure stored grain, the thoroughly dry seed ears should be stored in very tight mouse-proof receptacles with 1 pound of moth balls or napthalene inclosed for each bushel of corn. This quantity tightly inclosed with the corn will prevent damage from these insects and will not injure the seed. If at any time signs of weevils or grain moths show on the corn, it should be inclosed with carbon bisulphid in practically air-tight rooms, bins, boxes, or barrels for 48 hours. The bisulphid should be placed in shallow dishes or pans on top of the seed. One-half pint is sufficient for a box or barrel holding 10 bushels or less. One pound is sufficient for a room or bin 10 feet each way. After fumigation the ears must be thoroughly aired, taking care that no fire is present when the fumigating box is opened.—U. S. Department of Agriculture.

Inoculation For Legumes

A correspondent wants to know if the land where Japan clover has been growing will be inoculated for alfalfa or sweet clover. No, the bacteria which grow on Japan clover are not the same as that growing on alfalfa or sweet clover and will not inoculate the latter. The bacteria growing on alfalfa and sweet clover are identical and for this reason the soil from a sweet clover patch is frequently used to inoculate the alfalfa field.

Where Japan clover has been growing for a few years the soil will doubtless be in better physical condition and for that reason the alfalfa sown on such a field will grow better than on land which has been in a non-leguminous crop.

Cost of Keeping Horses

What is the expense of keeping your horse? We do not mean for feed, but for shoeing and harness. In one of the municipalities of England where more than 100 horses are used on paved streets the expense of shoeing for each horse was from $16 to $19 annually and the harness cost per year was from $6 to $10 per head. The average working life of a horse has been 7.7 years. Some individual horses have done good hard service for twelve to fourteen years but these are exceptions. Of course these conditions are very much harder than those on the average farm.

Perfection Smokeless Oil Heater

—a Household Necessity

In the fall before the furnace fire is needed—in cold weather, when the furnace fails to keep the corners warm, a Perfection Heater takes the chill away and makes the whole house comfortable.

The Perfection Smokeless Heater may be easily carried about from room to room—the handle does not get hot.

No smoke, no dust, no ashes.

It Is Odorless

Can be regulated so the heat will radiate straight up or outward—pure and sweet air.

Burns kerosene — cheap and always available. Any good kerosene will give satisfaction, but for best results use Perfection Oil.

It is easy to fill and regulate. 25 inches high, 12 inches in diameter—finished in polished steel or blue enamel—trimmings are nickel or black Japan. It is an ornament—and in use in more than 2,000,000 homes.

Price varies from $4 to $7.25, according to finish. Look for the triangle trade mark.

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THE MISSOURI FARMER

Devoted to Better Farming, Better Farm Homes and Better Citizenship.

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Agents Wanted. We want some one to represent us in every community and make up clubs for which we will pay liberal commissions. Write us for terms and sample copies.

We solicit communications from farmers and members of the family on timely and practical subjects. Photographs illustrating farm life or plans for buildings, live stock, etc., are appreciated.

To render service is our aim and we will endeavor to answer all pertinent questions or have them answered by competent authority. When answer is desired direct always inclose stamp.

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POLITICS AND RURAL CREDITS

It is unfortunate that the Missouri plan for a rural credit system has been made more or less a political issue in this campaign. Questions of this character which affect the economic conditions of the whole country can be approached in a much sounder way if kept free from partisan entanglements Fortunately the National Farm Loan Act got through Congress without in any way becoming a political question and its organization and execution can easily be kept entirely free from partisan influences.

Both New York and Wisconsin have adopted a farm loan act without either becoming endangered by political interference. The Missouri Land Bank Law is now on the statute books of the state as the result of practically a unanimous vote of both parties in the state legislature. In proportion to their numbers one party is as much entitled to the credit for passing this bill as the other is. It is unfortunate, therefore, that the discussion of the Land Bank Amendment which is to be voted on at the general election in November has been made an issue between the two leading candidates for governor. The voters, however, should not allow this condition to affect their views on the amendment nor to influence them in the way they are to cast their ballots. If a majority of votes are cast in favor of this measure it will be mandatory on the part of any governor or state legislature to put the law into practical working order. And so we urge our readers to give careful consideration to the Land Bank Amendment and if they think it is a step in the right direction they should vote for it regardless of who they may favor for governor.

We believe the Missouri Land Bank as provided for in the Act of the last Legislature is a feasible plan and can be put into effect with a much lower rate of expense than the Federal plan can be operated. The Missouri plan is not an innovation in rural credit legislation for it is funndametally along the same lines as the law in Australia which has been very successfully operated for a number of years. If there are any defects in this law the Legislature has full power over it and can amend it as future experience may demonstrate it should be changed.

One objection urged against the law is that the charge of one-half of one per cent to cover all expenses and to create a reserve fund will not be sufficient for that purpose. We answer that by saying that in Australia, the same charge has paid all expenses and has created a reserve of more than $500,000 in about eight years. A close study of the probable operation of the law will prove that this same result or even a much better showing is possible in Missouri.

If the average loan amounts to $2,500 it will take only 400 loans to make a million dollars. Any one who has kept in touch with the demand for this kind of legislation certainly will not deny that the placing of 400 or 500 loans amounting to $1,000,000, will be an easy matter for the first year of the operation of the law. The reserve and expense fund of the bank will receive one-half of one per cent on this amount or $5,000. Possibly this may not more than cover the expenses for the first year but it should be remembered that this payment will be made every year until the debt is amortised and if it runs for 25 years the borrowers will pay into the reserve fund for the whole time $120,000. Now there are practically no expenses on these loans after the first expense of making them and if it should take $20,000 to pay the expense of making loans to the amount of $1,000,000, there would be a balance in the reserve fund of $100,000 at the end of the amortization period of 25 years. Under this law the bank can loan $40,000,000 without increasing its capital stock and upon the above estimate there would be a reserve in that time of $4,000,000. So if we cut out one half for unforseen expenses we will still have $2,000,000 or enough to repay the state for the money advanced and a million dollars left for working capital. Furthermore in these calculations we have not given any credit for the interest that will be earned by the capital stock and reserve fund which alone will amount to several thousands of dollars annually. These results are possible with any ordinary business man as manager of the Land Bank.

It has been urged by some that it will not be possible to place so large an amount of loans as the Missouri law provides for, but these critics have surely not looked up the data on the amount of farm loans in existence at this time and even a school boy knows that as the price of farm lands advances the number and amount of mortgages must inevitably increase. According to the U. S. Census for 1910 it was ascertained that 46.3 per cent of the farms which were operated by owners were mortgaged. No figures were obtained for the farms operated by tenants or managers but if we assume that the same percentage of these farms are mortgaged we have 128,364 farms with mortgages as compared with 148,880 farms free from mortgage. The average amount of indebtedness on the farms in 1910 was $1,758 which would give a total farm loan debt on Missouri farms in the year 1910 of $225,663,900. On the first capitalization of the Missouri Land Bank only $40,000,000 can be loaned and the Federal Land Bank can loan but $180,000,000 on its original capital so it will be seen that Missouri farmers alone could not quite all be accommodated by both systems operating together and confining their business to this state.

It has been charged that the Federal and State Land Banks will be unfair to all borrowers who do not get their money from these banks. In the light of the practical working of any loan system this criticism is without foundation and it is no doubt made by those who want to confuse the mind of the voter. The opportunity to borrow is open to all alike and the man who can not get cheap money from private sources will get it from the Land Bank. Then the loaning of large amounts by the State and Federal Banks will have the effect of standardizing both terms and rates of interest which will benefit all whether they borrow of the Land Bank or from private instituions.

The inauguration of Land Banks giving the farmers loans at a reasonable rate of interest and on long time with the privilege of paying a little every year is not an untried theory for this system is more than 150 years old in Europe and the United States is the only great country in the world that has not long ago established government controlled loans for the benefit of the men who till the soil and who want to own their homes.

BORROWING TOO EASY?

At the recent meeting of the American Bankers Association held in Kansas City, the president of the association, James K. Lynch of San Francisco, California, is quoted as saying "The men who have the most intimate experience with farm conditions generally believe that borrowing is already too easy for the farmers." Who are the men with "the most intimate experience" who are referred to by this great banker? Let Mr. Lynch go among the thousands of mortgaged farmers of Missouri or any other state and ask the men who are doing the borrowing if the conditions under which they get their loans are any too easy and he will find the answer no every time. If conditions are now too easy then farmers must demand an increase in the rate of interest. Instead of paying 2 or 3 per cent commission as thousands of them now do when they get a loan, they ought to pay 5 per cent or more according to this great financier. Instead of making the time five years as it is with nearly all loans I suppose he would have the time reduced to three years so as to make the conditions a little harder and the commissions a little fatter for the loan agent. Under the present easy (?) conditions President Lynch is talking about, mortgaged farms have increased both in number and in the amount of indebtedness. In 1890 according to the Federal census, only 36.4 per cent of all farms in Missouri were mortgaged, while in 1910 the percentage had gone up to 46.3. In 1890 the average amount of the mortgage was only $853 as compared to $1758 in 1910.

We heard a retired farmer express the same sentiment the other day that is accredited to Mr. Banker Lynch. This farmer by being frugal and farming his land for "what there is in it" accumulated several thousand dollars which he loaned at 10 per cent until the laws of Missouri fixed the contract rate at 8 per cent and the farmer placed his loans in Arkansaw and Oklahoma where he could find 10 per cent borrowers and make it easier to hide his money from the tax assessor. This man says farmers borrow too much money because they get it "too cheap" and that "farmers would be better off today if they had to pay 10 per cent interest for all the money they borrow."

Fortunately not all bankers are so narrow in their views as President Lynch nor retired farmers so selfish as the one quoted but these are enough to show the "meat in the cocoanut" shown in the fight against the Missouri Land Bank and the National Farm Loan Law. Unless conditions are made more equitable for the men who till the land it will not be many decades before we will see a landed aristocracy owning the land and able, by reason of their monopoly, to impose intolerable conditions on their tenants. Only about one-third of the farms of Missouri are now operated by owners who are free of mortgaged indebtedness and if conditions are made any harder it will not be many generations until we will have the same troubles that have forced Ireland and Mexico into revolution and anarchy.

REGISTRATION OF LAND TITLES

Because a better system of making farm loans is now assured under the Federal farm loan law which will be supplemented by the Missouri Land Bank it is now more necessary than ever before that we have a better system of registering our land titles. Under the present system there are frequent law suits to settle disputes about titles and every time a sale of land is made it costs the seller several dollars for an abstract of title and if the buyer is a careful business man he prefers to pay an attorney a fee for examining the title rather than take the risk of some technical defect in his claim to the land.

Several states have adopted a system of land registration known as the Torrens system which provides that the state shall give to the land owner a certificate of title. Before this certificate is given the title must be examined and certified by the state officials. When the owner sells, all he has to do is to surrender his certificate of title and have a new one issued to the buyer. There is no need of abstract or attorneys fees for any subsequent transfer. In order to protect the buyer against claims that might arise from possible error or the rights of minors it is very easy to provide an insurance fund by the payment of a small fee when the land is registered. If a claim is then established it is paid for out of this fund and can not affect the rights of the one who is in possession of the land. Such a law would doubtless be opposed by those who are in the abstract business as well as by attorneys who occasionally get a fee for examining titles but if it is a good thing for the owners of land and for those who loan money on land there is no valid reason why we should not adopt it.

HAM AND BACON SHOW

One of the most important features that has been added to the attractions of Farmers Week is the Ham and Bacon Show which was organized by W. L. Nelson assistant secretary of the Missouri State Board of Agriculture. Only cured hams and bacon may be entered in the show and farmers who have any good cured meats on hand should save out the finest specimens and send to Columbia for the exhibit which will be held in January.

The cash prizes will amount to $150 making it profitable to the winners to exhibit and in addition there is an advertising advantage gained by any exhibitor who wants to build up a trade in high class cured meats. During the present week good country hams have been marketed in Columbia at 30 cents a pound, a price that ought to make it possible for farmers to build up a profitable trade in cured meats.

BEGINNING TO SQUEEZE

It seems that it is not enough that farmers should stand their losses from hog cholera and other diseases of live stock added to one of the worst drouths which has ever visited the country but indications are that they must endure the annual "squeeze" of the packers made on the price of hogs.

The United States Department of Agriculture estimates something like four per cent fewer hogs than last year, the short corn crop will mean that thousands of hogs must be sent to market lean and short fed and in face of this the demand for meat is good but in spite of all these favorable aspects packers have already hammered nearly a dollar a hundred off the price. Last year more than $1.25 a hundred was taken off prices in less than a week. For the last six years there has been a decline of the price of hogs in the St. Louis market from September to December of $1.30 to $2.35 a hundred. In not one of the six years has the drop within these dates been less than $1.30 and in two of the years it reached $2.00 and $2.30.

If our readers think the fight is over just because hogs have been bringing good prices for the last few months it may be that a close watching of the daily market manipulations may chang their minds.

BARNYARD GOSSIP

Sometimes the lot of the farm boy seems a hard one—and it is really so any one will admit, who has experienced this life, but many a boy who has tried to get away from his hardships has found to his sorrow that there are other places where to hard work there is added abuse and misery. Many a time the writer of this paragraph has thought the life of the farm boy hard after following the plow or worse the harrow or cultivator from early sunrise to sunset except barely an hour at noon. The horses were fed, brushed and harnessed before breakfast and supper was usually eaten after dark and after that the cows were milked, the pigs and calves fed and about nine o'clock he got to bed. He was tired enough that sleep was truly sweet to him and he did not wake until called at four in the morning. This rushing lasted during crop planting and harvesting and while there was plenty of work during the rest of the year there was also plenty of time given for recreation.

Since our lot has been cast in the city we have had a chance to observe the lives of numbers of city boys. Occassionally there is a boy in the town who seems to have nothing to do but smoke cigaretts and play pool but pity such a boy! He is never tired and therefore can not know the sweetness of rest. He never feels like going to bed and consequently never sees the sun rise nor breathes the pure morning air that every farm boy has experienced and knows the pleasure thereof. But most town boys must work. It may be that he works in somebody's garden, drives a delivery wagon or runs errands in a store, or may be rubs down the horses in a livery stable.

There is one marked difference between most boys of the country and those of the city. The country boy has a healthy glow on his cheek a smile on his face and looks you square in the eye when you meet him, while the unemployed city boy, the one you think has an easy time smoking cigaretts has a sickly pallor on his face, never gets to rest because he never works and never feels the joy of the boy who is doing something useful every day. No, boys don't get it into your heads that such a boy has a better time than you do, because he don't.

26 Extra Features
73 New Conceptions

Mitchell
MID-YEAR MODEL

20% Extra Value
Due to Factory Efficiency

$6.62 Per 1000 Miles

Bate-Built Mitchells Have Run 200,000 Miles

Two Bate-built Mitchells have already exceeded 200,000 miles each. One has to its credit 218,734 miles. Seven have averaged 175,000 miles each.

Think of 200,000 miles. That is forty years of ordinary service. And at $1325 a Mitchell which did that would cost $6.62 per thousand miles.

Mr. Bate's Lifetime Car

John W. Bate has aimed in the Mitchell to give you a lifetime car. The Mid-Year Mitchell is his 17th model with this aim in view. It is the final result of 700 improvements.

Part by part he worked for perfection. To every part he has given at least 50 per cent overstrength. Castings are almost eliminated. There are 440 parts which are drop forged or steel stamped.

Chrome-Vanadium steel, costing up to 15 cents per pound, is used to meet major strains. The Bate cantilever springs are so strong that not one has ever broken.

The Mid-Year Mitchell, with its 127-inch wheelbase, weighs under 3000 pounds. It runs from 16 to 22 miles on a gallon of gasoline. Yet the high-grade materials make it the wonder-car in endurance.

20% Extra Value

A car of this grade has never before been sold at the Mitchell price. In addition, the Mitchell has 26 extra features — things which other cars omit. We include them all in the Mitchell without extra price, though they cost us this season over $2,000,000.

In the Mid-Year Mitchell you get a 22-coat finish. You get French-finished leather. You get 73 new conceptions, all added within a year. You get all the best new ideas which our designers found in 257 of the latest European and American models.

Compared with other cars in this class, you get, we believe, at least 20 per cent extra value. And that is all due to our factory economies, worked out here by John W. Bate.

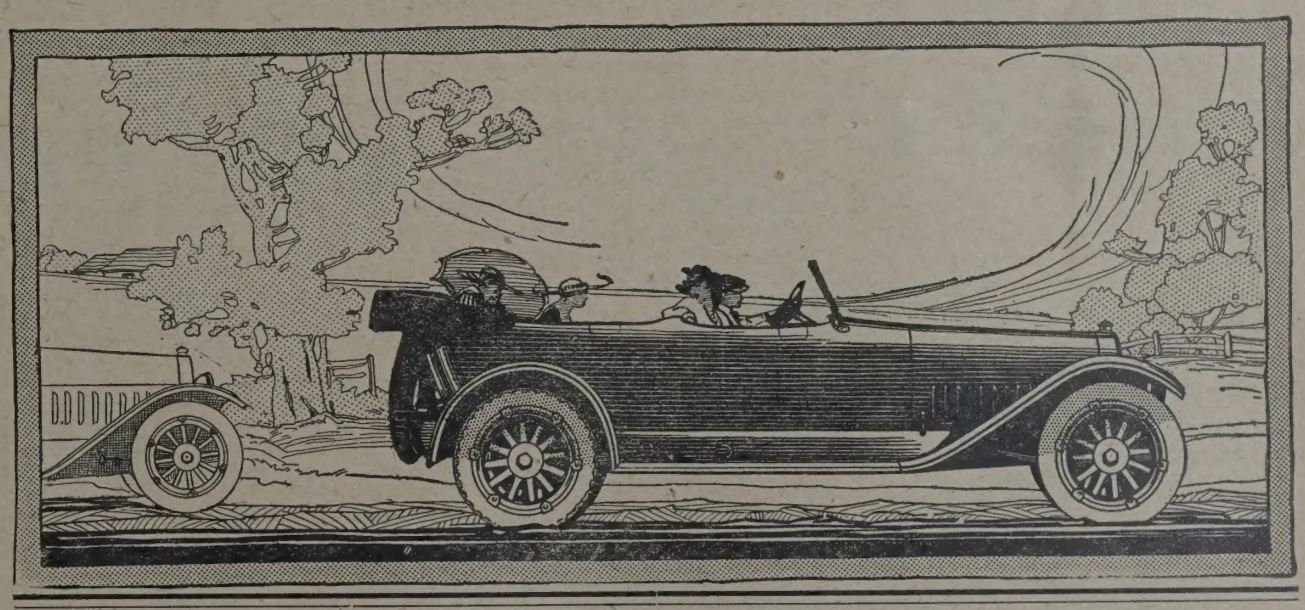
This efficiency engineer designed all our new buildings. He equipped them with 2000 up-to-date machines. The reasult is a model plant, where our factory cost has been reduced one-half. That is the reason for the Mitchell extra values.

$1325 F. o. b. Racine
For 5-Passenger Touring Car or 3-Passenger Roadster
7-Passenger Body, $35 Extra
Equipped with Demountable Top Only, $300 Extra
High-speed economical Six—48 horsepower—127-inch wheelbase. Complete equipment, including 26 extra features.

You will want these extras in your car. You will want this strength and endurance. You will want these new ideas and touches. Go and see what they mean to you, at your nearest Mitchell dealer's. If you do not know him, ask us for his name.

He will show you a list of great engineers—men of nation-wide fame—who bought the Mitchell for their personal cars. You will gladly take their judgment on the best-built car. (124)

Mitchell Motors Company, Inc.
Racine, Wis., U. S. A.



ADVISES FALL PLOWING

Plowing in the fall for next spring's crops should be encouraged in most cases, because it distributes labor more evenly throughout the year, favors earlier seeding, improves soil structure and kills many insects, says F. A. Welton, of the Ohio Experiment Station. Only on soils subject to washing, on fine clay soils and where catch crops are seeded in the fall is this practice not recommended.

Usually there is a rush at spring planting time. Farm labor can be used to advantage in the fall when work is slack. Thus crops can be seeded earlier next spring. At the Ohio Experiment Station a difference of a month in time of planting corn made a difference of 24 bushels to yield as an average of 7 years. Furthermore, the early planted corn had about 10 per cent less moisture in it.

Freezing and thawing during winter make plowed soils finer. More moisture has been found in the in soils fall plowed than in unplowed land.

White grubs, wireworms, cutworms and corn-ear worms live over winter in the ground. Plowing in the fall kills many of them.

Housewives Attention!

On the last page of this issue will be found an advertisement which every housewife should read carefully. If you are in need of a new dinner set, here is a great opportunity. The company in question is perfectly reliable—and if you don't like the dishes when you see them you are at liberty to return them. In any event, read the advertisement carefully.

Why not go to some of your good neighbors and ask them to give you a dollar for three years subscription so they can get the old price before the new price goes into effect Oct. 20th? This is the best and quickest way to get them interested in the great Farm Club movement—and then too, we need this kind of help from every friend.

THE EDUCATIONAL ASPECT OF FARM LIFE

Agriculture is not only the basis of our civilization in the mere economic sense of affording food to support our physical existence, but in a still more fundamental, biological sense. It is only in an agricultural state that the human individual attains a normal acquaintance with his environment and a full endowment of intellectual and social faculties of this race. Wandering savages and shepherds may be strong and cunning as individuals, but in other ways they are lacking, and this is true of people raised in cities. Rich and poor alike are defective, deprived of normal existence, lacking in normal development, and unable to maintain themselves continuously, from one generation to another. It is for this reason that cities have to be recruited continually from the country. The biological fact is that the human species does not thrive in towns. The second generation is generally inferior and the third generation usually fails. A few by reason of strength of character and of family ties are able to survive longer, but even the Jews, who excel other races in these respects and withstand urban conditions better, are not a prolific or a numerous people. They have continued to exist as urbanites but have not prospered or replenished the earth. Perhaps the promise to the seed of Abraham awaits a return to an agricultural state.

From an enlightened eugenic standpoint every child should be born and raised on a farm, in contact with the actual world of kindred, neighbors and friends, the domesticated plants and animals that represent the basis of our existence, and the wild things that live without our assistance or even in spite of our efforts to destroy them. To grow up under these condotions of family, farm and out-of-doors is necessary for normal development, in order to allow the normal human characteristics to come into expression.

A Return to Barbarism

It is obviously unreasonable to expect that children who are deprived of intimate contacts with nature or with the older generation can attain a complete development of their natural powers. The effect of the urban conditions and of the system of elaborately graded schools is to take the children out of the family group and limit their contacts largely to other children of the same age—contacts that do not make for any full development of the child in the direction of general intelligence and responsibility. The bonds of the family and other social ties are loosened and there is a real return to conditions like primitive barbarism, among our urban populations.

The transmission of desirable characters from the parents is not enough. In addtion to the prenatal inheritance there must be a postnatal acquisition of civilizing habits and accumulated experience of the race, or children with the best blood may grow up ignorant and irresponsible, as many do. Eugenics is conceived very often in too narrow a sense, as relating merely to the transmission of desirable characters, as though this alone would solve the problems of our civilization. There needs to be a sister-science of euphanics, to treat of the expression of desirable character, the biological factors underlying the problems of education. Eugenics without euphanics can get nowhere. The best seed is wasted unless the plants can grow to normal maturity. Breeding a crop to its highest possiblities is of little avail unless there are to be farmers who know how to give the cultural treatment that will allow the characters of superior varieties to come regularly into expression. Practical eugenics must look forward not only to the provision of normal parents and normal children, but to parents who shall be able to care for the normal development of their children.

Children Need Farm Conditions

Not to be raised on a farm is a cruel privation, a denial of the normal childhood of our race that no previous eugenic precautions or subsequent educational manipulations can make good. Many excellent and very intelligent people do not know that children need farm conditions, but it is true nevertheless, and needs to be recognized before we shall have any just or practical appreciation of eugenic or educational values. Many of our educators know how hopeless the urban children are, under the urban conditions, but they are engaged to handle such children and are doing the best they can. The urban problems are pressing and cities pay high salaries to get capable men. The result is that not only our educational institutions, but our educational ideas as well, are being cast almost exclusively in the urban mold, with no recognition of the educational value of rural life. Every year thousands of misguided parents, all over the United States, are moving to towns in order that their children may have the "advantages" of the large graded schools, the over-crowded education-factories where the city children are put through the elaborate machinery that is necessary to handle helpless humanity in large masses. The school is no substitute for the home, much less the city school for the farm home.

In cities the little children have to be sent to the school, the kindergarten, or the day-nursery, to keep them out of danger while the parents are at work or at play, but in the country where the children can be out-of-doors they do not need to be caged. The projection of urban ideas and methods of educaion into the country makes needless difficulties. The little children not only do not need to be sent to school, but are much better off, educationally and otherwise, if allowed to stay at home. There is no good reason why normal children of normal, intelligent parents living in the country should be sent to school before the eighth or ninth year. Nor is there any reason why any favorably situated country child should go to school for more than six months in the year. Country schools need to be improved in many ways, but running them longer is not an improvement.

It is true, of course, that many children, and especially urban children, are better off at school than at home, but that some children lack favorable home conditions does not make it reasonable to keep others from such an advantage. It would not be argued that all children should be taken away from their parents because some children are orphans, or because some parents are incompetent, careless or cruel. Yet there can be no doubt that this is very frequently the effect of our system, to make children practically orphans by turning them over wholly to the school.

City Populations Superior

Instead of being composed of naturally inferior stocks, city populations are probably superior to the residual population of the rural districts. The general tendency in each generation is for the best of the rural population, the most energetic and capable, to be drawn to the city. If city populations average better in some respects, as statisticians have claimed, this does

I've always noticed that when a man's wife loves him and thinks he is fine and splendid, that there is a great deal of good in him. In other words, its mighty hard to fool a good woman. not prove that the city is a better place to live, but only shows the more definitely that the drain of the city is a menace to the race in sterilizing and destroying the superior elements of the population. The aggregate losses are probably much more serious than those caused by war, because more general and continuous.

If the time has really come for the consideration of practical eugenic measures, here is a place to begin, a subject worthy of the most careful study—how to rearrange our social and economic system so that more of the superior members of our race will stay on the land and raise families, instead of moving to the city and remaining unmarried or childless, or allowing their children to grow up in unfavorable urban environments that mean deterioration and extinction.

Until recently cities have been distinctly in advance of any of the rural districts, not only in holding out greater inducements in the way of income, but in many other ways. Not only schools for the children but many other conveniences, luxuries, pastimes, and amusements are supplied in cities much more easily and abundantly than in the country. But it must not be taken for granted that all of these things are as desirable or as necessary as they seem to be to people who have become accustomed to city life. Comfort should not be confused with civilization, as Disraeli pointed out. Living easily is not necessarily living well, or in a way that will give the most satisfaction to the individual or contribute most to the progress of the race. Most of the people who really want to live want to live in the country. Those who are intent upon some special pursuit of wealth or pleasure or freedom from responsibility must hold to the city as the only place to follow the courses they have chosen. But these professional urbanites are attempting to grasp a small part of life without feeling the need or accepting the responsibility of a complete existence.—O. F. Cook, U. S. Bureau of Plant Industry in Journal of Heredity.

WHY BOYS AND GIRLS LEAVE THE FARM

There is one question often asked THE MISSOURI FARMER that I think I can partially answer, "Why do so many boys and girls leave the farm?"

It has occurred to me that perhaps at least a part of this might be stopped if farm homes were better equipped with modern conveniences such as furnace heat, running water and bath, and sewerage, electric lights, laundry, ice-house and so forth.

Now I am not picturing to you a farm home such as mine is but such as I should like for mine to be, and such as I hope to make it as soon as possible. In other words, I would speak to my readers as the minister spoke to his congregation when he said "Do ye brethern, not as I do but as I say."

I believe that many a country lad and many a country lass, too, has first conceived the idea of migrating to the city, from a visit to some relative in the city whose home was well equipped with a lot of "conveniences" which in the average farm home would be called "luxuries."

You say, those things all cost money. To be sure they do but a lot of farmers could have them who haven't. Automobiles cost money too but farmers are buying them by "wholesale" though perhaps not at wholesale prices.

The auto probably is a big factor in keeping the boys and girls on the farm but I believe modern home equipment would do as much or more in that way than the auto is doing.

Wm. J. Britt, Audrain Co.

TO GET RID OF MOLES

Getting rid of moles in yard or garden is a difficult proposition. In our experience, which has been a trying one, we have resorted to many methods, but have found none that is unfailing. The first rule, we believe, though, is to keep the runs tramped down so that it may be known when the moles are active.

By making observation from time to time the watcher will eventually be rewarded by finding the mole at work. The next move, then, is to secure a spading-fork, go quietly but quickly to where the dirt is moving, insert the fork with one deep, rapid thrust and land the mischief maker out on the ground. One hard lick with the fork will mark the mole's finish. In inserting the fork or spade, do not touch the ground until ready to strike. To do so would probably cause the mole to hurriedly retire to another part of the run. In a single season we have killed a number of moles by this method. It is a common belief that moles are more active about sunrise and sundown than at other periods of the day, but we have not found this to be true.

We have also found the spring trap, set over the run and having long points on which the mole is impaled, quite effective, especially where the ground is not too hard.

Carbon bisulphide is an effective agency in ridding the premises of moles. This chemical is placed in the runs, all openings, through which the gas which will be formed, might escape, first having been closed.

One man, who had tried poisoned corn and other alleged riddance remedies without success, made use of his auto—not to crush the moles but to suffocate them. The method used was to attach a common water hose or other rubber tube of sufficient size to the exhaust pipe of the auto and force the gasoline fumes into the run. Following this treatment every mole either died or disappeared. It is, of course necessary, in making use of the auto as a mole eradicator, to first carefully close all openings through which the gas might escape from the runs.

W. L. Nelson.

SOME VALUABLE MEN

Among the different men connected with the State Board of Agriculture and the Agricultural College are a number who compare favorably with the best agricultural speakers in the United States and whom the farmers of Missouri should utilize much more effectively than they do. At the head of the group stands "Sam" Jordan—one of the best known agricultural thinkers and talkers in the entire country. Until he took up lecturing on farm subjects, Mr. Jordan was a farmer up in North Missouri and no man knows the trials and hardships of farm life more intimately. And not only is he a tireless agitator for better farming methods, but with his whole heart and soul aflame with his great work, he longs and fights for a broader and happier farm life in general—a higher and broader farm citizenship. As homely as Lincoln and with a sincerity that grips his audiences from the moment he opens his mouth, he can nevertheless "skin" the things that need skinning with a mercilessness that would have done credit to Sam Jones, the famous Georgia evangelist of other days. And yet, no sooner has he finished flaying his auditors for some glaring dereliction when his face breaks out into an irresistible smile—and then he tells some joke of which he himself is usually the victim—and everybody laughs and not only does he "get by" with his criticisms but the crowds like him the better for his candor. In other words, in order to drive home his truths, this fine man whose splendid service the farmers of this state will never be able to repay is willing to sacrifice himself, if by this means he can the more strikingly call attention to the things that are wrong with the farm methods and life of the present day. A firm believer in the idea that Farm Club organization is the only hope for the farmer, no man in Missouri is destined to play a greater part in this great movement during the next year or two than "Sam" Jordan.

Another man who is splendidly useful is J. Kelly Wright who is known to many of our readers. A forceful speaker who is thoroughly grounded in the practical side of farming and a graduate of the Missouri College of Agriculture, Mr. Wright has a worth while message for the farmers of every community—for the heart of no man in the state beats in deeper sympathy with the farmer and the problems which confront him at this time and few are as able to discuss them as Kelly Wright who stands merely on the threshold of his splendid usefulness in this great state.

So, also, is W. D. McKee of Polo, known to many of our readers and here again is a man of whom farmers throughout the state should make effective use. The owner of a fine farm in Ray County, McKee is a sort of "Good Samaritan," who goes around over the state lecturing to farmers more for the love of the thing than for the small recompense he gets out of it. Somewhere in the makeup of Mr. McKee there is a strain of the poet and when he talks of his "flocks," the "Shepherd" and "green pastures" one is reminded of some of the beautiful Bible stories of old—for he is one of those rare characters who sees hidden beauties in the trees and rocks and in the hills and valleys—things which the most of us fail to note as we go stumbling on through life.

Another man whom all the readers of THE FARMER should learn to know at closer range is W. L. Nelson Assistant Secretary of the State Board of Agriculture, who frequently contributes such splendid articles to these columns. Ranking easily as one of

the best writers on agricultural matters in the country, Mr. Nelson is a man who has a great career of usefulness ahead of him in Missouri—for few, if any, are more familiar with the agricultural possibilities and problems of the state while no man is in position to render more intelligent and effective aid in the solution of farm questions which are pressing at this time than this able and yet modest young thinker from Cooper county. While the most of his time is taken up with his official duties, our readers should induce him to make as many addresses to farm audiences as possible.

Recently the College of Agriculture added E. H. Bullock of Edina to its corps of extention workers and a better man for this line of work it would have been difficult to find in the state—for as the owner of a fine Knox county farm and as the President of the Farm Bureaus of Missouri he has a message of deep interest to the farmers of any community in the state He is a forceful public speaker and a man whose heart beats in deep sympathy with the trials and problems of the farmer.

Messrs. Jordan, Wright, McKee and Nelson are connected with the State Board of Agriculture of which Hon. Jewell Mayes of Columbia is the head, while Mr. Bullock is connected with the College of Agriculture and we suggest to those communities in which farmers are interested in the Farm Club movement, that they plan a three or four days campaign for one of these men in their respective counties and then ask for dates for whichever one of them may be available—and then see to it that big crowds greet them at every meeting place. While they are discussing better farming methods they can also discuss Farm Club organization and thus contribute tremendously toward arousing your county on this great question. But don't ask for them until your metings are fully organized—until you know that you can assure them of the kind of audiences to which their ability entitles them and which will enable them to do the maximum amount of good.

William Hirth, Publisher.

CO-OPERATIVE PURCHASE OF FARM SUPPLIES

A careful examination of the methods of a large manufacturing establishment shows that the success is due largely to the ability to buy its raw material at the lowest prices to sell its finished products through an efficient distributing system, and to take advantage of more economical methods of production. By means of a thorough organization of all its forces it overcomes much waste, inefficiency and extravagance, and every branch of its work is a part in one great system. The small factory buys its materials in small quanities for cash, or credit extended on high rates of interest, or from brokers or small dealers, but the large factory arranges for a line of credit at low rates and maintains a purchasing department, which buys carefully in such large quantities as to secure close prices from producers. The quanitity of these materials purchased justifies the expense of a testing department to make sure that all purchases are up to the standard.

The average individual farmer is himself a small manufacturer, working with the forces of nature to produce certain farm products. There are two distinct ways by which he may hope to improve his financial condition—first, by lowering his cost of production, and, second, by increasing the income received from the sale of his products.

It has been found from the surveys made by the Office of Farm Management that the minimum efficient unit is the farm that furnishes adequate employment throughout the year to the average farm family. Experience has also shown that combinations of farmers for co-operative production are rarely advisable, but the farmers in a given section usually produce the same assortment of crops, and their farm needs for supplies, such as implements, fertilizers, seeds, spray materials, and packages, are practically the same. Many of these requirements can be anticipated, but the common practice is to depend upon local dealers to carry these standard articles in stock, awaiting the day when the farmer wishes to use them. In many sections it is customary in the spring for farmers to ask the local merchants to charge the amount of all purchases until harvest time in the fall. This practice compels the merchant to buy in small quantities, shipments being received under relatively high local freight rates. He must buy on credit or else borrow large sums of money, for the use of which he must pay interest. The dealer must pay cartage charges and must own or rent stores and warehouses. He has taxes and insurance to pay on his stock; he must employ clerks to wait on his customers, and pay liberal advertising bills to attract trade. Frequently there are expenses for the delivery of goods. Usually where credit is extended an advance in prices must be made to cover the occasional loss due to bad accounts.

If customers need or require such forms of assistance, they have no right to complain if the merchant includes a reasonable charge for the service in making the price for his goods. In fact, much of the complaint about present-day high prices is unreasonable, as increased prices frequently are due to the increased service required by consumers and rendered by dealers. If people insist upon being waited upon, they must expect to pay those who thus serve them

Elimination of Waste.

In the farmers' general plans for improving their condition it is necessary for them to take advantage of the co-operative principles for conducting their business, to the end that they also may be able to eliminate waste. Efficiency is the watchword, and the farmer should pay for necessary and efficient service only. In case he finds that he can serve himself more efficiently than others are serving him, if he can install and operate his own business machinery, arrange to pay cash, or furnish his own credit, he should do so. The trade should and usually will consent to meet him on this thoroughly sound basis.

If it is good business and entirely proper for manufacturers, wholesalers, and retailers to unite in their respective organizatinos, not to control prices or restrain trade, but for greater business efficiency and to eliminate waste, what argument should induce farmers to refrain from similar action o improve their business? What can the manufacturer gain by such organization which the farmer can not? Is the average intelligence of the manufacturer less than the average intelligence of the American farmer? If it is advisable for the manufacturers and dealers to federate into State and National associations for the above-named purposes, by what line of reasoning do some conclude that it is unnecessary or absolutely improper for the farmers to organize even on a community basis?

Securing of High-Grade Goods.

The farmer is interested first of all in securing goods of standard quality. Large amounts of spraying and fertilizing chemicals are now used on many farms, and it is essential that these materials be of high grade and free from impurities. The amount purchased by each grower is not sufficient to warrant having chemical analyses made, but where full carloads are purchased by a group of farmers a composite sample may be taken, and one analysis will show the average quality of the whole.

Standardization of Supplies.

Another effect of co-operative purchasing has been to bring the farmers together in the use of the same make of implements, fruit packages, etc. One western fruit association agreed on one style of power sprayer where a dozen or more were formerly sold. Not only did they save a large sum of the purchase price, but one line of repairs now supplies their needs, and parts can be kept on hand for sale to all members at a great saving.

Another association secured the adoption of one style of fruit package where no less than eight had formerly been in use. Manufacturers who formerly had to keep in readiness eight styles of basket forms and eight kinds of supplies can now devote their entire force and factory to the making of one style, thus lessening the cost of making and decreasing the selling price, while insuring a constant supply.—C. E. Bassett, Specialist in Co-operative Organization, Office of Markets and Rural Organization.

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FARMING THE GREATEST CALLING OF MAN

If the words of our lamented James S. Rollins, The Father of our great institution of learning at Columbia, in his memorable address at the St. Louis Fair several years ago be true, and no profound thinker, or true scholar endeavors to deny—that, "The Honest industrious farmer bravely gathering the fruits from the fields of his own cultivation is nearest to nature, and he who is nearest to nature is nearest to God". His dependence is upon the blessings of God, and his own intelligent industry. The blessings of Almighty God no doubt are ever present in some form but man's conception fails or he errs in judgment. He fails to follow that course that experience and observation of his own and others tells him is sure.

The illustrious Franklin, to whom the lightening of heaven yielded, said "that, he road to weatlh is as plain as the road to market, spend less than you gain. Then soon your hide-bound pocket will begin to thrive." "Why don't the average farmer make more money?" His practices are wrong. Maybe gaited too fast, or trying to hit the right target with the wrong kind of artillery—don't use foresight and push his work. A successful farmer must plan the future at least three years ahead and work the present and wait from one to five years for good profits. Farming and stock growing is a special calling and for the average man to succeed in it he must not mix with any other business.

In many instances, the average farmer fails to keep up the fertility of his farm Fertility is his capital stock and when the farm depreciates in fertility it fails to produce paying grain crops and also makes it more expensive to cultivate. Consequently surplus is soon gone and drafts made on capital.

He buys too much . A farmer never ought to buy anything he can raise on his farm at a profit. His farm ought to be a factory upon which are manufactured the main things necessary for his subsistance. He ought to raise his own meat and cure it in his own smoke house, besides plenty of hogs, cattle and sheep to make meat for the laboring, professional and business world who on account of their calling are consumers and necessarily must look to the farmer to provide for them from his fields and flocks.

The average farmer ought to raise in his own vegetable garden, potatoes, cabbage, onions, celery, etc., have them good and fresh at first cost and convert his idle time into cash and never miss it. He ought to raise his own fruit. Not necessarily a merchantable orchard, but a nice little family plat of say one acre in apples, peaches, grapes, berries and cherries. These properly looked after will produce the major portion for an ordinary sized family and add lots of pleasure. Plant no ground to grain that of an ordinary season is too low in fertility to grow a good crop. Sow all thin land in grass, clover predominating, pasture and manure it up. Diversify, intensify, economize. Failing to do these things is another reason why the average farmer don't make more money. Another reason is that the ordinary farmer in many instances gets gaited too high. Figuratively, he notices that his neighbor has a coach and four-in-hand and a coachman in livery and also gets himself the same outfit, never once considering that his neighbor is worth $50,000 which he has properly been fifty years in accumulating and is now in advanced age enjoying the fruits of a well spent youth. While he is only a journeyman with good credit on a quarter section of good land worth $12,000 and only $4,000 of it his own. A ten mile horse trying to keep pace with one whose reserve power is fifty—a 22 target rifle trying to pierce an armor plate built to resist a siege gun.

Gentle reader and brother farmer don't think for a minute that I wish to convey the idea that to be a progressive, thrifty, and up-to-date farmer one must be a millionaire. Such is not the case. Any healthy industrious man that has stamina and grit, combined with common honesty who will take the time to prepare himself for the calling and then fall in love with his work, can commence at the bottom rung and in a few years have a comfortable nest egg for his declining years and have had a good living during this time, and also a considerable amount of wholesome healthy and innocent pleasure. But to make a success measured by finance and character, in this calling the same as all others, as Rev. Dr. Prickett said recently in preparing the youth of today for tomorrow's work: "They must have intellectual development combined with morality, and the heart must be in the right place."

And friends you will find this combination a fine stock in trade, in any calling. Blue Jay Farmer.

Build Your WORN OUT SOIL SWEET CLOVER

The great crop for soil fertility and animal feed. Exceptionally rich in nitrogen and humus. Higher protein content than alfalfa. Sow in spring, summer or winter. Write for prices.
Bokhara Seed Co., Box F, Falmouth, Ky.

Terre Haute VETERINARY COLLEGE
U.S. ACCREDITED SCHOOL — SEND FOR ILLUSTRATED CATALOG TERRE HAUTE IND

Fatten Mules and Horses Before Selling

A great many men make a mistake by selling mules and horses in only medium flesh. This is so common a fault that buyers make good money by picking up the animals and feeding them a few weeks to make them fat. A good ration for fattening horses is made up of corn, oats and good alfalfa or clover hay. A little corn fodder and timothy is all right for variety. Where fodder and timothy are used exclusively for roughage it is well to feed a little oil meal, say one to one and a half pound a day which will keep the animals in better condition.

LYON'S PRACTICAL FARM PAPERS

I am asked, "What is the best cheap roof for farm buildings?" and without h sitation answer, any of the three ply, so-called "felt," and "rubber," roll goods, which sells at from $1.85 to $2.25 per 108 square feet. I have some put on eleven years ago last August, and it turns water as well as when it was put on. An experienced man tells me, that a good solid base of roof boards or sheeting, is more necessary in using this roofing than for either shingles or metal, and he says, to lay the sheeting close as possible.

I figure it about this way; shingles not less than $3.25 per square, and $1 per square for driving. Metal roof, according to grade, tin, painted steel or galvanized steel, from $4.00 to $6.50 per square, laid. The shingles will last twelve to sixteen years, the metal roof from twelve to perhaps thirty years, with the added cost of painting once in five years.

If the roll roofing, at $2 per square, and two men can lay twenty squares a day, only lasts eight to ten years, which it will easily do, it seems to me to be 30 per cent cheaper than any other. There are three or four regular grades of this roofing from 1 ply to 4 ply, weighing from 25 to 70 pounds per 108 feet roll, the kind in most general use being 3 ply, weighing 55 to 65 pounds per roll.

I have just looked over U. S. Farmer's Bulletin No. 745, Waste Land, and Wasted Land, on Farms. Like a good many other recent government publications, it is a labored effort of some employee of the Agricultural Department, who has to do something in order to pretend to be earning a good salary.

We all know that most of us have land in our farms, which is not paying us a profit every year, but, generally speaking, it would be impossible to learn what to best do with such land from reading and even by a careful study, on the spot, with labor as scarce as at present, it is not possible to change our plans as when I was younger, I have dug up the soil on rich steep banks, and raised fine crops, corn, tobacco, tomatoes, melons and other vegetables. but the prime object was to get the wild stuff out, and grass set. In the case of tobacco at 15 cents per pound, or tomatoes at $1.50 per bushel, even with potatoes at $1 per bushel, such work may pay, but with corn, wheat or oats, a man would not make 40 cents a day.

One point in the Bulletin, referred to by a cut and three lines of print, is where the writer missed a chance to impart some knowledge, if he had it, and that was along the line of straightening small streams.

In two hours work with team and plow, and one days work with pick and shovel, in 1897 I made a crooked stream run straight for 40 rods, and made a small bottom of perhaps an acre and a half cultivable in long runs instead of in short ones.

I might liberally estimate the labor cost at $2.50, the bottom has grown six or seven heavy plow crops, corn, tobacco and potatoes, since 1897, has been in the finest and heaviest of pasture the other years, and if the farm was up for sale today, it would bring $100 to $150 more than when the branch meandered through that bottom.

It is not every small strip of land, cut off from the main body of a plow field that is wholly unproductive, for we have such strips, and when the land goes back in pasture next August, after having been broken last April, the heavy grass on such strips will keep the stock off the main field several days.

Of course a good many acres on most farms are unproductive, in the sense that they are not producing cultivated crops, one on mine for example, being perhaps two acres of the best land on the farm, in lawn, buildings, driveways, a few fruit trees not worth much but still we like to preserve them, and a few trees valuable only as shade.

Cold economic principles, might warrant the cutting down of all this to what would barely satisfy our needs, but warmer sentiment, demands their maintenance.

The labor problem has us in its grip just now. From Sept. 1 to Oct. 5, the tobacco crop must be housed, the corn cut, and a part of the seeding done. Month hands have been getting $26 to $30 per month wih board and washing since April 1, and day hands get from $1.25 to $2.00 and three meals now, with the supply not half equal to the demand.

It keeps one man moving to warm, sucker, cut, and house, an acre of tobacco per week, and my two sons have seven acres to put in between September 11 and October 1, the biggest tobacco I ever saw.

A neighbor has five acres, not as heavy as ours, and is by himself, so the boys have joined in with him, as it takes three to make a full crew at the work. Another old man and his son have ten acres, and so far have no hand, scores of others in the same fix. Not an acre of corn land can be seeded to small grain until the corn is cut, as it is down very bad and an army of men will be needed for that work. This condition obtains, not only in the tobacco belt but all over the farming country, and a few tens of thousands of our strongest young men are on a frolic, preparing themselves for a war which we are in no danger of.

With all this, the fairs, state and county, are on, and other tens of thousands will attend them, losing a day or two or three days from the suffering crops. When I was a boy, and went to the fair one day per year in the old spring market wagon, I had a dime, and on rare occasions a quarter to spend, but now, a boy of 16-17, must have a new buggy, a fine horse, go two days and spend $5 per day.

It is not only the sons of fairly well-to-do land owners who do this, for only last Sunday, the 20 year old son of a tenant farmer, who only had $250 as his share of crop money in 1915, was at my house, in his own new buggy behind a special light driving horse.

There is too much time wasted, and too much money spent for things which people could do very well without, things that add little to comfort or pleasure.

The hands we get are not nearly as good as those of thirty or forty years ago, and even in the busiest season, every hand takes Saturday afternoon off. They all go to town, some go to the wet town, but this is not nearly as common as it used to be, but the dry towns all have pool rooms, and these are but a slight improvement on the snake remedy stores.

The city gets our young men, and while this county had 32,000 population in 1870, the 1910 census gave it something over 24,000. Even part of our towns fell off in population in this 40 year period, one from 3,000 to 1,900, and another from 850 to 450.

In 1892-1893, I had a hand, and as good a worker as I ever saw, from April 1 to October 1 at $16 per month, 50 cents a day when he worked in winter. He married in 1894, and I turned down an applicant for his place because he was somewhat under size. This man hired to a neighbor, and worked for him five years at $14.50 per month the year round, then, as wages went up, to another for three years at $16 per month by the year. He saved every dollar he could and is now the owner of a good 80 acre farm, the first $1,350 of the $3,300 purchase price, being the wages saved, working by the month.

Of all the hundreds of young men who have left this county to seek easy jobs in the city, I cannot recall a bakers dozen who are any more than wage hands yet and not half a dozen who own the roofs over their heads. I see some of them every time I am in the city, and it is seldom that one or two are not ready with a hard luck story.

C. D. Lyon.

Is there Music in Your Home?

If you haven't a good piano in your home, look up the advertisement of the Geo. P. Bent Co., of Chicago, elsewhere in this issue and have them send you full information about their splendid but low priced pianos. If there is a daughter in your home you owe her a piano as soon as you can afford one—for this is an accomplishment which may mean much for her happiness in the years to come. Again, the whole family will enjoy the music.

EFFICIENCY OF THE FARMER

To The Missouri Farmer:

The question has been asked, What is the matter with the farm? The answer, judging from something I have read is, lack of rural credits and farm organization or failure to get the full value of our farm products. These things no doubt to some extent curtail the farm profits. But there is another question equally as important, if not more so. What is the matter with the farmer? William E. Gladstone said, "Its not from without, but from within that makes a man." You may surround one man with all the facilities that make for success and he will lose all, or a part of his holdings. Put another man on a desert claim and in a few years he will own the adjoining claims. Its not the lack of things that are helpful that causes the one to fail, nor the possession of such things that makes the man on the desert claim succeed. The man is the vital factor that invites failure or success as the case may be.

One of the divine writers wisely wrote to a fellow worker, who was a younger man. "Study to show thyself approved unto God a workman that needeth not to be ashamed." We may put it this way to fit us as farmers: Study to show thyself approved unto your fellow man a farmer that needeth not to be ashamed of his results. Did any man ever succeed that didn't make his business a study? Success is not given away, it must be earned The methods in nearly every line of production are changing as the years go by and every man must study the latest approved methods. Gordan Graham, the old packer said to his son, who was selling goods on the road, "Son know your goods." So the farmer must understand his business. Some farmers have not studied the latest methods or if they have, fail to put them into practice. While others farm as their fathers did. We must acknowledge that some farmers are making good. Go to their places and see how they do things. Ask all kind of questions about their methods, then go home and try and put these things into practice. Absorb as much reading matter on agriculture as you have time for—remembering, "Luck is infatuated with the efficient."

I am not taking a knock at farm credits or organization as I have often said, if the farmers were organized, they could compel the world to bow at their feet and so they could, but the lack of these things ought not to keep a farmer down.

We must ever keep in view the vital factor that makes for success, the efficiency of the farmer.

Wm. Wiswall Pulaskico, Mo.

WHITHER ARE WE TENDING?

Transportation conditions have vastly changed in the past generation. With improved road beds, heavy rails, decreased grades and curvature, steel and concrete bridges, automatic and manual block signals, power brakes, automatic couplers and plain and simple rules, which any ordinary man can learn in a week, the occupation is probably less hazardous than farming.

In every town along the line of every railroad, young men help train crews do their work, are familiar with signals, have some knowledge of air brakes and rules, and can speedily fill places vacated by firemen and brakemen.

Automobiles are making a nation of engineers—any good stationary engineer and fireman can handle a locomotive. They will have much to learn but they can, with help of dispatchers and block signals, move trains safely and every trip will increase there knowledge.

On through freight trains brakemen do little but ride and open and close switches, conductors work can be largely done by yard clerks at terminals.

With train auditors, passenger conductors are practically supernumaries and train porters can, if necessary do the brakeman's work. Therefore if public authorities had enforced the law the recent threatened strike could not have been serious nor of long duration.

When a gentleman with a club meets you at a dark alley and you hand him your watch, you have won peace, but—you have lost your watch. The railroad brotherhoods are jubilant. They believe they have won an unprecedented victory. The railroads with their hundreds of thousands of stockholders have been robbed and the public, "the carcass," as the leader aptly terms it, which will eventually pay the price, has won peace—not peace with honor, but peace at any price.

Probably ninety-nine per cent of our people want labor treated fairly and justly and when the railroad brotherhoods made their recent radical demands, it was assumed the matter would be carefully and thoroughly investigated and justice done the men, the railroads and the public. Instead we have seen the President of the United States and both houses of Congress scared into an hysterical blue funk by one man backed by 400,000 votes. Even the Senate, "the greatest deliberative body on earth," the balance wheel in legislation, those grave and reverened seigniors, those sticklers for senatorial courtesy and free speech, adopting the cloture, for the first time in history and rushing through, without debate and without consideration a bill affecting the most important and far reaching legislation passed by the present Congress, and which for injustice has probably no parallel in our history.

A distinguished (?) gentleman in a recent Senate speech (his party organ says he "roared") told how "babies would be starved and the ghosts of dissolution stood over the cradle" had the strike occurred, but with the blindness peculiar to such individuals, failed to perceive that he was condemning as monsters the very men whose support he was seeking, and it is of course absurd to claim that the action of any 400,000 men can vitally affect the welfare of 100,000,000 people.

It is undoubtedly true that neither the owners nor employees of a public utility company have the right to cause the public inconvenience or loss by lockouts or strikes. Are we sufficiently civilized to enforce this? Will the next Congress dare pass a compulsory arbitration law? Will they be just to the railroads and compensate them for their increased expenses. Will the railroads reduce wages of enginemen and trainmen to balance expense of the eight hour law? Will they refuse arbitration? Will the Government pass a law compelling the men to accept the reduction? It has as much right to penalize the employe as the employer.

Can any organization secure the passage of any law demanded, though unjust, if it controls 400,000 votes? Will similar demands be made in 1920 and thereafter? Are we to be governed by coercion? Have the brotherhoods won? Have they lost, what is of far more value to them, the good will of the public? Will political realignment be necessary?

These are questions for thinking men—Whither are we tending?

Farmer.

Cheaper Feed for Hogs

With our frequent drouths and the lowering of crop production it is absolutely necessary that we find some cheaper substitutes for corn in pork production.

The Iowa Experiment Station has completed a five-year trial to determine the value of Canadian field peas for feeding hogs. The peas were hogged down, some without other feeds and some lots were fed barley to supplement the peas. The average return for all the lots in the five years has been $50.89 an acre. This was for the peas in the field and after allowing for the cost of all other feeds used. The time has come when no farmer should depend on corn alone for making pork.

Experienced Hog Man Wanted

I need a man to take charge of my hog department, October 1, 1916. A man who knows hogs, is willing and anxious to work and get ahead. A permanent position to the right party. Write me giving experience, wages wanted and reference. Must come well recommended. D. Schilling, J. O. D. Ranch, Aroya, Colo.

Mammoth Poland China Sale Nov. 3d

HERD BOARS

Long Wonder Timm, 75707,

Bridges Bob Wonder, 76481,

Greatest pair of yearlings in any one herd.

SALE OFFERING;

Consists of 20 Spring boars, 20 Spring gilts, 5 Fall gilts and one tried sow, sired by such boars as Long Wonder Timm, Bridges' Bob Wonder, Model Big Bone 3rd, Long Big Bone, Fesey's Timm, Wondermaster, King of Wonders, Master Orphan, The Giant, and others.

SPECIAL ATTRACTION:

Model Big Bone 3rd, 76482, Monster March Yearling by Long Big Bone out of a Big Bob dam, will weigh around 800 lbs. sale day.

Herd Sows Sired By

Big Bob, Big Bob Wonder, Smooth Big Bone, Grandmaster, Smooth Columbus, B. Wonder, Wedd's Long King, Trusty King, Big Joe, Moores Halvor, Long Jumbo 2nd, Long Price, and others.

BRIDGES BROTHERS, - - - - SLATER, MO.

By Old Jim Riley

This campaign is just about as hilarious as a funeral. They don't even call each other liars—and I couldn't imagine what was th' matter until I hapened t' think that "Teddy" and Bill Bryan aint leadin' th' procession. Whether you like 'em or not, you got t' hand it to 'em for bein' "live ones." All th' rest uv 'em are pikers in comparison. That fool professor feller couldn't have got by in Zululand—for there they kill all weak minded children th' minit they are born.

BUCKSHOT BY THE PROFESSOR

As Mark Twain once said of himself, the death of Villa has been "greatly exaggerated."

* * *

Whenever I see a farmer lugging home store hams and bacon I feel like giving the tip to the fool killer.

* * *

Some men are more particular in selecting a new span of mules than they are in picking out a son-in-law for their daughters.

* * *

The politician isn't cutting as much ice as he used to—and I am mighty glad of it because it indicates that the people are coming more and more to do their own thinking.

* * *

About the only thing in this World that is as free as air and sunshine is information—and the more of it a man gets the more he is like what God Almighty intended him to be.

* * *

Suppose you burn the weeds and underbrush that have grown up along your field fences and your sloughs? They furnish hiding places for insect pests that may descend upon you and plague you next year.

* * *

Every home ought to have some kind of music—even if it is nothing more than a cheap phonograph. A man can't very well listen to music and be cross and ugly to his wife and children at the same time.

* * *

Speak kindly to the boy—whether he belongs to you or to someone else—for boys need kindness and friendliness from older men and if they got more of it our penetentiaries would do a less thriving business.

* * *

Why not go out into the field and select your seed corn now while you have a chance to see what kind of a stalk stood behind each ear? Like begets like you know—and it will mean more bushels to the acre next year.

* * *

Everybody almost but the farmer has struck for higher wages. He, apparently, is willing to stumble along "single file" and "hold the bag" for the whole outfit. But maybe he'll wake up some day—and if he ever does he will tell a pile of people where to "head in."

* * *

On that last day—when your life book closes to reopen nevermore—what will they say of you? Will they say "he tried to make the World just a little bit better"—or will they go through the formalities as quickly as good taste permits and talk of the crops and weather?

* * *

It's an old saw I know—and yet life is largely what we make it. The more we go about with a countenance that resembles that of a bull dog, the more employment we find for a bull dog's proclivities. The more we are determined to smile the more we discover that really deserves to be smiled at.

* * *

Whenever I see a young bride I always feel as if I'd like to get a club and take the chump that was lucky enough to win her out behind the barn and maul him within an inch of his life on general principles—and then say to him, "If you don't treat her right, I'll put you in the hospital the next time."

* * *

I was roasting that "Jim" Riley person to old "Hez" Brown the other night—and he called him the "Jimpson weed Philosopher." But old "Hez" cautioned me not to quote him because he says "Jim" owes him $7.65 for "smokin' terbacker"—and "Hez" is first and foremost a "man of business." But just the same I thought it was a "fittin'" title.

* * *

One of the things that's the matter with many farms is that the men who are on them don't do enough reading and thinking. We need trained minds not only to farm right but to think right—and we can't have trained minds without reading a lot of good literature. The man who doesn't use the brains that God gave him is little higher than the beasts of burden that pull his plow.

* * *

Suppose that for once in your life you don't act like a hound dog farmer? Suppose this fall you put every piece of machinery in under some kind of shelter where it will be protected from the elements? If you haven't a machine shed you can easily build one and cover it over with straw. A farmer who permits his machinery to rust and rot out in the weather is not only a poor farmer but a poor citizen—because a good citizen doesn't do things like that.

* * *

Take this "tip" from the "fool professer feller." Get together with the other farmers in your school district right away and organize a Farm Club. Write to this paper for a suitable Constitution and By-Laws and full instructions. Send a two cent stamp to cover postage on the new Farm Club pamphlet, for it will tell you just how to go about things from start to finish. It also tells you how you and your neighbors can save a lot of money and how, by providing yourselves with the "Farm Club Discussions," you can have a fine subject to talk about on every meeting night during the entire winter. A good Farm Club will give you a new interest in the old farm and life will seem more worth while—for you will feel that you are contributing your mite to the World's work.

Apple and Corn Show

The Second Annual Apple, Corn and Farm Products Show under the direction of the Commercial Club, the Mississippi Valley Apple Growers' Ass'n, and Stark Bros's Nurseries & Orchards Co., will be held at Louisiana, Mo., the later part of October. This show is known as "the show that attracts national attention" by reason of the large number and high class varieties shown. At the 1915 show one well-known variety of apples was shown from twenty-seven states. The corn display, which was judged by the University of Missouri, represented many states and affored the keenest competition. Neither show entrance nor admission fee is charged. Premium list, program and dates of the show will be furnished those interested in the corn and farm products department by application to the Secretary of the Louisiana, (Mo.), Commercial Club. Those interested in the apple and fruit section should write to Stark Bro's., Louisiana, Mo. Thousands of trees are to be given away as premiums.

Fertilizer for Roses

As the result of a series of experiments carried on by Dr. F. W. Muncie of the Department of Floriculture at the University of Illinois, the interesting conclusion has been reached that the use of acid phosphate as a fertilizer increases the rate of production of roses to a remarkable extent, perhaps a hundred times.

Hog Raisers Attention

Elsewhere in this issue the reader will find the advertisement of the Rowe Hog Oiler Co., 103 Liberty St., Galesburg, Ill.—and we suggest that every farmer who raises hogs drop the Co'. a postal card without delay and ask for full information concerning this new device which is such an effective destroyer of vermin and which adds so much to the sanitary conditions of the hog lot. Hundreds of these Hog Oilers are being successfully used and you owe it to yourself to find out all about them—for hog health pays.

Read the advertisements in THE FARMER carefully, for many of them contain information of value. Always mention the paper when you write for this not only helps us but will insure your inquiry the best of attention.

You Men Who Know Good Farm Land

GET the facts about the **Louisiana Highlands.** Get them **NOW!** Virgin soil that produces 50 bushels of oats and 60 bushels of corn: And only $22 an acre! Learn why this is the biggest opportunity in farm land today and why the property is being offered at a price far below its true agricultural worth. Send for the big book mentioned below. Remember this is not the advertisement of a land selling agency but the announcement of a substantial corporation whose integrity you may easily investigate.

Only $22 An Acre On Easy Terms

Climate mild the year around; rainfall certain. Land adapted to diversified farming. Conditions good for stock raising. Transportation facilities adequate; fine markets accessible. Several up-to-date towns with good schools, churches and all modern conveniences. Send for our big sixty-four page illustrated book—**"Where Soil and Climate are Never Idle."** It's **free,** absolutely without obligation. With it comes a map of Louisiana in full colors; plat of the land; and our latest Bulletin—all **free** to you. Send today and learn about the wonderful development now going on in this region. A postal brings it.

Long-Bell FARM LAND CORPORATION L.B

Directly affiliated with The Long-Bell Lumber Co.

409 R. A. Long Bldg. Kansas City, Mo.

CLOVER New Crop Iowa Grown Recleaned TESTED

and inspected Red Clover. Also Mammoth Alsike, Alfalfa and Sweet Clover of choicest quality. The Iowa crop this year is the best ever. Prices are very low. **Now is the time to buy.** Ask for samples and special red ink price list. Large illustrated catalog of all kinds of Seed free.

IOWA SEED CO., Dept 103 DES MOINES, IOWA

WE PAY $80 A MONTH SALARY

and furnish rig and all expenses to introduce our guaranteed poultry and stock powders.

BIGLER COMPANY, X , SPRINGFIELD, ILL

Worth Looking Into

Write to Dept. F 32, American Radiator Co., Chicago and ask them to send you full particulars about the cost of installing a Farm Home Furnace—a thing which means that your house will be evenly heated the whole winter long and which will do away with the unsanitary stove and building fires on cold mornings when the thermometer hovers around zero. You don't have to have a basement to install these furnaces for they can be put in a side room or "lean to." Anyway, the company will be glad to give you a lot of free information which you will find interesting.

"Some bank first sent me your paper—but here is a dollar for which please mark me up. I feel ashamed for not having sent it before because you are doing a great work and deserve the support of every good farmer in the state." Thus wrote a farmer from North Missouri the other day. How do you feel about it?

Look up our special offer and renew your subscription before October 20.

Live Stock Notes

Bennett Bros. & Belcher's Poland Sale

Elsewhere in this issue will be found the announcement of Bennett Bros. & Belchers sale of Poland China hogs at Lee's Summitt, Mo., on Oct. 21 and the occasion is worthy of note by all who are in the market for high grade animals of this breed. Included in the offerings will be Master Orphan, one of the finest sires developed in recent years. He was sired by The Big Orphan out of Lady Rose, the greatest brood sow Jim Newhofel of Central City, Neb., ever owned. Sows bred to this great boar averaged $95 per head at Bennett Bros. Sale last February. The get of Smooth Columbus, twice proven Missouri's record sire will also be featured. Also the get of Master Orphan. Also 9 sired by Big Bob, 3 by Long Big Bone, Champion Iowa Fair, 1916, 4 by Tessy's Tim, Junior Champion at Nebraska, 1915, 1 by Big Tim, Grand Champion Neb., 1915. In short, this offering of 45 spring boars and gilts represents the tops of two of the best herds of Polands in the state. Sows in the sales conducted by Bennett Bros. have topped the state the past two seasons. The majority of the boars will enter the sale ring at close to 300 lbs. Everything immune by simultaneous treatment. Sale held at Bennett's farm, at Lee's Summit, Mo., under cover on Oct. 21. Free auto transportation.

LIBERAL FEEDING PAYS BEST

Steers that are full-fed from birth should not be held beyond 20 or 22 months of age because there is a decided falling off in the rate of gain. After this age the carcasses are overdone, there is an undue waste of excess fat and the gain in weight in proportion to feed consumed is much reduced as well as the gain per day per steer. These are the results secured in a recent test at the Missouri Agricultural Experiment Station in which some steers were full-fed while others received less feed.

The steers which received feed insufficient for the greatest growth were most affected by such ailments as indigestion and pink eye, and their sickness was more likely to result in death. In fact, among more than a hundred steers in the experiments, all the losses except one were among the low-fed animals.

Steers fed for long periods such as three years and a half on feed insufficient for the greatest growth, did not seem to be able to digest their feed and to make good gains when later put on full feed. Even a steer whose growth was greatly retarded for only one year never equaled in weight a steer of the same age which had been full-fed from birth, although when put back on full feed he made very profitable gains and developed a very choice carcass of beef. These results do not disagree with the common observation that thin steers often make the most profitable gains. Such feeders have usually not been starved so long or so steadily. They have usually had bulky feed which kept up the stomach capacity even though it didn't furnish a great deal of nourishment and were very likely to have at least occasional large quantities of good nutritious feed while the steers in the test were kept regularly on small quantities of food for long periods so that they seemed to lose the capacity to eat and digest as large quantities as they must handle to make the most profitable gains.

Thrifty yearlings put on feed that is not sufficient, even to keep up the body weight they already have, continue to grow in height and framework even when made to lose half a pound a day. Measurements of the skeletons did not indicate any decrease in the rate of growth for several months. Even when these animals were using the body fat to supplement the lack of feed there was a very noticeable addition of fat in the skeleton. Only when approximately all the fat was taken from the soft parts did the animal begin to draw on the fat in the skeleton to maintain existence.

The most economical choice beef resulted from the use of a feeder weighing about 750 pounds so fed as to make a gain of 500 pounds. Such a steer will probably not quite top the market but he should make the greatest possible profit to the feeder and furnish an economical carcass for the butcher and housewife and meat of a quality to please the most exacting. The carcasses show that of this 500-pound gain, 38 per cent is water, 49 per cent fat, and 12 per cent protein. When similar steers were fattened until they had gained another 500 pounds or gone from 1,250 pounds to 1,750 pounds, the carcasses were much overdone and the second 500 pounds was 76 per cent fat, 18 per cent water, and 5 per cent protein.—P. F. Trowbridge, Missouri Agricultural College.

TREATMENT OF PINK EYE

The true cause of pink eye in cattle is unknwon. Its infeciousness cannot be doubted. It travels through a herd rapidly, apparently irrespective of the age of the animals, although more prevalent in older cattle. The disease runs its course in eight to twelve days and may result in a satisfactory recovery or the animal may be partially or totally blind in one or both eyes as a result of the attack. Apparently animals do not become immune to this disease. It is manifest by a watery appearance of the eye, which later becomes more or less prurient and the eyelids become gummed together. This attracts flies and is a very unsightly thing as well as a torture to the affected animal. The treatment should be as follows:

Segregate the affected animals by putting them, if possible, in a shady pen. Keep an abundant supply of pure, cool drinking water before them, and treat the eyes twice a day as follows: First wash off the lids and eyelashes with warm water and castile soap, then open the eye by catching up the upper lid with the thumb and first finger and rolling it back over the second finger. By means of a medicine dropper or cotton swab, wash the eye out with the following solution:

Pyoktanin 10 grains, boric acid 4 drams, lead acetate 1 dram, water sufficient to make 8 ounces.—Oklahoma A. & M. College.

ARE YOUR HORSES BOARDERS?

One of the hard jobs on the average farm is keeping horses profitably employed throughout the year. It is necessary to have enough to do the work at the busy season but very expensive to feed the horse that stands at the rack and "eats its head off" the rest of the year. In its study of the question, the Missouri Agricultural Experiment Station found one young farmer who kept his horses working and costs down to 6 7-10 cents an hour, per horse, as compared with 7 9-10 cents on the average farm. The horse which did the most work, worked nearly three and a half times as many hours a year as the one which did least, and nearly twice as many hours as another. The actual numbers of hours they worked were 1340, 1239, 1028, 702, and 391.

In these days of efficiency and economy it is highly important that every man should do everything possible to reduce the total number of horses it is necessary to keep and increase the ways of finding profitable employment for them. Of course, livestock is very necessary if the soil fertility is to be kept up, but aside from work animals the stock should be something that will produce meat, milk, or eggs in return for the feed it uses.—R. M. Green, Missouri Agricultural Experiment Station.

THERE'S MONEY IN SHEEP-RAISING

The breeding flock of sheep has been one of the best paying investments the Missouri farmers have had. Native or western ewes crossed with a good mutton ram produce good marketable lambs and with present prices of wool, the fleece will more than yap the cost of keeping the ewes. Native ewes will be high in price.

Western breeding ewes can be purchased in carload lots at any of the stock yards. One hundred and thirty to one hundred and forty will be required to make up a carload.

One ram to from 35 to 50 ewes will

POLAND CHINAS

Sale of Poland China Hogs October 21

BENNETT BROS. & BELCHER'S SALE OF P. C. HOGS
Featuring the get of the great Smooth Columbus and Master Orphan.

45 head and the tops of the two herds. Also boars by Big Bob, Long Big Bone, Tessy's Tim, Big Tim and other noted sires.

Master Orphan 76816 one of the greatest boars developed in recent years, also sells in this sale. Everything immune.

SALE OCTOBER 21st. For catalog address,
Col. R. L. Harriman, Auct. BENNETT BROS., Lee's Summit, Mo.

SPOTTED POLAND-CHINAS!
All Spring Pigs Reserved for Fall Sale, October 18, 1916.
Thirty-five head will be sold and they are of the big boned, big type, spotted kind. Ask for catalog.
JAS. A. THOMPSON, - - - - - HOLT, MISSOURI

Spring Boars by the Grand Champion
A desirable lot of early spring boars by The Giant, acknowledged to be one of the greatest young Poland China boars of the breed. Prices within reach of all.
WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

Poland Chinas & Shorthorns
Bred sows and gilts. The real big kind with bone and quality. A few serviceable boars. Several extra good young bulls and heifers. Satisfaction guaranteed.
H. S. Williamson, Route 6 Centralia, Mo.

BAKER'S REAL BIG-TYPE POLANDS
We have a number of extra good spring boars sired by Big Look that we are offering worth the money. Need the room and must sell.
W. A. BAKER & SONS, BUTLER, MO.

Linhardt's Polands
I have a choice lot of extra good fall gilts sired by outstanding boars. Customers in 26 states. GIANT MAMMOTH 68375 and CHIEF BIG BONE 75856 in service. Priced for farm trade.
H. O. LINHARDT, LOHMAN, MO.

DOOLEY'S SPOTTED POLANDS
Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pair and trios no relation. Also registry furnished. Send check with first letter.
EDGAR DOOLEY, - Ettervile, Mo.

DUROC JERSEYS

D. C. Thomson's Early Spring Duroc Boars!
We are now offering the trade a Select lot of early spring Duroc boars. Sired by Col. Wonder II, and T's Cherry Chief. The big kind with quality. Everyone buaranteed.
W. H. & GEO. E. THOMSON, - - COLUMBIA, MO.

Durocs With Size and Bone
I am offering a choice lot of early spring pigs with unusual size, bone and quality. Bred right and priced right. Visitors welcome.
A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

Adenhill Duroc Boar and Gilt Bargains
I can supply readers of this paper with choice yearling gilts bred for fall farrow. Also extra good spring boars. My Durocs are noted for size and quality. Satisfaction guaranteed. Inquiries gladly answered.
R. L. (BOB) HILL, ADENHILL FARM, - - COLUMBIA, MO.

RED POLLED

RED POLLED CATTLE
Herd established 16 Years
Young stock for sale. Young bulls sired by LOGAN 13500; Calves sired by KNOCKER 28791. Bred for milk and beef. Also offer spotted Poland China hogs and Rieds Yellow Dent seed corn.
M. L. SNYDER. - - POLO, MO.

ANGUS CATTLE

ANGUS CATTLE
Herd founded 1904
Young stock sired by Dean's Eric 139686. Also offer splendid herd bull for sale. Every one the right kind and priced to sell.
V. E. LAWRENCE, SALISBURY, MO.

Aberdeen-Angus
I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.
J. D. Blackwell - Fayette, Mo.

REGISTERED PERCHERONS,
39 heavy 3 and 4 year stallions, 68 rugged 2 yr. olds. Can spare 25 reg. mares, 24 reg. Belgian stallons. Priced worth the money. Near Kansas City.
Old Fred Chandler Ranch,
Rt. 7. - - Chariton, Iowa.

POLAND CHINA BOARS
I have a few extra good Boars for sale at Farmers prices. March farrow. The big boned type. Immune and well grown. Also any thing you want in Jersey Cattle.
J. B. SMITH, - Platte City, Mo.

DUROC HERD BOAR!!
We offer for sale our herd boar sired by Weller's Example and out of a Whiskey & Faith sow. Also a few September boars. Booking orders for spring pigs.
J. C. Garrard & Son, McBaine, Mo.

HAMPSHIRES

BROOKVIEW HAMPSHIRES
Herd headed by GEN. TIPTON and SIR BROOKVIEW, both grand champions. Spring boars and gilts of choice breeding and individuality. Prices reasonable.
ISOM J. MARTIN, - Kahoka, Mo.

Reg. Shropshire rams, yr's and twos. Square built, rugged hardy bucks with weight, bone and heavy fleece. Quick shipping facilities & priced cheap. 412 head. Above Kansas City.
HOWARD CHANDLER, Chariton, Iowa.

RAMS Registered Shropshires—yrls. and twos. Bred for weight and wool. That's what you raise lambs for. The best go first. Come to the farm or write
C. W. Chandler, Kellerton, Iowa
80 miles north of St. Joseph, Mo.

be required. The Department of Animal Husbandry of the Missouri College of Agriculture has a list of many Missouri breeders who have rams for sale.

The following is quoted from a reliable sheep commission house: "We believe breeding ewes will be in good demand throughout the season as the good kinds only come at intervals. We believe it would be the best thing for anyone figuring on buying stock of this class to place their order at once for we do not think they will get any cheaper any time this season than they are at present."

Good range ewes sorted up for good mouths and udders should cost from $7.00 to $7.75 per 100 pounds. These ewes would range in age from 4 to 6 years. The Department of Animal Husbandry of the Missouri College of Agriculture will be at the service of any Missouri farmer who wishes assistance in buying ewes or rams, and will be glad to help breeders as much as possible in the management of the flock.—H. Hackedorn, Missouri Agricultural Experiment Station.

WEANING THE FARM COLT

To keep the colt growing without interruption during weaning time and afterward is a most important consideration in producing horses profitably. A good horseman aims to replace the milk that the colt has been accustomed to secure from its mother. He tries also to reduce the worrying and fretting of the colt to a minimum. To wean a colt appears to be a simple matter. It is simple as many do it; yet the very low degree of success that is shown on many farms by their unthrifty colts is evidence that there is something wrong or that there is something lacking. Often in a few weeks during weaning time the youngster changes from the growing, sleek, milk-fat colt to a stiff-haired and unthrifty, stunted individual. The colt if properly cared for, need lose but little of his flesh, bloom and sprit.

Grain must be used as the milk is taken away. It is necessary that the colt has been taught to eat grain before weaning is attempted. Oats have always been preferred by horsemen for young colts. They are undoubtedly superior to any other single grain. The colt likes a mixture or a variety of grains and will thrive best on such a ration. He relishes corn and it may well be fed as part of the grain ration. It may be said that corn contains a rather high percentage of fat. True it does and so does milk which is as nearly ideal food as nature can make. Corn should not be fed alone, nor in too great quantities. Bran is a splendid feed and contains material for bone and muscle. A mixture of oats 60 per cent, corn 30 per cent, and bran 10 per cent, makes a ration that will enable any colt to grow rapidly. A handful of oil meal may be profitably added. Then he will be more likely to eat enough to almost make up for the lack of milk.

Hay should be provided in plenty. Doubtless alfalfa or clover is the most desirable for young growing colts. Both grain and hay should be of the very best quality. If it is at all possible to furnish succulent grass for the colt it should be done. This is a big factor in preventing any check in the growth of the youngster.

Naturally the colt will miss the company of his dam. If he has been accustomed to stay in the stable or yard while the mother is out at work there will be less fretting on that account. If the youngster has followed the dam constantly and has never been kept separated from her, he should be broken gradually to stay away from her if it is at all convenient to do so.

If there are several colts on the farm it is best to wean all of them at the same time. The youngsters love company and if there are two or more of them together, they will fret and worry less.

The stall or pen where the youngster is confined should be such that he cannot injure himself. The door and fence should be high enough so that he will not try to jump out. Nothing but a clean and comfortable place with plenty of sunshine and proper ventilation should be used for the colt during weaning time. It should be made possible for the colt to exercise freely every day.

Just before weaning it is best to change the dam from succulent pasture to dry feed. If she is being fed grain the amount should be reduced to a minimum. This will have a tendency to reduce the milk flow. The colt should then be allowed to suckle only two or three times per day instead of being with the mother all the time or at least over night. It may be necessary to milk out the mare occasionally for a few days, in the case of large milk producers and where there is a tendency for the udder to swell. Having done these things it will be comparatively simple and easy to keep the colt away from the mother entirely without injury or handicap to either the dam or her foal.

Having made the change slowly and gradually the youngster will not miss the milk greatly. He will eat grain and hay, will take exercise and will grow without any set back. If he is kept healthy, thrifty and growthy, the very best of results will follow.—H. E. McCartney, Assistant in Aniaml Husbandry Extension, Purdue University.

HE BLAMES THE DOG

John A. Baldwin, a well-known farmer and feeder of Carrollton, Ill., believes the sheep raisers are not getting a square deal. He says:

"There is just one reason for the short supply of sheep at markets, and this county will compare with every county in the state, and that is the country and towns have a surplus of worthless dogs that prowl the country every night in the year and kill and cripple the sheep until the farmers have been forced to quit the business. Only those who shed or lot their flocks at night and watch them through the day can continue in the business.

"Sheep pay a greater profit for their cost than any other live stock on the farm, as they grow two crops a year, the lamb and wool, besides they are weed destroyers and fertilizers.

"The earnings of 20 breeding ewes on every farm at less than present prices will pay the real estate taxes annually. If there was a law to keep every dog at home the country would soon have a good supply of sheep and that would mean cheaper mutton, cheaper wool and cheaper clothing.

"Not only is the surplus of curs a menace to the sheep industry, but they have been and are now a great detriment to the hog industry, as dogs can scent decomposed flesh for miles when the wind is favorable, and have been known to carry parcels of hog cholera carcasses for miles in one night and bury it on the land where they are owned, distributing cholera germs from one farm to another and one county to another until the country is thoroughly inoculated.

"A sure remedy is to keep the dogs at home. The dog tax is a failure as a protection to the farmer, as only a few are taxed, and still they are allowed to run at large.

"A useful dog is valuable, but the owner should take care of him as he does other live stock and keep him at home.

"The shortage of hogs and the great scarcity of sheep brought about by the surplus of dogs at large has forced the price of beef up at least $1 per hundred, and if there is no protection to the producer the costs of meat will go much higher, as farmers will not chance 75 cent corn fed to hogs and money invested in sheep at a great cost, knowing they have no protection from the worthless curs running in numbers from two to ten together, carrying cholera germs from distant neighborhoods home to their hogs and running down and killing their sheep.

"The government has gone to a great deal of pains and expense protecting the fish and wild game, and the surplus of dogs at large can lose the people more money in sixty days than all the fish and game is worth in twelve months.—National Live Stock Reporter.

Effect of Early Breeding on Gilts

The growth of young gilts does not seem to be checked by breeding, according to the results of the tests recently made at the Missouri Agricultural Experiment Station. The carcasses were analyzed but the composition did not seem to be different from those of animals not bred until they were older. Although gestation did not retard, the lactation period did so and a sow suckling a good litter of pigs cannot eat enough to maintain her weight or condition of fatness. During this lactation period or when she was suckling pigs, the demand for mineral matter in the feed is much greater than during the gestation period preceding birth.—P. F. Trowbridge, Missouri Agricultural Experiment Station.

WHERE TO BUY JERSEYS

In the following auctions held under my personal management:

W. H. DOERR, KANSAS CITY, MO.....OCT. 3rd.
J. A. BLEDSOE, MOBERLY, MO.....OCT. 17th.
J. E. JONES, LIBERTY, MO.....OCT. 28th.
CHAS. A. FOSTER, TRENTON, MO.....OCT.

Write if interested and let me place your name on mailing list for sale catalogs.

B. C. SETTLES, - - (Box 410) - - PALMYRA, MISSOURI

SPECIAL JERSEY BARGAINS!

Due to poor crops and to reduce my herd to winter accommodations I will sell about 20 cows; 20 heifers from 10 months to two years old; and 15 bulls from calves to yearlings. The famous Blue Belle-Golden Rosebay breeding. Send for circular. No reasonable offer will be refused for this stock. All registered.

THE ENNIS STOCK AND DAIRY FARM,
(Just south of St. Louis.) HORINE, MISSOURI.

Closing Out Sale of Stallions and Jacks

One imported and one American bred Percheron Stallion, big kind, both registered in the Percheron Society of America, imported horse also registered in the French Percheron Society and the National French Drafthorse Association.

One standard and registered trotting stallion, big and well finished and a fine breeder, developed and raced as a three year old.

Three mammoth Jacks, one 16, one 15-3, one 15-1 standard measure all registered.

This stock has proven good breeders, plenty of colts to show. Sale commences at 2 P. M. Oct. 4th, 1916. Rain or shine. Time can be arranged for. Catalogues Sept. 10th.

T. A. Cottingham, Moberly, Mo.

Holstein Bulls, Cows and Calves!

We are now offering for sale at $25 each, a number of extra good bull calves sired by **Campus Josephine Lad** and out of excellent producing cows. These calves are high up in the blood of **Missouri Chief Josephine** the famous cow which produced a world's record at the Missouri Agricultural College. Better write today if you need one.

D. D. MOSS, - - - Columbia, Mo.

HEREFORD BULLS

Two registerd bulls, long yearlings, best of breeding and high class individuals. Not the cheap kind.

HUGH WHITEFORD,
GUILFORD, - - - MISSOURI

AUCTIONEERS

P. M. GROSS
Live Stock Auctioneer
"Twelve Years on the Block"
Pure bred Sales a Specialty
Sales Made Anywhere
MACON, - MISSOURI

Thos. E. Deem
LIVESTOCK AUCTIONEER
Selling for the foremost breeders. Address
Cameron, : Mo,

JERSEY CATTLE

REG. JERSEY BULLS

Choice Registered Jersey bulls at bargain prices. Grandsons of Noble of Oaklands and out of heavy producing dams. Yearlins, $50; Calves, $20.

BLUE CLIFF FARM,
BLUE SPRINGS, - - MISSOURI

JERSEY CATTLE

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Description of Dinner Set No. 160132

The decoration of Dinner Set is the popular and beautiful old Moss Rose design; the roses are clustered in the green foliage, and the edges of the dishes are trimmed with a gold band. Set consists of six 9-inch Dinner Plates; six 7½-inch Breakfast or Luncheon Plates; six 7½-inch Soup Plates; six Teacups; six Saucers; six individual Butter Dishes; six 5-inch Fruit Dishes; one 7½-inch Covered Vegetable Dish; one 11-inch Platter; one 7-inch Open Salad or Vegetable Dish; one Sugar Bowl; one Creamer. This dinner set will lay a very handsome table for six people.

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THE MISSOURI FARMER

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A Tall Oak

Frequently as you look out upon a great forest in the distance you will observe one tree which raises its mighty head high above all the others—so high that it can be plainly seen for miles. When the storms come and when the lightening flashes it is always the target for the anger of the elements—for its very prominence deprives it of that collective protection which nature vouchsafes to things that are equal. In the same way, now and then, you will observe a man whose head and powerful shoulders are clearly discernible above those of the crowd—who leads and drives on and ever onward—who scorns opposition and fights from sheer love of fighting—and like the towering tree in the forest he becomes a target and around his head there surge storms of which those below hear only the distant rumble.

Of this class was the late James J. Hill whose life and career will ever remain one of the most remarkable romances known to the history of this Nation which, from the days of Powhatan and Pocahontas to this hour has been a realm of romance compared to which an ordinary Arabian Nights dream becomes commonplace. All of us are justly proud of those great actors who played leading parts in that great drama which gave undying fame to Bunker Hill, Valley Forge and "Crossing the Delaware." Likewise, we love to think of Lincoln fighting his way to immortality from a little log cabin hidden away amid the wildwood of Kentucky—and it is well that we should for stranger and more beautiful web the spinning wheel of destiny has never spun. But frequently we lose sight of other men equally big who choose to tear down mountains and compel deserts to blossom as the rose —who toil and battle in the great fields of constructive industrialism rather than upon the more conspicuous and dramatic stage of public life.

But come with me for a moment while we review in brief the wonderful career of this "Empire Builder"—this "Collosus of the North" whose like we shall perhaps not see again for many a day. Emerging from a little Canadian farm home around which the timber wolves prowled by night, he had neither education nor powerful friends to give him the "start" which cowards and timid souls seem to think so necessary. But he needed none of these. Doubtless he would have scorned the latter while through sheer power of will he made himself the master of the former until there was not an audience in the land which did not hang with bated breath upon his every utterance. Falling in love with a pretty but penniless girl, he sent her away to college for a number of years in order that she might qualify herself for a richer womanhood—and this sweet and splendid woman, the mother of a fine family knew better than any other human being in the World the inward tenderness and greatness of this great man who played such a leading part in the constructive affairs of the Nation during the last half Century.

The Lord "moves in mysterious ways His wonders to perform"—and thus, somehow, sooner or later, He seems to give to society some man better equipped than the rest to do the great things that need to be done—and even so, when weaker souls had tired of the struggle to tame the Northern wilderness, along came this giant with the vision of a prophet and equipped with a spirit so indomitable that it challenged and laughed at adversity. With his own hands he toiled and fought day and night. When those beside him faltered he coaxed and threatened by turns—whichever means proved most effective. To him temporary failure was no evidence that the thing could not be done but merely that for the time being he had chosen the wrong method—and thus he fought and struggled on and ever on until finally fate seemed to smile at his very stubborness and, as if to prove to future generations that vision and iron will are not without reward, it opened its golden horn and the erstwhile wilderness gave way to a land of happiness and plenty. That he accumulated some scores of millions of dollars in the process is of minor consequence—for the purpose of this commentary is to show once more that Destiny almost invariably finds the material it is looking for among the ranks of the lowly. It rarely ever knocks on the door which a butler opens—for Destiny knows its business.

—By the Author of After-Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VIII OCTOBER 15, 1916 NO. 20

WILLIAM HIRTH
PUBLISHER

PROFITABLE FEEDING OF DAIRY COWS

The feeding of a dairy cow should be governed by the cow's capacity to produce milk. By keeping a daily record of each cow's production the skillful feeder soon finds that some cows in the herd respond to an increased allowance of feed and return a good profit on it, while others are limited to milk capacity and overfeeding them is unprofitable. Profitable feeding requires a thorough knowledge of the individual cows as well as of the values of feeds.

The following general rules are given in a new Farmers' Bulletin of the department, No. 743, The Feeding of Dairy Cows, as a guide for winter feeding by the inexperienced feeder.

1. Under most circumstances the cow should be fed all the roughage that she will eat up clean, adjusting the grain ration to the milk production. Only when the cow tends to become overfat should the quantity of roughage be restricted.

2. A grain mixture should be fed in the proportion of 1 pound to each 3 pints or pounds of milk produced daily by the cow, except in the case of a cow producing a flow of 40 pounds or more, when the ration can be 1 pound to each 3½ or 4 pounds of milk. An even better rule is 1 pound of grain each day for every pound of butter fat produced by the cow during the week.

3. Feed all the cow will respond to in milk production. When she begins to put on flesh cut down the grain.

For the most profitable milk production, the cow must be fed a balanced ration at the cheapest price such ration can be provided. By balanced ration is meant the combination of such a proportion of nutrients and in such quantities as the cow requires to maintain her bodily functions and as she can utilize in the production of milk. These nutrients are classified as protein, carbohydrates, and fats. Protein is one of the principal constituents of milk; fats and carbohydrates perform much the same functions, that is, produce energy and heat, and in the balancing of a ration are usually classed together. If the cow is given a ration containing an excess of either element the excess is liable to be wasted; hence the economical importanc of a balanced ration.

Corn silage, corn stover, timothy hay, millet hay, prairie hay, hays from the common grasses, straws of the various cereals, and cottonseed hulls may all be classed as low in protein content, while legume hays, such as alfalfa, the clovers, cowpeas, soy beans, and oat and pea, are classed as roughage high in protein. Grain and concentrated feeds are the chief sources of protein, and the mixture should be made to fit the class in which the roughage belongs.

Compounding a Grain Mixture

A few simple rules for making up a grain mixture are given briefly below:

1. Make up the mixture to fit the roughage available. With roughage entirely of the low-protein class the grain should contain approximately from 18 to 22 per cent of protein, while with exclusively high-protein roughage the grain ration need contain only about 13 to 16 per cent.

2. Select grains that will furnish the various constituents, especially protein, at the least cost, using home-grown grains if possible.

3. Be sure that the mixture is light and bulky.

4. The mixture should be palatable.

5. See that the grain has the proper physiological effect upon the cow.

All these suggestions should be kept in mind in order to obtain the best possible combination of grains. The following table shows the digestible protein content of the more common grains and by-products feeds. The precentage columns are arranged in 5 per cent divisions.

Approximate digestible protein content of various grains and by-products

Average, 5 per cent (2.5 to 7.4 per cent). Corn meal. Corn-and-cob meal. Hominy feed. Dried beet pulp.

Average, 10 per cent (7.5 to 12.4 per cent). Wheat, ground. Oats, ground. Barley, ground. Rye, ground. Buckwheat, ground. Sorghum grains, ground.

Average 15 per cent (12.5 to 17.4 per cent). Wheat bran. Wheat middlings. Dried distillers' grains (rye).

Average, 20 per cent (17.5 to 22.4 per cent). Gluten feed. Malt sprouts. Dried brewers' grains. Dried distillers' grains (corn). Cocoanut meal. Peanut meal with hulls. Cowpeas.

Average, 25 per cent (22.5 to 27.4 per cent). Buckwheat middlings.

Average, 30 per cent (27.5 to 32.4 per cent). Gluten meal. Linseed meal (both processes). Soy beans.

Average, 35 per cent (32.5 to 37.4 per cent). Cottonseed meal.

Average, 40 per cent (37.5 to 42.4 per cent). Peanut meal (hulled nuts).

The percentage of protein in a grain mixture may be found as follows. Take say number of parts of any number of feeds in the table, and for each part put down the percentage of the column in which it is found. Add these numbers and divide the sum by the number of parts.

Examples

1 part wheat bran	15
1 part cottonseed meal	35
1 part gluten feed	20
3	3)70
Per cent protein,	23.3
3 parts wheat bran (3X15)	45
2 parts cottonseed meal (2X35)	70
1 part gluten feed (1X20)	20
6	6)135
Per cent protein,	22.5

The approximate price of a ration per pound of protein may be ascertained as follows: Divide the total price of the mixture by the average protein content as derived above. The mixture costing the smallest price per pound of protein, other things being equal, is the most economical. Unfortunately, other things are never exactly equal, for the physiological effect of the grain, bulk, and palatability must also be taken into consideration. Practically all the grain feeds low in protein are rich in carbohydrates, but grains are used primarily for their protein content, as almost invariably the carbohydrates can be produced more cheaply in the form of corn silage, cornstalks, etc. While the above-mentioned method of testing the economy of a grain ration is not entirely accurate, it is usually a safe method to follow.—Weekly News Letter.

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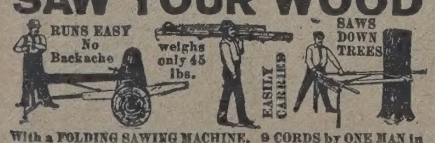

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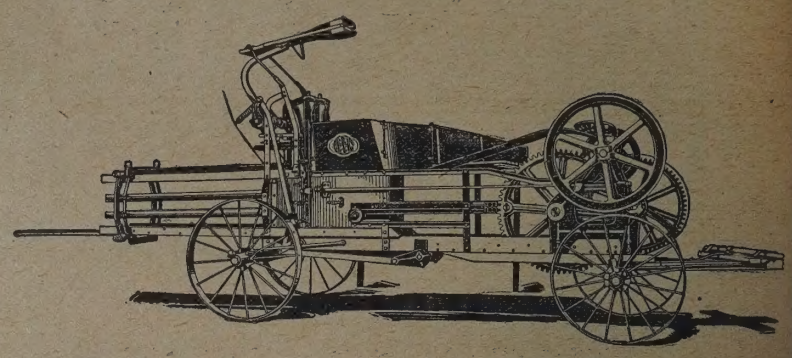

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A Great Offer to Housewives

In our last issue the Crofts & Reed Co. Dept. C-346, Chicago, Ills., offered a beautiful Dinner Set to farmers wives for $6.45—and also agreed to send it to them on 30 days free trial without the payment of a penny in advance. After that housewives can pay for it in installments of $1.00 per month—and those who did not investigate this great offer should write for full particulars at once.

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If there is a daughter in your home, don't you know it would make her heart glad if you bought her a piano and don't you also know that her accomplishments in this respect will have much to do with her future happiness and social standing? You can buy a piano and pay for it in easy installments—and where they can afford it parents should provide this greatest of all musical instruments for their daughters as soon as possible. The Geo. P. Bent Co. whose advertisement you will find elsewhere in this issue manufacture a splendid line of reasonably priced pianos. Write them for their beautiful catalogue and be sure to mention THE MISSOURI FARMER.

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The Missouri Farmer

VOLUME VIII | OCTOBER 15, 1916 | NUMBER 20

The Land Bank Amendment

By William Hirth, Publisher

While every reader of THE MISSOURI FARMER knows how we stand on the Land Bank Amendment from the frequent articles which have appeared upon it from our Managing Editor, yet inasmuch as the election is fast approaching we desire to present a final review upon this great question and answer as nearly as lies within our power some of the criticisms which have been made against it. In this connection, permit us to say that we are not interested in any political significance which may attach to this measure—for this publication is not concerned in the partisan quarrels or personal bickerings of rival candidates for public office. We reserve the right to praise or condemn any public act or measure as, in our judgment, it affects the interests of our readers—and where the chips may fall politically is of as little final consequence to us as the number of spots on the sun.

At the outset we wish to state that the idea that the so-called Gardner Land Bank Law is an amateurish or "half baked" attempt to supply the farmers of this state with an Agricultural Credit System is a mistaken premise—whether such a view proceeds from ignorance of the true facts or from a deliberate attempt to mislead the farmers of the state.

In other words, the Missouri Land Bank Act as passed by the Legislature two years ago has, for a number of years been the measure which, in all its fundamentals, has been recommended by the National Grange and other Agricultural organizations throughout the Nation—and therefore if it is a "half baked" or "crude affair" as has been charged in some quarters, that indictment is one which must rest not only against those who have stood sponsor for the measure here in Missouri but also against the greatest Agricultural thinkers and writers of the entire Country. The trouble with the average politician is that as soon as he strays away from the beaten path of the old threadbare issues—and especially when he invades the unfamiliar realm of the farmer—he immediately begins to flounder about like a drunken sailor. For 25 years the question of Agricultural Credit has had a prominent place on the program of every Farm Congress and convention in the Country and out of the "Melting Pot" of these discussions emerged the plan upon which the Missouri Land Lank Law is founded—and in our humble judgment the average farmer can better afford to pin his faith to the honesty and foresight of the greatest Agricultural thinkers in the Nation than to permit himself to be confused and misled by politicians with whom the "wish is father to the thought" and who see glaring defects where no defects exist in fact.

Surely the time has come when the farmer will demonstrate that he can do his own thinking—for have we not been the pawn of designing politicians long enough? Should we not so thoroughly understand the great questions and policies which affect American Agriculture that we can look with amusement rather than alarm upon those who would confuse us? One reason why we are pleading so earnestly for a Farm Club in every school house is in the hope that this goal may soon be reached and that we may thus, once for all, turn our backs upon political opportunists whether they wear the livery of a clown or the cloak of eminent respectability.

That the Land Bank Act is perfect as it now stands, we do not contend. That it is fundamentally sound, however, we have not the slightest doubt—and if this be true, then the overwhelming duty of the farmers of this state is to see to it that the Amendment is adopted in November—leaving it to the Legislature which will convene at Jefferson City next winter to iron out the lesser details and defects. The statement that the Act cannot be amended is not true—for specific provision for this is made in the Act itself. We have waited many long years to get an opportunity to inaugurate such a system in this state—and now that it lies within our grasp, will we permit ourselves to become confused at the hands of those who would profit by that confusion—by men who devoutly cross themselves and swear that they are the "farmers friend"—who insist that they are for a "real Agricultural Credit System"—whatever that may be—and who then proceed to demolish the thing which is before us without telling us what kind of a measure they would substitute in its place if they had the power?

The Whole Thing in a Nut Shell

For years the farmers of the United States have been compelled to pay a general rate of interest so high that it has made the greatest development of the farm impossible. Not only have the rates of interest been excessive but farm loans have run for comparatively short periods which have necessitated not only the annoyance and embarassment of frequent renewals, but always have such renewals been accompanied by new tribute to loan agents in the form of bonuses and commissions—and this, despite the fact that a loan backed by a mortgage on good farm land is better than a government bond because while governments may fall and pass out of existence, the land remains. Therefore, in order to enable the farmer to mobilize and standardize his credit, the leading Agricultural thinkers and writers of the Country have for years advocated the issuance of long time land bonds so safeguarded as to invite the greatest confidence from investors; and in order that these bonds may sell at the lowest current interest rate, they have suggested that they be exempt from taxation—and this is exactly what both the Missouri Land Bank Act and the recently created Federal Land Bank expect to accomplish and in this simple proposal is contained the heart and the essence of any Agricultural Credit System which may be brought into being now or in the future. The idea that it is a profoundly complicated matter of legislation and that it needs to run the gamut of long years of agonized political tinkering is the heighth of absurdity—for while the politicians were gnawing away at the tariff and quarreling over the distribution of political pork, the thinking farmers of the Nation threshed this matter out to their own satisfaction and today they know what they want and all they ask is the right of way.

It has been urged that exempting the land bank bonds from taxation is class legislation—and this, in a measure is true. But is it not also true of 75% of all the other legislation which we enact? When we granted protection by means of a tariff to steel, copper and a hundred other things in the past, was not this class legislation in the interest of those engaged in these particular industries? When we distribute tens of millions of dollars for rivers and harbors as we do during every session of Congress, does not the lions share of the benefit go to the classes who inhabit the favored sections of the Country? Has not the proposal to "subsidize" merchant ships been strongly urged during recent years—and, if after the great red tragedy which is now in progress across the seas comes to an end this policy becomes necessary in order to enable us to hold our own in the sharp fight for World commerce which will undoubtedly follow close upon the heels of peace, will any broad minded citizen oppose it?

The hour has come when every thinking citizen will pay profound heed to the needs of American Agriculture—for, from time out of mind it has been the goose that has laid the golden eggs. Upon this great industry is founded the Nation's abiding prosperity. From those who toil in the fields and feed lots come not only the food and raiment for the millions but the American farm rather than the American factory has vouchsafed for us a splendid trade balance against the other Nations of the World in years gone by. We have heard much in recent months of the crop of new millionaires who have sprung up and

WHAT CO-OPERATION MEANS

The writer had occasion some days ago to deliver an address to a big audience of farmers in a neighborhood where a number of fine Farm Clubs have been flourishing for sometime. At the wind up of the meeting a number of farmers got up to "testify" as they used to say in the old Camp meeting days. And this is what one man said who has the reputation of being one of the most successful farmers in his community: "Our little Club hasn't been in existence a year and yet the 18 or 20 farmers who belong to it have already saved several hundred dollars which we could not have saved if we had not been organized. We could have saved a good deal more if 500 or 600 farmers were co-operating in this part of the county instead of only perhaps 150—and I hope we will soon find ourselves in this position."

What this farmer said is possible in every community in Missouri—and in view of these facts is it not sheer stupidity for farmers to keep on drifting with the current? Does it not challenge our self respect as well as our common sense? We know of a Farmers Elevator in a certain county which is saving from $7,000 to $8,000 per year to its several hundred members. Likewise we know of several Co-Operative Creameries which are paying $75,000 per year into the communities in which they exist—enterprises which enable their patrons to turn their grass and forage crops into golden butter instead of permitting the greater portion to go to waste. These things show what co-operative effort will do and in the trail of such co-operation follow better bank accounts and happier farm homes. Surely the time is here for a "new deal" on the farm—but it will never come until you and your neighbors wake up and put your energy and enthusiasm back of the splendid Farm Club movement which is making such fine headway in many sections of the state at this time. I want every reader of THE FARMER to consider this appeal as personal. Send a two-cent stamp to cover postage on our splendid new Farm Club pamphlet. Then hold a conference with a few progressive neighbors and get busy. The long winter months are ahead of us. Lets put them to a better use than ever before. Lets light up the little school house and get together at least twice per month, not only for the purpose of saving money on certain commodities but to discuss the great farm questions of the hour. The time has come when the farmer should not only compel a "square deal" in the market but when, as a citizen, he should take a more active part in the affairs of the Nation.

WILLIAM HIRTH, Publisher.

flourished like green bay trees as a result of the traffic in foreign war supplies—and yet, during 1915 our factories and the Powder kings combined exported only $900,000,000 worth of commodities as against $1,600,000,000 of American wheat, cotton, beef, pork, mutton, horses, mules and other farm supplies. And yet this American farm which has been our Gibraltar of strength in the past and which is our chief hope for the future is in a bad way. During the last two decades covered by the federal census reports our farm mortgages increased over 106%—and the tendency to land tenancy in like proportion. Our erstwhile splendid soil fertility has been largely exhausted and upon every hand dishevelled and dilapidated farm buildings bear mute testimony that something is radically wrong. Thousands of the brightest country boys and girls have been and are flocking to the cities—and that this state of affairs can be charged up at one fell swoop to poor farming methods no one but a fool will allege. It is to bring a halt to these distressing conditions which threaten the stability of the Nation itself that has caused us to throw ourselves heart and soul behind the great farm organization movement—and lower interest rates and longer time money is an important milestone in the journey ahead. For years the farmer has stood aside in silence and without complaint. Disorganized and with no powerful friends at court, every other interest except his has been generously provided for—and if now, when at last it is proposed that he shall receive some slight consideration there are those who wish to raise the cry of "class legislation," they are welcome to make the most of it.

As to the Million Dollars

But, say some, the State Treasury is empty and in no position to supply the suggested capital of a million dollars. But what has that got to do with voting for the amendment in November? Is it not our first duty to build the foundation for the house and then look around for the other essential materials later on? To begin with, it isn't necessary for us to have a million dollars and never was—nor does this affect the Amendment in any material way for the time being. The debenture bonds can be issued in series of $250,000 at a time just as easily as a half million or a million. All it means is turning the bonds a little more frequently—and who shall say that the next administration will not be able to economize and find $250,000 somewhere to start the Land Bank in motion? Again, may it not be possible to provide this much revenue from some quarter which is not shouldering its just share of the burdens of government at this time? Should a system which means as much as this one to 275,000 Missouri farmers be held in suspense very long for so small a sum as $250,000—and does anybody seriously believe it will be? Will there be a solitary member of the next Legislature, either democrat or republican, who will dare place any obstacle in its way? Or at the very worst, why not go ahead and adopt the Amendment and then submit a small bond issue at the ensuing election? If we can afford to issue three million dollars in bonds to build a state capitol, can we not also issue a half million dollars to furnish the basic capital to provide cheaper and longer time money for the farmers of Missouri? The question we want to put squarely up to every farmer in the state is, "Do you want an Agricultural Credit System?" If you do, then vote and work for the Amendment and quit paying attention to this splitting of hairs which is done for political reasons pure and simple.

As to Creating "New Jobs"

Among other things, it has been charged that the proposed Land Bank will create a lot of new "political jobs"—and since this is so frequently true with reference to new legislation, the suggestion is pertinent. In the first place, the Act provides that the Land Bank shall be conducted by and be under the supervision of the State Bank Commissioner and that the employees and clerks of this Dep't shall attend to all the duties connected with its operation and that additional clerks shall be hired and paid for out of Land Bank funds only when the present force of employees in the Banking Dep't is insufficient. So it "gets away from the post" without creating a single new political job. Next it requires that the Attorney General, Prosecuting Attorneys, Sheriffs or other county officials of the different counties in which loans are made shall render any service required of them in this connection without extra charge. It also requires any bank or trust company to furnish information without fee—and lastly, in case of a foreclosure sale it provides that publication notice shall be given by hand bills instead of in a newspaper. In other words, the present official machinery of the state is utilized from beginning to end and the only new jobs for which the Act provides are a number of expert Land Appraisers who shall examine into the loans asked for and these men are to receive $2,000 per year and expenses—and we believe any fair minded man will admit that the System could not be put in operation without a few men in different parts of the state whose duty it will be to inquire carefully and fairly into the merits of the different loans which farmers may request. As a matter of fact, if the investors of the Country who are expected to buy the land bank bonds are to have the highest confidence in them, such appraisement by capable parties is of course vitally essential. In view of the above facts, we don't believe that an act was ever created in the history of the state which more studiously avoided unnecessary expense to the people than this one.

The "Single Tax" Bugaboo

However, in a final and supreme effort to scare and confuse the farmers of the state, the charge has been made that it is a "step toward the Single Tax." As a prominent critic recently put it, "I am told that many of the friends of the Single Tax are for this Amendment"—and thus the subtle poison which is expected to prove the final "knock out" is injected into the veins of this splendid measure. Who these "friends of the Single Tax" are, deponent sayeth not—for again "the wish is father to the thought." THE MISSOURI FARMER was the first publication in this state which raised its voice against the Single Tax when that heresy was proposed six years ago. It was more larely responsible than any other single influence for the convention of land owners which met at Jefferson City and which planned and waged a concerted fight against it—and the writer of this article wrote the lions share of the anti-Single Tax literature which was used throughout that campaign and hence this publication would be the first to raise a hand of warning if there was the slightest merit in this charge. Now what are the actual facts? Under present conditions, the farmer pays taxes on his farm whether he owns it outright or whether it is heavily mortgaged. Likewise, the man who holds the mortgage is supposed to pay taxes upon the money thus loaned—although in thousands of instances he never says anything about it to the assessor and thus avoids the payment. But, assuming that both the farmer and the man who holds the mortgage make an honest return, you have two men paying taxes on the same fundamental investment—while under the Land Bank plan the holder of the bonds (the equivalent of the mortgage under present conditions will be exempt from the payment of taxes and while the borrower will still have to pay taxes on his farm, he will be able to obtain his loan at a lower rate of interest because the land bonds are exempt—and hence will receive a benefit which it is impossible for him to obtain under the double system of taxation which prevails at the present time. So, as a matter of common sense and fairness the Land Bank plan is right—and instead of shifting the burden upon the land as is the purpose of the Single Tax, it actually relieves the land of the dual penalty which it is paying at the present time. Finally, has it not occurred to the reader that the Single Tax can never be fastened upon the land owners of this state without their consent—that it would require a specific Constitutional amendment and that every voter will be given a chance to vote upon it if it is ever again proposed? The recently created Federal Land Bank not only exempts its bonds from the payment of ordinary taxes but also from the payment of income taxes—and during the exhaustive discussion of this great measure in Congress the scare crow of the Single Tax was never once suggested by any democrat or republican whose practically unanimous support it received upon final passage. Unless land bonds, whether state or federal, are exempted from the payment of taxes, low interest rates and long time loans for the farmer are impossible—and all discussion on this point is therefore a mere waste of time. The Single Tax cry has been raised only to defeat the Amendment and the sooner farmers realize this the better for their own interests. In this connection, we also wish to state that the idea that the farmers of Missouri don't need a Land Bank of their own because of the Federal System is not true—for in substituting the new methods for the scores of millions of dollars in farm loans which are now in existence we will require the aid of the two systems to their fullest capacity. Again, inasmuch as the Federal System requires farmers to invest 5% of their loans in stock in the different Federal Land Banks, we believe that to this extent at least the Missouri plan is preferable.

The Missouri Law in Brief

And now we will state the Missouri Land Bank Act in a nut shell: If it becomes a law, loans will be made to farmers to the extent of 50% of the appraised value of their land. Farmers will give their notes to the Land Bank secured by a first lien mortgage. The loans will run for not less than 5 nor for more than 25 years—the borrower having the right to pay off all or any part of the loan at any interest paying period. No loan shall be for less than $250 nor for more than $10,000—preference being given to the smaller loans. The money thus obtained must be used for the following purposes: To increase the production of the land mortgaged, to make useful improvements thereon, to pay off liens or incumbrances or to make part payment on the purchase price where the borrower is paying part of the purchase money—and lastly the borrower may use 25% of his loan to buy live stock or needed farm machinery. Against the notes of farmers thus obtained, the Land Bank will issue debenture bonds which it will offer for sale to the investing public—and that these bonds will soon become the most sought after investment in the Country and that in consequence they will

A MAN WHO MEANS BUSINESS

The following letter from Mr. C V. Kerr, at Belton, Mo., shows such splendid appreciation of what THE MISSOURI FARMER is trying to do that we have, without Mr. Kerr's consent, taken the liberty of reproducing it:

William Hirth, Publisher Missouri Farmer,
Columbia, Mo.

Dear Sir—I have received several letters about the Farm Club movement from you during the last few weeks and for sometime we have been talking of organization. Until the last few days however, it was all "talk." But now we have gotten busy—and I herewith inclose check for $16.00 in subscriptions. During the next month or two I expect to run it up to $50.00 and maybe more. Our Club is going to want two or three cars of coal right away and I wish you would send me your wholesale prices by return mail. We will also be in the market right away for several mixed cars of feed and I want the wholesale price on that also.

In view of the money which you are able to save us on these commadities I feel that all our members should be willing to pay a dollar on subscription to THE MISSOURI FARMER which is leading this great Farm Club movement and I am sure that all of them will gladly do so, once the matter is brought to their attention—and surely there isn't a Farm Club in the state which will not be glad to do likewise. THE MISSOURI FARMER is the first farm paper that ever offered us this kind of help and now it is up to the farmers of the state to get up behind it to a man. Please let me hear from you at once on the coal and feed matters.

Your Friend,
C. V. Kerr, Belton, Mo.

Just think of the hundreds of thousands of dollars we would be able to save to the farmers of Missouri if we had a friend like Mr. Kerr in every school district in the state? And, if everywhere Farm Clubs would give us this kind of support on subscriptions, think of what a great farm paper we would soon be able to give you? The items which Mr. Kerr mentions will enable us to save $300 or $400 to his fellow Club members during the next several weeks. Truly, Brother, isn't it time for you and your neighbors to "fall in line?"

sell at a low interest rate to the farmer there is little question.

The first loans under the first series of bonds shall be made to borrowers at 4.3%, together with one-half of one per cent to defray the expenses of the Bank—or a total of 4.8%. Borrowers also have the right to amortize their loans during whatever period of years they elect—that is, to pay the annual interest and such a part of the principal as they desire each year. Thus, under the amortization plan, the payment of the interest and principal on $1,000 within 5 years would require an annual payment of $240; in 10 yrs., an annual payment of $124; in 15 yrs., an annual payment of $91; in 20 yrs., an annual payment of $75; in 25 yrs., an annual payment of $65. If, after the Bank has been in operation for 10 years or more it finds that the one-half of one per cent collected from borrowers for the payment of expenses is more than is necessary, it has the power to refund any available surplus to borrowers whose loans have run for at least a 10 year period. While the first series of loans will be made at the arbitrary rate of 4.8%, subsequent interest rates will be governed by what the land bonds sell for to investors—but that, in any case, the rate of interest will be considerably lower than what farmers have been in the habit of paying there is little question. There is a specific provision in the Act which stipulates that in no case shall the Land Bank charge in excess of 6% per annum upon loans, including the one-half per cent set aside for the reserve fund.

It has been urged by some that a loan of 50% against land is not sufficient—that "a farmer can borrow this amount anywhere." While this may be generally true, it must be remembered that what we are trying to do is to reduce the interest rate and provide long time loans rather than increase the equity against the land—for it is impossible to do both at one and the same time. The land bonds will be eagerly sought after and investors will be content with a low interest return only if the security behind them is beyond question. These facts, briefly stated, constitute the heart and the substance of the proposed Missouri Land Bank which, in our humble judgment, is the greatest act of legislation ever passed in the history of the commonwealth in the interest of farmers—and which therefore should have the earnest support of every farmer in the state irrespective of politics. For years the farmer has been struggling against excessive interest rates—and now that relief is close at hand, will we foolishly permit ourselves to become confused and demoralized by those who have personal axes to grind? The ides of November alone can tell. In conclusion, we will soon be ready to mail out a pamphlet fully explaining the new Federal Land Bank Act which we will be glad to send to any farmer for a 2c stamp to cover postage. It is a pamphlet which every farmer in the state should read carefully.

SCRUB CORN

Too many Missourians plant seed of not only poor breeding but also low in vitality.

Others plant some well bred corn that is low in vitality.

Some "send off" and buy shelled seed, and some get their seed from the common crib.

Knowing these things, one can readily see one of the reasons why our corn yield is not better than it is.

In many fields the scrub stalks will average six per cent "and up."

"Why the scrub," you ask? The two chief reasons are easy. One is that a scrub is commonly bred by a scrub, and the other may lack vitality in the seed grain.

In this last case it may not be a scrub, but a runt, the same as a well bred pig may be a runt.

But in the corn, how does the runt happen? It may happen through weak vitality caused by a lack of proper plant food, but more likely on account of the freezing while both grains and cobs are yet full of moisture.

Is your corn "mellow"? I do not know what other term to use, but try some of the ears by pressing hard on the ends of the grains and see if the grains sink lightly into the cob. If "mellow," the feeling is much the same as when you try an apple to find if it is mellow.

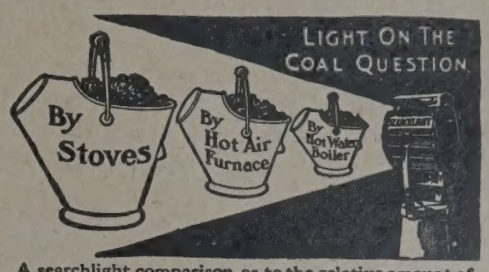
One cause may be the wet cob shrinking away from the grain—but this would be doubtful since this condition is not found much in the tight grained ears. It may be more likely that it is caused by heavy frost while the cobs are yet very wet, causing the grains to "heave" out like a post in wet soil, or as clover heaves out. When there was much moisture late in the fall, also early frost, it might readily be inferred that the last theory is the right one.

If three grains are given an equal chance, and two have good vitality and one low vitality, the three may grow—but the two good ones start first, and have an advantage over the other one, and one scrub or runt will be the result.

Plant runts and scrubs—and runts and scrubs will likely be the result.

Get rid of the scrub by breeding and selection! Get rid of the runt by selection and care! Sam Jordan.

Burn *less* Coal —and get *more* Comfort



A searchlight comparison as to the relative amount of coal required by the different heating methods to do an equal amount of heating work

When you honestly consider all facts and know what great savings and comforts will result from IDEAL heating, you cannot help but decide to have it.

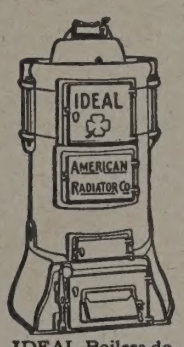
Briefly—here is what you get:

AMERICAN RADIATORS & IDEAL BOILERS

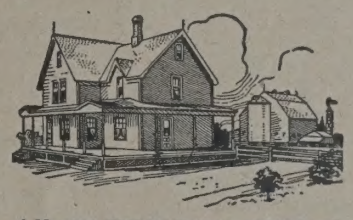
A warm-all-over house. No repairs, no setting up or taking down. No labor, dust, gases, or smoke. An even, healthful heat all winter. A fuel saving that pays for the outfit. Adds big value to your home.

Thousands of farmers have found this out by installing IDEAL heating and their families now enjoy Winter better than Summer. There is such a thing as paying for IDEAL heating even if you don't have it *now* because in the meantime, you suffer all the ills and bills of old fashioned heating—but you can't get *real comfort* by only wishing for it. Why not decide *now* to have IDEAL heating and all the comforts and conveniences it brings to your home.

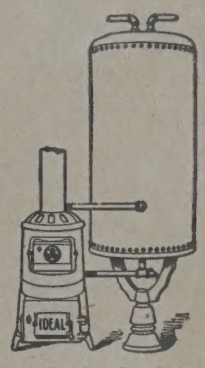
An IDEAL Boiler and AMERICAN Radiators can be put in any old or new house whether you have a cellar or not. Water system is not required as the same water is used over and over for years. IDEAL heating lasts longer than the building and frees you forever from labor, drudgery, and the dangerous effects of a cold, drafty house. Burn *any local fuel.*



IDEAL Boilers do not rust or wear out—no repairs.



A No. 020 IDEAL Boiler and 262 ft. of 38-in. AMERICAN Radiators, costing the owner $185, were used to heat this farm house, at which price the goods can be bought of any reputable, competent Fitter. This did not include cost of labor, pipe, valves, freight, etc., which vary according to climatic and other conditions. The IDEAL outfit is the *only* feature of the house which is never worth *less* than you paid for it.



Our IDEAL Hot Water Supply Boilers will supply plenty of warm water for home and stock at small cost of few dollars for fuel for season.

Get this book about Ideal Heating

Don't put it off another day. Read up and get all the information as to comfort, cost, and fuel economy that an IDEAL Boiler and AMERICAN Radiators will give you. Write today and get a copy of "Ideal Heating." Puts you under no obligation to buy.

Sold by all dealers. No exclusive agents.

AMERICAN RADIATOR COMPANY

Write to Department F-32 Chicago

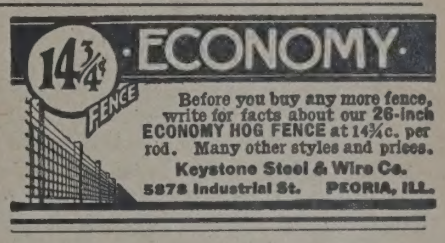
SHOULD KEEP MORE CATTLE

Many a farmer does not want to milk cows and as a result does not keep as many cattle on the farm as he should because he has it continually harped into him that any profit is only in the dairy cow. I am not sure but that the beef cow can not always be made to return a profit provided we handle her as she should be for best results.

In the first place we must always calculate that the forage fed to cattle must be cheap, that it must be nutritious and plentiful. The cheapness must come from grass fed in our pastures. My practice has been to not pasture too closely as one would if from renting pasture year to year. I did not take the cows off of pasture for years until about Christmas then put them back about April 1, or in round numbers 100 days off of pasture. Don't understand me to say these cows were in show shape but they were in good enough condition to calve in a most satisfactory manner. Not too much milk still enough to start the calf along and as the grass increases the milk increases. In fact just what is in good natural condition.

But the great cost with the beef cow and calf proposition is in the wintering. Fortunately the cow is so consituted that she can consume a large quantity of comparatively coarse feed instead of grains and concentrates which are always relatively high priced and when fed cut the profits just that much. I have been in the cattle business in Southwest Missouri when it was impossible to feed corn in any shape and make a profit. Even had the silo been fashionable then, it would have been impossible to make a profit out of the seemingly cheap silage, as corn is corn, whether silage or in the crib. Good stalk fields and choice cane hay we all know how to make, make the bulk of the roughness on our farm. I think I lost four or five years of profits in this talk of corn, cotton seed meal and the like that ate the profits in cattle growing.

Should I feed these cows in the barn as the dairy cow is fed they would consume feed worth two and a half or three dollars a month and all sorts of udder trouble would come from high feeding. We are in such a rush to get our calves to market we cannot wait for them to get old enough to consume this world of coarse feed that is burned, wasted and thrown as refuse. The grain should be the small part of what is produced on our farms as it is an open question if the farms of Missouri can produce all grain at a profit. But roughness can be grown by the tons at a small cost. Let the slaughter of dairy calves go on, it is the salvation of the beef industry but to those that love that quiet pastoral, profit taking life, the well formed beef producing cow leads the world to my notion. E. E. Laughlin.



"TOM" AT THE UNIVERSITY

By "Tom"

Dear Dad—I guess you and Mother have been wondering why my letters have been so short since I got down here to Columbia—and, in fact, I have been ashamed of them myself. But, first of all, I had a hard time to find a room and boarding place which would enable me to keep within the expense money we all figured on—and even now I don't know whether I will be able to do it or not. All the boarding house keepers say they have to charge more because the war has put prices up and while I don't know whether its all true or not, it doesn't help out the student who is compelled to count every nickel he spends. Then too, there are over 3,000 students here—and so every place is full and there isn't much choice. I don't want you to get the impression that the boarding house keepers are "holding up" the students for, all of us know that every thing one buys to eat is high—but if it should take $40 or $50 more to run me through to spring, you will know at least one of the reasons.

I wish you and Mother and the rest of the "kids" could pay me a visit—and you must next spring without fail, for you have no idea what an immense institution the University of Missouri is and how beautiful the buildings and the campus are. I had no idea myself before I got down here and saw it all with my own eyes—and each day things grow more interesting. Then, too, Columbia is a very beautiful town and all the people are kind and courteous to the students, as is shown by the fact that dozens are working their way through—doing all kinds of odd jobs by means of which they square their board bills and room rent.

And the idea that students put in three-fourths of their time playing around is a big mistake. In fact the University of Missouri is a great bee hive of activity in which over 3,000 young men and women are trying to better prepare themselves for the great battle of life—and the student who isn't trying to "make good" in his classes seems to be under the ban not only with the Professors but with his classmates as well. President Hill is a tall, keen faced man about 45 years old and seems to be in for business from start to finish. He reminds one more of a man who is running a big business enterprise of some kind rather than a big school. What I mean is, that he doesn't waste time in long winded orations but when he talks to us he says what is in his mind—and it is always to the point. Then he quits. And the same is true of nearly all the other members of the faculty with whom I have come in contact. In fact, the University of Missouri is a gigantic workshop turning out thousands of educated young men and women—and it seems to me that not only should they make better citizens but that society should be better off because of the training they receive in this great institution. I am dwelling on this matter at this length because if the people of Missouri generally knew what a great work the University is doing, I believe they would feel more friendly toward it. I heard Dr. Hill say in a recent address that no other University compared with it in efficiency and thoroughness west of the Mississippi River—and I am sure he wouldn't have said it if he wasn't in position to furnish the proof.

Some boys undertook to "haze" a student a few evenings ago and wound up by landing in jail. When the University authorities heard of it they promptly started an investigation—and according to latest reports all directly concerned in it will be dismissed and sent home. Whatever may have been true about "hazing" in the past, it doesn't go these days, for President Hill has put his foot down on it hard—and hence no "rube" student has anything to fear. Of course we have some "bone heads" here who try to cut too wide a swath before they get their eye teeth cut and it really wouldn't hurt to take them down a few notches—but the trouble is such things are too frequently carried to extremes.

I haven't been asked to join a Fraternity yet and don't know whether I shall be or not. I know I won't join if it is going to run up my school expenses. I hope you won't get scared when I tell you that I am becoming enthused about football. I don't mean that I am trying to get on the team—but in another letter I'll tell you just what I mean.

And now I am going to give you and Mother a big surprise—and I hope you won't be angry with me. I know you have pictured me studying big musty law books until midnight every night, for this was what I went through high school to do—and I did enter up for the freshman law course. But I got to thinking things over and wound up by switching over to the Agricultural College. Now please don't get out of patience with me. I know its a funny way for me to do—but withhold your judgment until my next letter when I'll tell you why I changed my mind. With love to all, Tom.

ONE IDEAED ROAD MEN

Editor Missouri Farmer:

The writer has followed the editorials of a certain metropolitan newspaper with pleasure and profit for many years. He has followed its advocacy of various reforms with attention and appreciation. He therefore is surprised at statements concerning the wagon road problem which have appeared recently in its columns.

Let it be clearly understood that, while the writer's name is associated with the improvement of the earth and gravel roads by the split-log-drag-method, yet he is, nevertheless, an advocate of a hard surface for the main travelled roads, and is on record so in public print as far back as 1905. His boyhood days were spent in a region of such highways; he is ready today to pay his part of the cost for a hard surface on the road from his home to the town and railway station; he stands ready to cast his vote in favor of Township or County Road Bonds for any business-like improvement of the leading thoroughfares.

However, the writer realizes that for many years to come a large—very large—proportion of our roads must be built of the material now to be found between the fences. And he knows further that the simple, cheap, King pattern, split-log-drag is the best as well as the most easily available implement with which to build and maintain the average road throughout the world.

For these and other reasons he deprecates a recent editorial in this city paper which in effect condemns the policy of road dragging now followed by the states of Missouri and Kansas; charging (as it does by inference) that the money so expended is wasted, and concluding its indictment by saying:—"The work has to be done over again this year." Truly the work "has to be done over again this year." In enlightened communities the draggers and the road users agree that it ought to be "done over again" after each rain or storm, but this truth does not constitute a valid criticism of the method, and the editor is most deeply in error if he assumes that this truth is evidence against the value of the road dragging system.

When the city editor urges the building of more nearly permanent roads the writer hereof bids him God speed, for the writer asserts, as he has done for many years, that where farm land is worth one hundred dollars an acre the community is not living up to its opportunities unless the main arteries of traffic are hard surfaced. On the other hand when any city editor suggests that road dragging is wasted effort because it must be repeated, we hasten to remind him he combs his hair often, and that probably in bad weather he has his shoes polished as often as once a week.

What we need, and in time will have, is a system of highways which will ramify from the largest cities to the doorway of the humblest citizen,—be he villager or farmer. Such a system of highways will include trunklines with expensive concrete or brick surfaces for the very heavy traffic; including trucks and automobiles. Less used but important roads may be of waterbound macadam or gravel—perhaps in certain regions where stone and gravel are not at hand oiled roads may prove most economical and practical. Minor wagon-ways must remain of native soil, built and maintained with the road drag. Mean while, antagonism to road dragging such as is shown by the city editor quoted above, which has its equivilant at the other extreme in the rural banker or merchant who holds that "a good dragged earth road is good enough for anybody", breeds in a lack of information or a narrowness which fails to comprehend these last stated facts.

D. Ward King,
Maitland, Mo.

TAKE CARE OF THE LAMBS

To The Missouri Farmer:

This time of the year it is very important we look after the sheep especially the lambs. If the lambs are early they have been weaned since the first of August and have been on possibly short hard grass or we might say no pasture—just dry grass. Weaning time coming on dry grass or even pasture is the crucial time with all young animals. We find pigs are immune to cholera while suckling and lambs are free from the ravages of stomach worms, but as soon as the weaning takes place the lamb cannot digest the coarse grass, and before we know it they commence dying. We may be deceived in their fluffy fleece because we can't see the spine sticking up or the hip bones showing only when a rain comes, then we realize the condition but we let them shake around until the bones are covered up and we let the matter slip. The lambs, as all young animals, have an incomplete mouth, their teeth are few and possibly not in apposition, so mastication is incomplete.

We now have our ram lambs sorted and on bran and shelled corn. Thirty of this year's crop have eaten a half ton of bran and about five bushels of corn already. This corn was partly chopped to teach the lambs to eat the bran as they are slow to learn on the bran. Our troughs are in the sheep barn and always dry and clean and if not clean the broom is there to sweep them. I think some three years I have made gross mistakes with lambs by turning them in the corn field, I say corn field, but a great success one year was with a clover and corn field adjoining with a few rows of Kafir corn close. Cowpeas one year served fine while another year they failed, and as other things pressed I allowed the peas cropped too low and some of the lambs failed to learn the feed box for weeks. I have never fed out western lambs but am sure the troughs would be used as above indicated. For fear I might be misunderstood on prepared food will say whole grain has served me best, always.

You will say where is the worm feed? Why, salt and sulphur all the time before them and not only on Sundays or twice a week but all the time. These are nature's food or condiments and should never be neglected.

E. E. Laughlin,
Rich Hill, Mo.

FALL CORN WORK—PART II

The Harvest

On many well-managed farms the work of harvesting and storing the corn crop begins with the filling of the silo. Corn is one of the best crops for this purpose, if not the very best. Sorghum stands dry weather much better than corn and for dry regions is a surer crop, but it is more inclined to fall down and become tangled than corn, thus making it somewhat more difficult to place in the silo. This difficulty is overcome to a large extent by growing the two crops together, and the silage made from these two crops grown together is usually superior to that from either crop grown separately.

When the silo first came into use it was thought necessary to fill it with very green succulent growth. This is now known to be an erroneous idea, and the silo is regarded much as a storeroom or food preserver, the value of the silage depending to a very great extent on the nutritive value of the crop with which the silo is filled. To this end it is advisable that the corn shall have reached a degree of ripeness indicated by rather hard well dented or glazed kernels and partially dried husks before it is placed in the silo. There is a week or 10 days when the ears are in this condition and the stalks still contain sufficient sap to cause the silage to pack well in the silo. It is even better to add a little water to accomplish the latter purpose than to cut the crop before it has attained its full feeding value.

Stripping

In some sections the practice of stripping the blades by hand from the standing stalks was for years one of the established operations in connection with harvesting the corn crop. The blades when thus gathered and well stored furnish an excellent forage, but there are now cheaper methods of harvesting without any loss in quality.

Topping

It is still quite a common practice in some localities to top the stalks by cutting them just above the ear. By this method the portion of the stalk which is eaten by stock most readily and with least waste is obtained. When the grain crop is late in maturing, or wet fall weather prevents the proper drying of the ripening ears, the topping of the corn may be found ad-

visable. If the ears have become hard, the kernels dented, and the husks partly dry before the topping is performed, no reduction in yield will result. A heavy growth of cowpeas may make the cutting of the entire plant impracticable and warrant the topping of the crop. If the corn is desired for seed, topping will facilitate the drying of the ears and thus make it possible to select the seed before it is injured by freezing. Ordinarily, however, it is found more expensive to top a corn crop than to cut and shock the entire plant.

Cutting, Shocking and Husking

Over large areas in the principal corn-growing states corn is grown primarily for the grain, and each farmer decides for himself how much of the crop will be cut. This is usually determined by cutting just enough to feed the animals maintained on the farm. The chief objection to this method is that many farmers do not maintain enough animals to consume all of the corn stover produced. If the ears are gathered from the standing stalks and no use is made of the stover, fully one-third of the crop is wasted. The term "fodder" is applied to the entire plant as ordinarily cut and shocked, while the term "stover" is applied to the porion remaining after the ears have been pulled or husked.

Generally speaking, there is little difference in cost between husking and cribbing corn from the shock and husking and cribbing it from the standing stalk. In some sections men will husk from standing stalks at a lower price than from shocks, but the cost of teams, although they are not usually very busy with other work during corn-husking season, must be taken into consideration. Considering the expense of husking from the standing stalk and from the shock as equal, it is evident that the stover has been obtained for the money paid for having the corn cut and shoked. This cost of cutting and shocking is very much less than the value of the stover, if it be properly stored and fed. If left in the field until February or March exposed to the winds and rains of winter, it is questionable whether its feeding value is equal to the cost of cutting and shocking.

There are sections in the Central and Southern States where the soil is rich and the growing season long, causing the corn to make a large, tall growth of stalk which does not furnish a good quality of stover. In such sections it may be better to obtain the necessary quantity of forage by cutting several hay crops each year than by saving the corn stover. This is especially true in localities where warm, damp weather causes the corn stover to lose its feeding value rapidly.

Binders

The corn binder with bundle carrier is satisfactorily used in cutting corn of average or small size on land that is not very steep or stumpy. On the comparatively level prairie land of the North Central States the corn binder is very generally used in cutting and shocking corn. In light corn or on level land two horses will suffice, but for faster work or heavy corn the use of three or four horses is much more satisfactory. Three men, one to run the binder and two to shock, and two teams can cut and shock about 7 acres of corn a day. However, conditions vary to such an extent regarding the weight of the corn crop, the lay of the land, etc., that it is impossible to give figures that will apply to all cases. In sections where the corn binder is successfully used the principal objections to its use are the cost of twine which remains upon the fodder but a short time, and the knocking off of ears in the process of binding. In almost all cases the quantity of corn knocked off by the binder is great enough to warrant driving a wagon over the field and gathering the ears from the ground after the corn is cut and shocked. This is necessary, because the presence of the shocks in the field prevents the turning in of hogs or cattle to gather up the ears knocked off by the binder.

The use of a binder with a bundle carrier saves very much of the hard labor of cutting and shocking, and the greater ease of handling the fodder when bound into bundles of convenient size saves labor enough to compensate for the twine used.

Huskers and Shredders

The use of shredding machines is quite general in many corn-growing sections. Sometimes the machines are used for shredding the stover after the ears have been husked from the shocks by hand, and in other cases both the husking and shredding are done by the machine. The shredding of the stover puts it in a more compact form for storing and a more convenient form for feeding and avoids the troublesome work of handling manure in which there are long coarse cornstalks. Shredded stover is fed with much less waste than stover in any other condition. It has been estimated that shredded stover will go 40 per cent further in feeding cattle than the whole stalks and considerably further than when the stalks are put through a feed cutter. As there are shredders of varying capacities, a farmer may purchase a machine suited to his quantity of work to be performed, or a number of farmers in a community may own a machine jointly. Shredding fodder by the acre and shredding and husking by the bushel are common in many sections where crews operate huskers and shredders and travel from farm to farm. The blowing of the shredded material from the shredder and husker to the center of a feed shed, so that it can be fed in racks around the general supply, is a very economical way of using corn stover.—Weekly News Letter.

PROFITS INCREASED ON THE FARM

The harvest is over. Every machine and implement which is not in use should be under cover. The fall rains plant the seeds of rust which are harvested by the manufacturers of farm machinery.

The average life of farm machinery in this country is short, entirely too short, and for years has caused an enormous annual loss to the farmers, and large profits for the manufacturer. The best macihnery will wear out in time, but the life of any implement depends primarily upon the care it has received and the facility and ability of the farmer to do repair work.

The implements used on the farm represented a large investment, and this investment increases yearly. Every year that can be added to their life represents profit. This is the age of the "iron horse," and unless we take care of our machinery the annual loss is going to increase enormously.

Every farmer should study his machine and see where he can increase its efficiency. Oil is cheaper than repairs, and new tools, and when properly used will reduce the friction and increase the life of the machine.

If the binder has not already been housed, it should be done, as soon as possible. During a trip across the state last winter, the writer counted seven binders out in the field within a radius of fifty miles, and some of them were new machnies. Under such treatment a binder will not last more than three years. Then the total yearly loss on these machines, whose cost was about $900, would amount to $300 this is more than the yearly profit on some farms. With proper care the same machines could have been made to last ten or fifteen years.

"A high polish on the moldboard is of far more value than that acquired in high society." When you are through with your plow this fall cover the moldboard with any heavy grease that will keep the air away from it and put it away. This will keep the plow from rusting and can be easily removed. The same treatment to the disc harrow and cultivator shovels will protect them.

The farm machinery is only used for a short period, but must work continuously when being used. Hence it must be in good running order and properly adjusted.

When buying a new machine keep in mind these four words: Simplicity, Reliability, Durability and Accessibility. Then if the machine is given proper care, long life and greater profits are insured. Use plenty of oil and grease.—M. A. R. Kelley, Missouri College of Agriculture.

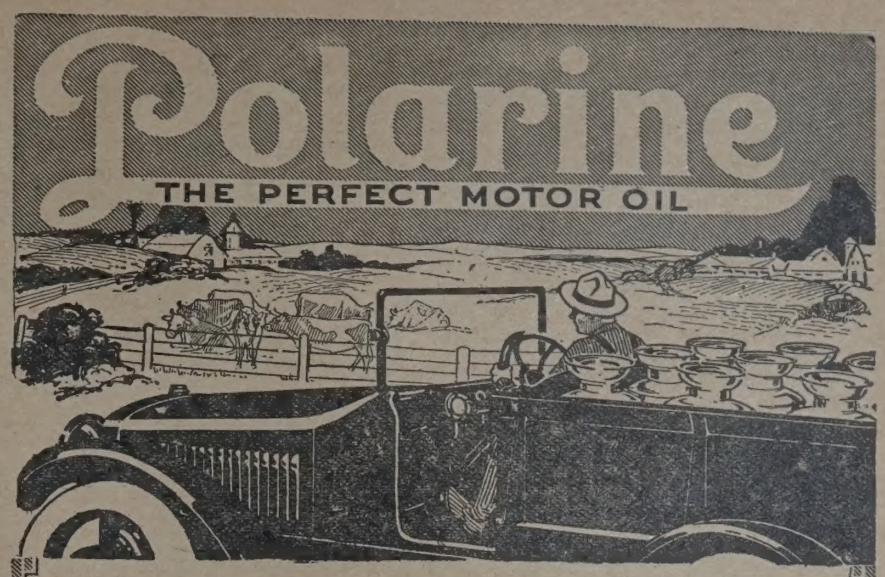
WHY USE LIME?

Half the soils of Missouri to a greater or less extent are in need of liming according to the results obtained at the Missouri Agricultural Experiment Station. This conclusion has been arrived at only after years of experimenting and observation. So far no great amount of liming has been done in Missouri as compared with other states, but the need of it is becoming more and more evident and as a result farmers are now showing a constantly increasing interest in the subject of liming.

Many do not understand the reason for applying lime, or the exact results to be expected. Most people expect lime to have an immediate effect on the crop, similar to that of a fertilizer. Lime, however, is not used as a fertilizer, but to correct the sourness of acid soils and make them better suited to the growing of crops, particularly the clover and alfalfa. It is not used for immediate effects except in the case of clover and alfalfa, although it will usually produce some increased return on the cereals and grasses. The principal reason for using lime is to make legume growing possible.

Although lime is an important factor in growing clover and alfalfa, it should not be inferred that all clover and alfalfa failures in Missouri are due to a lack of lime. As a matter of fact, a sour soil is only one of the causes of such failures. They may be due to poor drainage, to the fact that the land is badly worn by constant grain farming, to the fact that the land needs available phosphates, or to some other cause. But on land that is reasonably well drained and in a fair state of fertility, the chances are that the use of lime would be of benefit.

In applying lime it is best to apply a little more than is needed to sweeten the plow land at the first application and repeat with one-half to one ton once in four to eight years. The best time to put on the lime is after the land has been broken for a crop, such as wheat, allowing the preparation of the seed bed to work it into the soil.—M. F. Miller, Missouri College of Agriculture.



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THE MISSOURI FARMER

Devoted to Better Farming, Better Farm Homes and Better Citizenship.

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Agents Wanted. We want some one to represent us in every community and make up clubs for which we will pay liberal commissions. Write us for terms and sample copies.

We solicit communications from farmers and members of the family on timely and practical subjects. Photographs illustrating farm life or plans for buildings, live stock, etc., are appreciated.

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INTEREST IN DAIRYING

Why is it that railroads, commercial clubs and various other industries should take such a lively interest in the development of the business of dairying? In Illinois, through the leadership of the State Dairy Commissioner the leading railroads of that state have given away several car loads of pure bred dairy bulls to bring about an improvement of the dairy business in that state. Leading bankers have become interested and are offering to loan money to farmers on favorable terms the money to be used for erecting silos, dairy barns and for the purchase of good dairy cows. There is a good reason for all this activity of these business men. The railroad operators know that a dairy community furnishes more business than the general farm community does. Bankers have found out that men who get a weekly or monthly milk check are more apt to have the money to pay off a short time loan than those who depend on selling their wheat or corn or some other uncertain product.

Recently a farmer who lives in a section where the drouth caused a bad crop failure this year said to the writer "I do not know how I could have pulled through without my silo and my cows. There was little grain on my corn but by putting it into the silo and feeding it to my cows with some alfalfa hay and a little cottonseed meal I get a good yield of milk. From ten cows my monthly cream check has brought me from $60 to $75 and the calves were raised on the skim milk and are worth $25 to $30 a head. While of course the drouth caused me a heavy loss I do not know of any other line of farming that would have brought me through in as good shape as milking cows has done."

Business men are finding out these things and that is why they are ready to risk their money with the industrious fellow who wants to try dairying. A movement was started by the Northeastern Missouri Industrial and Agricultural Association at Hannibal last week for the purpose of arousing a greater interest in dairying and we hope to see this movement spread to all parts of the state. A committee was appointed to confer with the bankers of that section to induce them to give better and more extensive credit facilities to farmers who want to go into the dairy business and to those who would enlarge their business already established.

THE MISSOURI FARMER has frequently pointed out the advantages this state offers for profitable dairying and there is no valid reason why Missouri should not excel any other state in the Union in the amount of dairy products. Under our present methods of too much grain growing or more accurately speaking too much grain selling, thousands of our farms are gradually growing poorer and in unfavorable years like the present one most of them are operated at a loss. Dairy farming intelligently followed is the surest way of restoring the worn out lands of the state to a profitable condition of fertility and to change the farmers business from a losing to a gainful occupation.

If every man who has lost money on his farming operation for the last five years would visit a few well regulated dairy farms and study their methods he might gain some information that would help him to make his own farm pay.

FALLACIES ABOUT ROADS

In another column of this paper will be found an article by D. Ward King in which he discusses some of the erroneous views held by many road enthusiasts who doubtless possess more enthusiasm than information about the economic uses of roads. We do not think there is another man in America who has done so much to create sentiment in favor of good roads as Mr. King has and this has been because he was acquainted with country road conditions and the practicable and possible ways of bettering them.

We have repeatedly said that substantial road improvement has been retarded many years by the fallacy that "no road is a good road except a paved road," and that "we should not spend any money for anything but permanent roads." There are approximately 125,000 miles of roads in Missouri and there is not a mile of the whole length but what is used by some one to get to his neighbor, to church, to school or to get his products to market. But thousands of miles of these roads are used so little that anything better than a good dirt road is out of the question.

Then there is a gross ignorance among the class of men Mr. King is talking about as to the dependability of a road that can be made out of the "material between the fences." With proper drainage and the intelligent use of the King split-log-drag a road can be made at nominal expense that is passable at any time of year and a first class road for most of the year.

A great deal of money has been wasted on our roads but the ordinary repair of any road is not a waste of money. Just as Mr. King puts it a man might as well say that it is a waste of time to comb his hair because it must be done over again every morning. The kind and amount of traffic that goes over a road must determine the kind of a road to build. There are a lot of silk stocking advocates of good roads who care nothing about the general economic value of good roads but all they want is a paved road from city to city to "joy" ride on and these fellows have had entirely too much to say for the good of the very important work of road improvement.

When we get a state highway department established with some authority to classify the roads and to determine in an inelligent manner the kind of road best suited to the travel on it we can proceed with our road work in some sort of sensible fashion.

Another thing that ought to be done by our highway department or by the school of engineering is to make some experiments or demonstrations in various kinds of road improvement so that we will know what kinds of roads to build under the varying conditions. We do not know of a better use that could be made of a few thousands of dollars than to put on a road dragging demonstration in every county in the state and if possible in every township. These demonstrations should be continued for several years and should be under the direction of a man like D. Ward King who has twenty years behind him to prove what can be done with the road drag.

The road proposition is a big one and a costly one but when we get rid of the demagogic politicians and the silk stocking agitator and proceed on the theory that the roads are the property of all the people and must be improved for the benefit of all the people we will be on the right way of a settlement of the question.

ATTENTION ALL FARM CLUBS!

We are beginning to hear from Farm Clubs which are located in communities where farmers will have surplus corn to sell. To this end, we are anxious that those Farm Clubs whose members will have to buy get in touch with us at the earliest possible moment—as we want to move the corn direct from communities which have a surplus to those which have a shortage and thus save Club members the tribute which will otherwise go to commission men and feed dealers. Only prompt action however will enable us to do this. Therefore if you and your neighbors are going to have corn to sell, please notify us at once. You will be paid the highest price the market justifies and in the meantime you will be able to save a lot of money to farmers who will have to buy—and one farmer helping another is what co-operation means.

We are also able to offer good, clean timothy hay at $10.00 per ton F. O. B. shipping point—and we should be able to buy good hay for less at many places. Write us what kind of hay you have for sale and what you want for it—being guided by the prevailing market price on the different grades and qualities. We can also quote you good prices on alfalfa hay—so again, whether you have hay for sale or whether you want to buy, let us hear from you without delay.

We are also in position to save cattle feeders several dollars per ton on cotton seed meal and cake, oilmeal and tankage—the saving on the latter item being from $4.00 to $7.00 per ton over the average local price. This is a matter on which all feeders should get in touch with us immediately.

The folly of farmers not being organized was never more vividly illustrated than during the last two weeks—for two weeks ago we had the refusal of 60 car loads of fine Northern potatoes at 85c per bushel F. O. B. shipping point in North Dakota. This would have laid these potatoes down at about $1.20 per bushel at almost any town in Missouri. A number of Clubs which were fully organized and wide awake promptly took advantage of the situation and the saving to them over the average local prices will be between $300 and $400 per car. Since that time the Northern price has been advanced to $1.00 per bushel—and the most of them have also been gobbled up by the commission men. The country has harvested the shortest potato crop in years and local prices are certain to go to $2.00 per bushel and higher before the winter is over. Had the farmers of Missouri been thoroughly organized we could easily have handled 500 cars of these Northern potatoes for the winters supply—and have saved to the farmers of this state at least $150,000. Do not these things show the folly of the present situation? Don't you begin to realize now why THE MISSOURI FARMER is fighting so hard for Farm Club organization? And isn't it time you and your neighbors got in line? All you need to do to avail yourselves of our co-operation is to manifest sufficient interest to organize a school house Farm Club. Send a 2c stamp for complete plans, Constitution and By-Laws.

WILLIAM HIRTH, Publisher.

THE FARMERS SCHOOL

Not every farmer's son has the available time or means to take a full agricultural course in the State University but most of them can find a way to take a term or two in the farmers' course usually referred to as the short course in agriculture. The work in the short course comes at a time of year when the young man can get away from home without any great inconvenience and he can get back in time to take up his farm work in the spring.

This year the first session opens on November 1 and will close December 21. The second session will open January 8 and will close February 23, 1917. Each session the work given is complete for each subject taken but it requires two years to complete the entire course and when the young farmer can do so he will find it profitable to take the full course through the two years.

There are two important things to be gained by an attendance in these schools. First, the technical knowledge gained will be found to be an excellent foundation for a life's work on the farm and second, the personal association with two hundred or more of the brightest young farmers of the state will be a valuable experience.

During the same time the instruction is given for young men a course is given for young women and besides taking any of the work they desire which is given in dairying, poultry raising, gardening and other agricultural subjects the young women can get instruction in home economics including the preparation of foods, planning and preperation of meals, canning and preserving fruits and vegetables, sewing, cutting, preventive medicine and home care of the sick.

In addition to these short courses given in the University at Columbia there will be about fifty extension short courses held in various towns and lasting for one week. While the instruction in these can not be so complete there are many things that can be learned in a week and where it is not practicable to attend the regular courses in Columbia no one should

fail to take advantage of the home school for one week.

For information about any of this work our young friends should address the Superintendent of Short Courses, Columbia, Missouri.

A CO-OPERATIVE CREAMERY

We know of a number of towns in this state where a co-operative creamery would pay for itself within a very short time if well managed. In traveling about over the state we see the cream cans standing in the hot sun after they have been brought from the farm and when the cream is handled in this way it is impossible to make a good grade of butter from it. Who is it that loses the difference in price between the high grade butter and the poor stuff that this gathered cream necessarily makes? Surely it is the man who sells the cream.

It is generally estimated that a well managed co-operative creamery which gathers sweet cream daily from its members can make enough better quality of butter to pay the patrons about 5 cents more a pound and this difference will soon pay for the erection of a creamery plant.

In any community where 500 or more cows within a radius of 5 or 6 miles are being milked there ought to be a local creamery and preferably it should be managed co-operatively.

THE WORLD AS WE SEE IT

The world never finds a man until he discovers himself.

* * *

The fellow who tries to "go some" on the wheel of fortune generally has a blow out.

* * *

Missouri is the leading mule state in the Union. Human kickers will please take notice.

* * *

Scrambled eggs, especially at present prices, are mighty fine, but scrambled egg farming is a failure.

* * *

Oh Agriculture, what political seed is sown in thy name! There's "free seed"—$252,000 worth—for instance.

* * *

One of the crying needs of the hour is more display of backbone and less of wishbone on the part of society.

* * *

He who makes two good country cured hams in the smokehouse where only one hung before is a public benefactor.

* * *

The man who "hasn't time" to select seed corn this fall will not find time to get good corn from the crib next spring.

* * *

The best investment on earth is Missouri earth. The end of the rainbow rests on a Missouri farm—perhaps yours.

* * *

Beware of gas in the silo—yes, and in some of the fly-by-night silo salesmen. Deal with honest agents representing reliable firms.

* * *

The greatest need of America is the kind of wholesome family life for which country homes of the right kind have ever stood.

* * *

If you are constantly bewailing the fact that you are a farmer, how can you expect that boy or girl of yours to love the old farm home?

* * *

Right now is a mighty good time to get rid of the "star boarder" in the stable, cow barn, pasture or pen. When corn costs so much and meat on foot brings so much per pound it will pay to do some figuring and culling.

* * *

Right now is a good time to determine what kind of a fair your community is to have next year. Is it to be for farmers or for fakirs?

* * *

A lot of one-story folks have their officers in 20-story buildings, and fellows with little ability sometimes try to do business in big blocks.

* * *

Placing a preacher in charge of a country church will no more make a country preacher than placing a city man on a farm will make a farmer.

* * *

Oh what is so rare as the pictorial page of a Sunday paper that doesn't show a group of half-clad women doing circus stunts in the name of art!

* * *

"Bob White" is a friend of the farmer. Save the quail and kill the insect pests. One live quail in the field is worth a dozen dead ones on a dish.

* * *

The man who finds fault with a movement before he has given it a fair trial is a bigger coward than the fellow who hollers before he is hurt.

* * *

Soon, on the farm, will come the season of samp and scrapple—or of the modernized dishes, hominy and headcheese. Good days and good dishes are these.

* * *

When it comes to promoting happiness, both here and hereafter, the Bible and the cook book are far better than the latest novel and a mail order house catalog.

* * *

The lad who, in pioneer times, buckled his "brace" about him and went West had a better chance of becoming a useful citizen than has the sissy son of today who, wearing a cigarette in his mouth, goes to the city looking for a soft snap.

* * *

Farming today is a very different proposition from farming in the time of our forefathers. How to succeed with the soil has become a more intricate proposition than in the past. That time is gone, were it ever here, when men had only to tickle the surface and abundant crops sprang up, only to stick a twig in the ground and garner a bumper harvest of fruit.

* * *

Many are the changes that modern life has brought. On our farms we are trying to make machinery take the place of men, and a kitchen cabinet to do the work of a cook. Even the shirt that had a "board bosom" and buttoned in the back and that never went from home without its owner, has given place to a modernized, mercerized, machine-made garment that, unaccompanied save for its kind, goes often to the city where it spruces up and loses its color. Yes, and our boys and girls are going to the cities and often they, too, take to starch and style and lose from ruddy cheeks the country color.

* * *

Nobody wants to tackle a nest of hornets. They are organized. See—or feel—the point? W. L. Nelson.

A Great Car

For farmers who have big families and who need a big car it is mighty hard to beat the New Mitchell which will outlast and outwear two ordinary cheap cars. If you are interested drop a line to The Mitchell Motors Co., Racine, Wis., and ask them for their beautiful catalog. Mention THE MISSOURI FARMER.

"It's not so important that WE are for Mr. Wilson—MR. WILSON is FOR US."

President Wilson's Record of Service

—TO THE FARMER—TO THE COUNTRY—TO HUMANITY

Demands Your Support

WE have never had a man in the White House who so thoroughly represented ALL the people of this country as the man who is there today. Representing no interest of special privilege, he has the interest of ALL at heart. He has been steadily and steadfastly "on the job" for us. Even now when the Republicans are doing all in their power to befog the issue, criticize and misrepresent his actions, impugn his motives—he has gone steadily on, **giving his time to the duties of his office rather than campaigning for re-election.**

President Wilson does not ask for a vindication of his administration by re-election to office. He does not ask for four more years for personal satisfaction—but the country demands it, because the country needs him.

He stands on his record and his record is clean—a record of service—a record of deeds, not words. Space is too limited to give it in full but as an illustration, look at this record of service to you, the farmer. Then remember that the same keen insight into conditions—the same rare courage that has achieved this bettering of conditions **for you**—has guided the administration's legislation for the benefit of the whole country and humanity. Here is the record:

President Wilson Has Maintained Peace With Honor

No greater service was ever renedered to any country by any man in any time. This alone warrants your support of him. But this is not all. On the record of his administration's service to you, see what has been accomplished. In brief, here is the record:

1—Appreciation of the importance of agriculture has been shown through greatly and intelligently increased appropriations for its support.

2—Greatly increased provision has been made, through the enactment of the Co-operative Agricultural Extension Act, for conveying agricultural information to farmers.

3—Through the Office of Markets and Rural Organization, systematic provision has, for the first time, been made toward the solution of problems in that important half of agriculture which concerns distribution, marketing, rural finance and rural organization. The appropriations for this office, including those for enforcing new laws designed to promote better marketing, have been increased to $1,200,000.

4—The United States Grain Standards Act will secure uniformity in the grading of grain, and enable the farmer to obtain fairer prices for his product.

5—The United States Warehouse Act will enable the Department of Agriculture to license bonded warehouses in various states. It will lead to better storage facilities for staple crops and make possible the issuance of reliable warehouse receipts which will be easily negotiable.

6—The Federal Aid Road Act will conduce to the establishment of better highways and better marketing.

7—The Federal Reserve Act benefits the farmer by guaranteeing better banking safeguarding the credit structure of the country and preventing panics, making larger provision for loans through national banks on farm mortgages and by giving farm paper a maturity period of six months.

The Federal Farm Loan Act

8—It was essential, however, that banking machinery be devised which would reach intimately into the rural districts, that it should operate on terms suited to the farmers' needs, and should be under sympathetic management. The need was for machinery which would introduce business methods into farm finance, bring order out of chaos, reduce the cost of handling farm loans, place upon the market mortgages which would be a safe investment for private funds, attract into agricultural operations a fair share of the capital of the nation, and lead to a reduction of interest. These needs and these ideals have been met by the enactment of the Federal Farm Loan Act.

So much for legislation. This is not all, but it is enough to indicate what has been accomplished. Now consider what just one recent act of President Wilson has done for the farmer.

Preventing Nation-Wide Railroad Strike Saved Millions

Despite the perverted arguments of opposition spellbinders and fact-twisters, the cold figures show that President Wilson's work in preventing a nation-wide railroad strike saved tens of millions of dollars for the farmer, without injustice to any class.

Take the value of the 1915 crop of apples, peaches and potatoes (comparatively perishable crops). The 1916 figures will greatly exceed them. Had the strike lasted only a week, shipments would have been thrown off schedule for a month or more—and at a minimum, 33⅓ per cent of these crops would have been ruined. **In the States of Washington, Oregon, California, Idaho, Montana, Utah, Colorado, Kansas and Missouri alone the value of 1915 Apples, Peaches and Potatoes was $82,875,380. A railroad tieup of one week would have meant a dead loss to FARMERS of at least $27,000,000.**

The Republican Party buncoed and bamboozled the farmer—that Wall street and allied interests might be benefited. The Wilson administration has fought the farmers battles for him. The 1915 value of farm crops and livestock products amounted to $10,500,000,000, as against $9,300,000,000 in 1912—a gain of $1,200,000,000, notwithstanding Republican prediction that Democratic administration would ruin the farmer and the prices of his products.

The Farmer Is Too Sensible to Exchange the Substance for the Shadow —Too Wise to Give Up Prosperity For Promises. That's Why the Farmer Will Vote to Retain President Wilson

This advertisement is published and paid for by the Democratic National Committee, 42nd Street Building, New York

The Code of the Mountains

By CHARLES NEVILLE BUCK

A STORY OF A MOUNTAINEER WHO BECAME CIVILIZED

CHAPTER I

This morning the boy from the forks of Troublesome Creek had back his name once more. It was not a distinguished name, nor one to be flaunted in pride of race or achievement. On the contrary, it was a synonym for violent law-breaking and in the homely parlance of the Cumberland ridges, where certain infractions are condoned, it stood for "pizen meanness." Generations of Spooners before him had taken up the surname and carried it like runners in a relay race—often into evil ways. Many had laid down their lives and name with abruptness and violence.

When the pioneers first set their feet into the Wilderness trail out of Virginia, some left because the vague hinterland west of the ridges placed them "beyond the law's pursuing."

Tradition said that of the latter class were the Spooners, but Newt Spooner had no occasion to probe the remote past for a record of turpitude. It lay before him inscribed in a round clerical hand on the ledger which the warden of the Frankfort Penitentiary was just closing. Though the Governor's clemency had expunged the red charge of murder set against his name at the tender age of eighteen, there was another record which the Governor could not erase. A sunken grave bore testimony in a steep mountainside burial-ground back in "Bloody Breathitt," where dead weed stalks rattled and tangled ropes of fox-grapes bore their fruit in due season.

However, even the name of Newt Spooner is a better thing than the Number 813, which for two years had been his designation within those gray and fortressed walls along whose tops sentry-boxes punctuated the angles.

This morning he wore a suit of black clothes, the gift of the commonwealth, and his eyes were fixed rather avidly on a five-dollar note which the warden held tightly between his thumb and forefinger. Newt knew that the bill, too, was to be his. Yet the warden seemed needlessly deliberate in making the presentation. That functionary intended first to have something to say; something meant in all kindliness, but as Newt waited, shifting his bulk uneasily from foot to foot, his narrowed eyes traveled with restlessness, and his thin lips clamped themselves into a line indicative of neither gratitude nor penitence. The convict's thoughts for two years had been circling with uncomplicated directness about one focus. Newt Spooner had a fixed idea.

The office of the warden was not a cheery place. Its walls and desk and key-racks spoke suggestively of the business administered there. The warden tilted back in his swivel chair, and gazed at the forgiven but, unforgiving prisoner.

"Spooner," he began in that tone which all homilies have in common: "Spooner, you have been luckier than you had any reason to expect. It's up to you to see that I don't get you back here again."

He gazed sternly at the boy, for he was still a boy, despite the chalky and aged pallor of his face, despite the tight-clenched line of the thin lips, despite the stooping and emaciated shoulders. The Kentucky mountaineer withers into quick decay between prison walls, and, unless appearances were deceitful, this one was already being beckoned to by the specter of tuberculosis.

"You have been pardoned and restored to all civil rights by the Governor," went on the official. "Your youth and ill health appealed to some ladies who went through the prison. You are the youngest homicide we have here. They interceded because you were only an ignorant kid when you were drawn into this murder conspiracy."

Newt's eyes blazed evilly at the words, but he only clamped his mouth tighter. He would not have called it a murder conspiracy. To him it was merely "killin' a feller that needed killin'." "Since," continued the warden quietly, "you were full of white liquor, and since you had never had a chance to know much anyhow, those ladies got busy, and you have another chance. You ought to feel very grateful to them. It's up to you to prove that the experiment was worth the risk it involves—the risk of turning an assassin loose on society."

The boy from Troublesome said nothing. From his thin chest came a deep, racking cough. He spat on the floor, and wondered how long this man would hold back the five-dollar bill and prolong the interview.

"Well?" The warden's voice was impatient. "Don't you hear me talking to you? Haven't you got any sense of decent gratitude?"

A fiercely baleful wrath shot instinctively through Newt's gray hawk-like eyes and smoldered in their deep sockets, but there still was need to leash his anger—and conceal his purpose.

"I'm obleeged ter ye," he answered in a dead voice of mock humility, though his tongue ached to burst into profane denunciation, "but I hain't axed nobody ter do nothin'. I didn't 'low ter be beholden ter nobody."

"You are 'beholden' to everybody who has befriended you," retorted the warden with rising asperity. "Do you mean to go back to the mountains?"

At once there leaped into the released convict's mind a vision of being spied upon and thwarted in his purpose—a purpose which the law could not countenance. To cover his anger he fell into a fit of violent coughing, and, when he answered, it was with the crafty semblance of indecision.

"I 'lowed I mout go back an' see my kinfolks fer a spell."

"And after that?"

"I 'lowed," lied Spooner cautiously, "thet atter thet I'd go West."

"Now take a tip from me," commanded the warden, and, since he still held the five-dollar bill, the boy from Troublesome was forced to accord unwilling attention. "Every mountain man that goes away drifts eventually back to the mountains. God knows why they do it, but they do. You have just one chance of salvation. I had that in mind when I spoke to the Governor and asked him to include in your pardon a restoration of civil rights. If you get well enough to stand the physical examination, enlist in the army. Once in you'll have to stay three years—and in three years a fellow can do a lot of thinking. It may make a man of you. If you don't take that tip I'll have you back here again—as sure as God made you—unless you get hanged instead."

The warden extended his hand containing the provision with which the commonwealth of Kentucky invited this human brandling to rehabilitate his life. The mountaineer bent eagerly forward and clutched at the money with a wolfish haste of greed. Ten minutes later the prison gates swung outward.

The Frankfort Penitentiary sits on a hill looking down to a ragged town which straddles the Kentucky River. In the basin below somnolent streets spread away and lose themselves in glistening turnpikes between bluegrass farms where velvet lawns and shaded woodlands surround old mansions that mirror the charm and flavor of rural England. The state capital is a large village rather than a city, but to this boy who had known only the wild isolation of the Cumberlands, where sky-high ramparts have caught and arrested human development, Frankfort seemed a baffling metropolis. In the lumberyards and distilleries that cluttered the steep river banks he saw only bewilderment and in the dome of the capitol the symbol of a power that had jailed him; that except for his youth would have hanged him.

One thing only he saw which struck a note of the nostalgic and brought a catch to his throat. That river had its headwaters in his own country. One branch flowed through his own county seat and those knobs that hugged its banks and framed the straggling town under the singing June skies, were the little cousins of the mountains where his forefathers had lived their lives and fought their battles for a hundred years.

If he followed them long enough they would mount from knobs to foothills and from foothills to peaks. The metaled turnpikes would dwindle and end in clay roads. These roads would in time give way to rougher trails, rock-strewn and licked by the little whispering waters that make rivers, and he would travel by creek-bed ways over which wagons, if they go at all, must strain their axles and where men ride mules with their luggage in saddle-bags. These forests of age-old oaks and spruce, pines and poplars and hickory and ash would troop down and smother in the hillsides, and the rhododendron would be in bloom just now. The laurel bushes would be all a-glisten and the elder tops would be tossing sprays of foam-like blossom between towering sentinels of rock.

But the beauties of the rugged home country had for him another meaning. At the roots of the laurel a man can crouch unseen with his rifle cradled against his shoulder to "lay-way" an enemy who has overlived his time.

When he had a certain man in rifle-range, the rest would be elementally simple. He had spent more than two years thinking of that and evolving every needful plan in detail. There was now no need of haste. After all this thinking he could afford to consult his leisure and enjoy the pleasures of anticipation. When once the deed was done, as the warder had reminded him, there was the probable shadow of the gallows. But it should be said for the late Number 813 that in his reflections was no germ of vacillation or indecision. His one definite motive in life was what he deemed just reprisal. He was willing to pay for that without haggling over the cost, but he was not willing to defeat his end by hasty incaution.

He had been in prison over two years and was still very weak. He recognized with contempt the tremor of his hand. Once that hand had been so steady that all his squirrels fell from the hickories pierced through the head. It would be a little time before he could again command that nicety of rifle-craft. But now he must get home and home lay about a hundred and fifteen miles "over yon." He could reach Jackson by rail, but that would cost money, and there was ammunition to be bought and other matters of importance, and his capital was precisely five dollars. Besides railroad trains were luxurious and effete; they were not for him. He would "jest natcherly take his foot in his hand and light out"—pausing only for a little "snack" to eat and a flask to cheer his journey.

He made his way slowly down into the center of the town; a town which had come to recognize at a glance these prison-given suits of black; these faces pasty with the pallor of confinement; this shamble fathered by the slouchy swing of the lock-step. For the June morning when No. 813 became again Newt Spooner was in the year 1897, and the ancient rigors of prison life still held.

Eyes turned curiously on the shambling derelict, but the only expression on Newt's face was one of surly defiance to the world. The only sentiment that stirred in his breast was such as might have brooded in the narrow and poisoned brain of a rattlesnake lying close-coiled by the laurel roots along his native creek-beds.

Prisons are to reform and teach lessons of law. Newt Spooner had been in prison and was now out. He had already known how to hate, but now he knew how to hate with a greater tensity. Also, he had learned to cloak his animosity behind a craftier concealment.

He had grown up as a cub among wolflike men, running with the pack. From his mother's shrunken breast he had drawn bitterness toward his foes and "meanness."

He remembered his boyhood surprise at the shocked face of the circuit rider when his father had laconically announced: "Stranger, thet thar boy's done drunk licker sence he was a baby. We weaned him on hit. Hit's good licker, 'cause we made hit ourselves—an' we hain't paid no damn' Gov'ment tax on hit, neither." But before him no Spooner had won felon stripes, though many had been felons. That he had done so branded him with disgrace, and until he should remove that stigma by punishing the witness upon whose sworn word his conviction had been based he must face the scorn of the battle-scarred members of the man-pack that still ranged free. So, as Newt Spooner turned his face homeward between sunny pasture lands and soft woodlands and golden grain fields and set his feet into the Lexington turnpike, young Henry Falkins became a man marked down for death.

CHAPTER II

Courts can not enforce laws upon which public opinion sets its embargo. The men of the mountains have lived isolated lives for a hundred years. They inhabit an island of medievalism entirely surrounded by civilization, but the civilization is no more a part of them than the water that surrounds an island is part of the island. "Leave us alone" has been the word of the hills to the gift-bearing Greeks of innovation. The right of men to settle their own quarrels after the method of the Scottish clans from whom they sprang, has been a thing which local courts have made only perfunctory efforts to deny—and which juries of the vicinage stubbornly refused to deny. Among their crude cabins one still hears phrases bequeathed by word of mouth from the England of Elizabeth and the Scotland of Mary Stuart. Immured behind their walls of sandstone, they have lived ignorantly—and fiercely.

Their peaks are heaped against the skies, and their fields are tilled with the hoe when mules and plows might fall down to destruction. With nature itself they pursue a constant and desperate quarrel for subsistence, and through generations of battle they have grown morose and sullen and vengeful and have lost all sense of life's humor.

But slowly the tide of outside influence is creeping in upon them and at the contact-points strangely anomalous conditions arise; the clash of incongruous centuries; the war between a stubborn old order and an inevitable new. In such a life there are here and there far-sighted men who, standing like great trees among stunted brethern, look out across a wider perspective with a surer vision.

The house of McAllister Falkins stands twenty miles from a railroad and is, for this crude environment, a mansion. It was built in the days when the first tide of pioneer life swept out of Virginia, and because it was, in that remote day, nearer kin to the culture of the Old Dominion than to the wilderness, it bore a strange blending of compromises between luxury and the exigency of the frontier.

The head of the house of Falkins, generation after generation, had clung to the old standards and old ideals. The children of this household had been reared like their cousins of Virginia and the bluegrass. Other branches of the family bearing the surname had gone to seed and lapsed into illiteracy. There were cousins who had to sign their names with cross-marks and who had been embroiled in savage animosities until the "Spooner-Falkins War" had become one of the sanguinary chapters of feudal history, but the head of the house had always stood apart and denounced the godless code of the vendetta.

And now the time was come when old McAllister Falkins could look ahead and begin to see the pale glow of a coming dawn. The railroads, whose surveyors and chain-bearers his neighbors had fought, were piercing and developing the hills. Here and there rose a circuit judge or a prosecuting attorney who dared to talk from an unterrified soul to grand and petit juries, and occasionally a panel harkened. District schools began to pass into the hands of teachres who could teach. In this place and that rose small colleges and the flickering

blaze of enlightenment was struggling into a semblance of steadiness. McAllister Falkins had sent his son Henry away to school and college, and had had the satisfaction of seeing him return unspoiled.

The life of young Henry Falkins therefore, had been cast both in and out of the Cumberlands, and he had reached the age of twenty-five with a minimum of enemies and a maximum of friends. His was the breadth of the lowlands and the unflinching strength of the hills. Then the lurking and inevitable shadow of that life had impalpably and suddenly fallen upon him.

When Bud Mortimer, a "marked man," riding home from Jackson, had slid from his horse and died in a creek-bed with a rifle-hole drilled through his chest, Falkins had been unlucky enough to have been squirrel-shooting near by and to have recognized one of three figures that left the open road and took cover in the laurel By one of the strange chances of fate, Falkins, who was tramping the woods with no idea of concealment, had been unobserved, while the three assassins, crouching along with all their covert art of hiding out, had not quite escaped his eye. He had not heard the volley because the murder had taken place at a distance. He would not have suspected the men who passed casually below him with their rifles cradled in their elbows, had not a word or two, in the stacato voice of a youth who walked third in the single file, come to his ears. These words were profanely triumphant and boastful of markmanship. The other two men, the squirrel-hunter did not recognize. Still, Henry Falkins might not have known that the bull's-eye alluded to had been a human breast, and he did not know it till later.

When the dead man's friends had carried the matter to the courts, with no better evidence perhaps than the bad blood which they knew existed, and when young Newt Spooner, aged eighteen, but precocious in crime, stood at the bar, charged with murder, Henry Falkins told the prosecutor what he had seen. The prosecutor instructed him to keep his secret until he was called as a witness. He knew the conditions and recognized that, should this evidence come prematurely to the ears of the Spooners, he should probably not only lose valuable evidence, but also be saddled with another prosecution for murder—and just now his homicide docket was burdensomely heavy.

When their cub was indicted, the Spooner pack laughed. When he was haled into court, despite his callow years, he ame with insolent confidence, as one above the law. He might have escaped and hidden out, since the court had allowed him bond, but that would have hampered his future freedom of action, so he preferred to go through the farce of a trial, and afterward be free.

He testified, and his alibi corps testified as one man, that he had been at Hazard, forty miles away, when Mortimer fell. The defense closed in sanguine trustfulness. Then, in rebuttal the prosecution sprung a surprise—a sensation—a bomb. The surprise was Henry Falkins, and when he took the stand, the hand-made alibi collapsed. Even then Newt Spooner had not been able to realize that the convincing story of one witness could destroy his carefully fabricated tissue of lies. But sundry unexpected things were happening in this dingy court-room. A new spirit reigned there. Vaguely the sullen lad, crouching back in the prisoner's chair, was aware of a hardening and petrifying resolve on the rugged faces in the jury-box. Heretofore the average venireman had thought there was no health in incurring the wrath of a family of terrorists like the Spooners. Heretofore Spooners had always "come cl'ar." Heretofore prosecutors had made only perfunctory attempts to convict them. Not so with the Honorable Cale Floyd. From opening statement to closing argument he leaped savagely at the throat of the defense. His cross-examination was a merciless hail of verbal rifle-fire. As he defied all the vicious animosities of the Spooner tribe, the court-room held its breath, and young Newt waited vainly for his kinsmen to rise en masse and silence his anathemas with a volley. Each night in his cell, young Newt Spooner wondered why he did not hear a sound outside the brick "jail-house," and see the doors go down before the wrath of his rescuers. It was incredible that the clan should stand by and permit him to be "penitentiaried." Yet it finally dawned upon him that precisely this thing was happening. The realization had dazed and embittered him. He knew that even among his own he was not accounted as of great importance, but he bore the name of Spooner, and in the old days that would have been enough. He was the first sacrifice to the changing order. He felt no resentment against the prosecutor in spite of his philippics. The prosecutor was paid to do it. He even rather admired the courage which gave strength to the attack, when every precedent told the lawyer that he was inviting death for his pains. But for the man who had volunteered to testify; who belonged to the family which his family had hated and fought; who had come back to the mountains with "fotched-on" ideas and attacked him with the despised weapon of the law; for that man he felt such hatred as can only come of festering and venomous brooding, which lasts while life lasts.

These thoughts Newt Spooner carried as companions as he tramped the first leg of his homeward journey. Until he had come to Frankfort, handcuffed to a deputy sheriff, he had never seen this land of "down below." Its softly billowing landscape was to him unfamiliar and unpleasing. The great columned mansions of time-stained brick set deep in parklike woodlands; the smoothness of velvet lawns; rippling acres of grain ripening into gold under the June sun; all these things wore on his nerves. He was accustomed to a country shut in and sequestered between eternal hills; of roads where footfalls were silenced; of ragged patches of cultivation pocketed in surrounding forests. In such places a man could step aside and be hidden. Here he felt exposed; his very thoughts seemed naked. That men should live in such great houses and drive such smooth roads seemed monstrous and incredible. He hated the "highfalutin" bearing of these "furriners," who carried their chins aloft like masters of creation. He hated the sight of the "niggers" who served them. He hated all the orderly smoothness and opulence of this level land where no ridges broke the sky. So he stalked along, his face set toward the far horizon, beyond which lay his mountains and his purpose.

It was a slow journey, for he was weak, but as he breathed the June air into his cramped lungs, his shoulders began to lose their slouch and his gait began to discard its prison shuffle for the long space-eating stride of the mountaineer.

At twilight, he came to a small house by the roadside. He had made a poor day's journey and, since night was falling, he turned in at the gate, as though it had been that of his own cabin. The place was shabby and its residents would have been characterized by the negroes as "po' white trash," but of social values the late Number 813 was ignorant. He saw only a roof and to the hills-man a roof is a shelter for whosoever may need it. Over the white-washed fence clambering roses hung in profuse invitation, spicing the air with their fragrance.

Newt made his way to the door where a slatternly woman confronted him. She stared with disapproving eyes as she wiped her hands on her apron.

"Well, what do you want?" she challenged.

"I 'lowed ye'd let me stay all night —I'm a travelin'," replied the boy from Troublesome. He spoke simply and without cumbersome explanation. At home it would have been enough. But this woman only stared at him disapprovingly and as she took in his sullen visage and dusty suit of black, she recognized in him the erstwhile convict. With a suppressed scream she disappeared indoors.

Newt stood gazing without comprehension. That he might be turned away had not at first occurred to him. He had not yet grasped the essential differences between highland and lowland etiquette. He accordingly mounted the steps, crossed the porch and entered the door without knocking. In the mountains no one knocks on a door.

But at the threshold he met a tall man, who thrust him violently backward and squared himself across the opening. As Newt staggered backward and brought himself up against one of the porch supports, the householder surveyed him from crown to toe, and then, waving a hand outward ordered briefly:

"Get out of here, you jail-bird!"

For an instant the pardoned prisoner stood rigidly at gaze, while his eyes gathered wrath and his ugly snarl became wolf-like. Never had he been so greeted when claiming the traveler's prerogative of shelter for the night. But he was unarmed; moreover, he had a mission. He was going to kill one man. Killing men was expensive. It cost liberty and sometimes more. He could not waste animosity. So he veiled his anger and turned away. "I didn't 'low hit war a-goin' ter make ye mad" he mumbled as he went out again to the road. But he had learned his lesson. The mountaineer is as proud as he is ignorant and, rather than risk another rebuff, he spent the night in a haystack, and the first rosy kindling of dawn found him again on his way; hungry, but setting his face stonily against the temptation to ask food.

(To be continued.)

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WE ARE JUDGED BY OUR HOMES

When the white man first came to this country his whole effort was put forth to wrest from the soil the maintenance for life.

Every member of his family helped to clear the land, to plant the grain and to gather the harvest. The house was merely a shelter from the wolf, the bear, the winter's cold and the summer's heat. Little or no thought was given to its convenience, sanitation, or comfort.

As the forest lines moved farther and farther away from the little log house, the settlers realized that barns must be built to house the harvest and farm animals. Every dollar that could be earned had to be turned back into the farm to increase its yield and so the home, although the dearest thing to the heart of every man, was the last to be considered.

When great barns were raised and farm animals were comfortably housed, one by one comforts began to creep into the home. First, it was a good stove, then more convenient cooking utensils, then a white tablecloth and white dishes sent from the East, and then a room or two added and an adjoining wood shed built. With the increased bank account grew the hope of the new house, not a log house this, but a frame or brick house.

Today as we ride along the road we may not judge a man's prosperity by his broad fields or his great barns, but by the house in which he lives, and the way in which it is kept up. Unconsciously, when we see a house that is unpainted, the roof of which seems to be sagging in, blinds off, doorsteps broken down, dooryard littered with farm tools and no vestige of lawn or flowers, we say to ourselves, "that farm is not paying". As we judge a nation by the prosperity of its homes, so we judge the farm by the prosperity of the home.

The up-to-date farmer realizes that the greatest saving he can make is that of his wife's strength and health, because to her is entrusted the most precious thing on the farm—the rearing of boys and girls. If her nerves are not in the very best condition, it is impossible for her to enter sympathetically into the lives of her family; to help decide for the children the all important questions that come to them. It is impossible for her to take a vital interest in the affairs of her husband, to be ready to assist in the work of the community and to help build up the rural schools—the duties of every farm woman.

As machinery has taken the place of the hired man who often cannot be had for love or money, machinery must take the place of the hired girl who is today a scarce article in most farm homes. The farmer who does most of the heavy work on his farm with the help of a gasoline engine must realize that washing and cleaning in the home can be done for the same or a similar engine.

He must realize that the same law applies to the members of the family that applies to the dairy animals. The barns must be kept warm so that the cows use all her energy to produce milk. So the home must be kept warm by a furnace so the family will be saved their strength to do the necessary work.—Elizabeth B. Kelley, Agricultural Extension Service, of the University of Wisconsin.

Brother, why not send us a dollar to renew your subscription? Do you know of any other farm paper which is trying so hard to help you and your neighbors? Don't you know that if enough farmers would send us a dollar so we could pay all the paper's debts it would enable us to give you the greatest farm paper in the Country? Isn't the kind of a fight we are making entitled to this small support at your hands?

ORGANIZATION BOOSTS PRICES

Without organization the producers often lose thousands of dollars because they do not keep in touch with the advances in market prices. In fact it is impractical if not impossible for the small individual grower without the aid of some effective organization to keep in close touch with the various markets of the country. According to a news bulletin under date of October 11 by the Nebraska College of Agriculture:

"On September 20 the day before the Office of Markets of the U. S. Department of Agriculture in conjunction with the Extension Service of the University of Nebraska and the county agents opened an office at Alliance, buyers were paying 60 cents per bushel for ungraded stock delivered in bulk to cars at Hemingford. Within a week the price advanced to 70 cents for the same quality of potatoes and as high as 75 cents was being paid for the best. Meantime, however, potato markets like Kansas City were suffering a downward trend. This indicates that though the consumer was paying less for his potatoes, the farmer was getting more because he had become acquainted with the high prices being paid in the city market through the medium of the market service bulletin.

"Inasmuch as western Nebraska will ship something like a million bushels of potatoes this year, this increase in the price of potatoes means an increase of $100,000 for western Nebraska farmers.

"The market news service will undoubtedly eliminate the speculative element in potato buying and yet allow the dealer a fair margin of profit. In past years the farmer has generally been in touch with the price of grain and live stock, but has always been in the dark as to the condition of potato markets. The market news service places the following information before the farmers as well as the dealers: shipping point buying prices at Nebraska points and other centers of production; the prevailing jobbing prices in the markets receiving Nebraska potatoes, as well as the condition of the stock and quantity arriving, number of cars held on track and unloaded. The number of cars shipped from other states is also shown and this information is up-to-the-minute, being telegraphed direct to the Alliance office each day. Another feature of this report is that part showing the destination of all cars of Nebraska potatoes shipped the previous day. This is of great value to the dealers as it prevents the gultting of any one market."

If the farmers of the entire country were organized and maintained an office in every shipping station where they could get correct information from all the markets of the world every morning they would be in a position to demand a fair price for whatever they had to sell. This kind of service would have a tendency to both stabalize prices and standardize quality and would eliminate most of the speculation and be a benefit to both producer and consumer. We believe one of the greatest detriments to farm prosperity is the uncertainty of prices. A reasonable profit on every crop produced would be much more satisfactory than a big price one year and a loss the next.

When farmers undertsand that farm organization means nothing more than simple, common sense principles applied to the selling and buying of their products there will be no serious trouble about getting farmers together.

By Old Jim Riley

A lot of liars have bin sayin' that thars more insanity in th' rural districts than in th' towns and cities—but statistics says it aint so. Its tough enough t' have 'em say that farmers aint got sense enuff t' stand together—but when they actually insinuate that th' most of us are crazy it gits on my nerves. Id ruther be called a horse thief anytime than a fool—for a horse thief has a chance t' git over it but a fool never does.

BUCKSHOT BY THE PROFESSOR

The chief trouble with that greaser Villa seems to be that he refuses to stay dead.

* * *

That Jim Riley person went to see a picture show for the first time in his life last week and when the "pianner" started up all by itself, he thought he "had 'em."

* * *

There are a pile of people in this World whose hearts are not as big as that of a humming bird. You find them on the farm, in banks, behind the merchants counter and everywhere.

* * *

If half what the newspapers say is true, hades must be a summer resort compared to the Penetentiary at Jefferson City. Where there are so many fires there must be some reason for the smoke.

* * *

This foreign war may be good for the steel mills and the powder makers but its raising cain with the rest of us. Mighty near everything but air and sunshine has gone up in price "because of the war."

* * *

The editor showed me a letter from a farmer the other day who said, "Stop my paper 'cause I aint got no time to read it." No use trying to talk Farm Clubs to that fellow. You couldn't pound an idea into his head with a sledge hammer.

* * *

Because this paper is fighting for farmer organization, don't you ever get it into your head Brother that it expects these things to take the place of good farming methods. What we need is good farming, plus a "square deal" in the markets.

* * *

It looks to me as if, at last, farmers are going to get together and organize—and if they do, American Agriculture will come into its own and the farm will become the abode of happiness and prosperity for all who use their brains as well as their hands.

* * *

Did you hear a noise the other day over in the direction of Battle Creek, Michigan? Well, if you did, it was "Teddy" making a campaign speech—and as the bunch down at "Hez" Browns would say, it was a "ring tail tooter" that "tuck the hair off where there aint any."

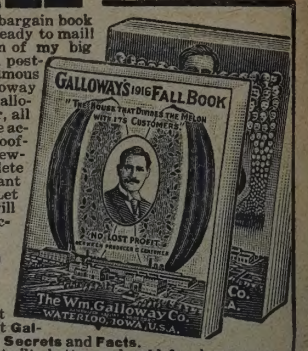
* * *

The farmer who permits his self binder, mower, corn planter and cultivators to stand around in the fields all the year round is too trifling to merit serious discussion. He is not only a blamed fool but as "onery" as a yellow dog. If this hits you, put it in your pipe and smoke it.

GALLOWAY'S FREE FALL BOOKS

NOW READY

My new 100 page fall bargain book just off the press and ready to mail! Also the second edition of my big 250 page 1916 catalog. A postal gets your copies today. These books describe the famous Galloway line of Sanitary Cream Separators, the Galloway Gasoline and Kerosene Engines, the new 1917 models Galloway Manure Spreaders, our new 1917 12-20 h. p. Tractor, all kinds of farm machinery, ensilage cutters, power house accessories, grinders, buggies, wagons, harness, fencing, roofing, saddles, automobiles, stock tanks, auto accessories, sewing machines, household goods, carpets, furniture, complete line of clothing for every member of the family. I want you to have your copies! Drop a postal today. Let these two great books guide your fall buying and they will save you from $200 to $500. Remember Galloway is manufacturing headquarters for

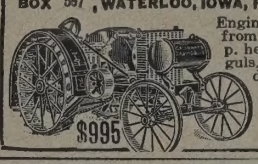


ENGINES---SEPARATORS
SPREADERS---TRACTORS

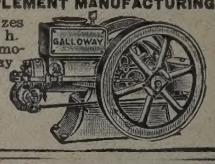
As well as many lines of general merchandise which are sold direct from factory to you at one small profit. These books tell truth about **Galloway Sanitary Cream Separators.** They give **Gasoline Engine Secrets** and **Facts.** They tell how and why the **Galloway Manure Spreaders** are built better and sold for less money. Fully describe my **new 12-20 h. p. tractor.** A copy of each book should be in your hands even if you are not now in the market for a single thing. Printed in four colors and handsomely illustrated. **Ask for your free copies today.**

Separators $34.50 up

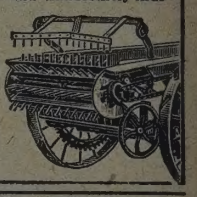
WM. GALLOWAY, Pres., THE WM. GALLOWAY COMPANY
BOX 597, WATERLOO, IOWA, FARM IMPLEMENT MANUFACTURING SPECIALISTS



Engines of all sizes from 1 3-4 to 16 h. p. heavy duty moguls. Prices way down. Big engines lower than ever.



These two books fully describe the 1917 models of Galloway's famous spreaders. Don't buy a spreader of any kind until you have seen these books.



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FOR HARVEST WORK ON IMMENSE CROPS OF

Western Canada

Wages $3.00 Per Day and Board

Cheap Railway Rates From Boundary Points

Employment bureaus at Winnipeg, Regina, North Portal, Saskatoon, Ft. Frances, Kings Gate, B. C.; Coutts, Calgary, Alberta,

No Conscription—Absolutely no Military Interference

For all particulars apply to the following Canadian Government Agent

GEO. A. COOK

2012 Main Street, Kansas City, Mo.

Why not line up and ask the next Legislature to put the sheep killing dogs out of business in Missouri for all time? There's many a cur dog in this state that has destroyed more sheep than the average pure bred Shorthorn or Hereford bull would sell for. Everything considered, they constitute our most costly live stock.

* * *

We employ young girls who are still in their teens to teach a rural school at $40 or $50 per month—and then we wonder why we haven't better rural schools. These immature and inexperienced teachers do the very best they can—but they can't give our boys and girls the kind of training they need to fit them for the great battle of life.

* * *

If the farmers of Missouri did nothing more than take over the handling of feed, coal, fertilizers, salt and farm seeds they could same millions of dollars annually on these items alone. Therefore, why don't you and your neighbors get together and organize a Farm Club at once? All it needs is for somebody with a little courage to take the lead.

* * *

Be sure to read the first of the new serial, The Code of the Mountains" which begins in this issue. Its a thrilling story of Breathitt County, Kentucky—the lair of the feudists. And while its full of fire and brimstone, it has a fine ending which shows that peace, after all, is the best path for all mankind to travel. This story would cost you $1.50 at any bookstore—and this paper is supplying it to you free because "all work and no play makes Jack a dull boy."

* * *

A lot of "high brows" are continually jumping onto farmers because they don't have better homes and more farm home conveniences—and if they'll pay us what our stuff is worth and put more money behind the farm game, thousands of farmers will get these things in a hurry. I want every farmer to do the best he can for his wife and children—but, after all, there is reason in all things and there is no sense in abusing men like pick pockets when they are already doing the very best they can.

* * *

The Editor tells me that THE FARMER is going to be better this winter than ever before—that not only will it have a lot in it about the great Farm Club movement but that there will be dozens of articles from the brightest and most successful farmers in Missouri who will tell how they do different things on the farm. Then we are going to have some articles from bright farm women. Altogether, the paper will be so strong and fine that you cannot afford to miss a single issue—and in order not to do so you had better send a dollar and get "marked up."

Boys, Listen Here!

Do you know that skunk and other wild animal furs are bringing a higher price to-day than ever before? There never was as fine a chance for farmer boys to make a lot of money from trapping as during the present fall and coming winter. Elsewhere in this issue you will find the advertisements of several Fur Companies. Write and ask them what they will pay you for different furs. Also ask them for their guide to trappers. Mention THE MISSOURI FARMER.

Want to Make Some Money?

On the last page of this issue appears the advertisement of a new farm tool which should be on every farm in the country because it does a lot of things that every farmer has to do. Here is a chance for any honest farmer to take an Agency in his township for an article which will almost sell itself—and thus make a lot of money during the present fall and coming winter months—and do it honestly. If you would like to get an Agency write at once to The Harrah Mfg. Co., Dept. 122, Bloomfield, Ind., for the full particulars. Don't delay because if you do someone else may nail down your territory.

A WORD TO LIVE STOCK SHIPPERS

Are you going to ship to the National Stock Yards in the near future? If you are, then you will be keenly interested in this advertisement—for of course, you will want the "high dollar" for your Live Stock and it is that "high dollar" we want to talk about for a moment.

There is a reason why the **National Live Stock Commission Co.,** does the largest business at the National Stock Yards. It is because we have built up the most powerful **Sales Force** which stands back of any Live Stock Commission firm in the United States today. From the moment the gong sounds in the morning until the last buyer has left the yards in the afternoon, these men are in the thick of the scrimmage—**fighting with might and main to get the "high dollar" for the shippers who have entrusted their welfare in our hands!** Whether you have sent us one car or a dozen makes no difference. We realize that whether your consignment is large or small, **it means everything to you!** More than that: Getting the "high dollar" for you **means everything to us**—for this is the way we built up our great business **and this is the way we hold it!**

There is an old saying that "nothing succeeds like success"—and this maxim applies vitally to our business. We realize that "Superior Service" alone is what has given us our great and ever increasing volume of business—that it is because of this "Superior Service" that we have been able to build up hundreds of warm friends among the Live Stock shippers in National Stock Yards territory—**Shippers who know from past experience that we always go the limit for them and who therefore never think of consigning to any other firm!**

Now if we can render "Superior Service" for other shippers, why shouldn't you give us a chance to render it for you? Why not give us a chance at your next consignment? **A trial is all we ask!** After that, you can be the judge. We know we will not be able to hold your business unless we "make good." But in the meantime, are we not entitled to the benefit of the doubt? Would we be doing the biggest business at the National Yards **if we were not in the habit of "making good?"** To this end, get in touch with us at once. Tell us what you are feeding and when you expect to be on the market. We will be glad to give you every helpful suggestion possible—**because we want your business from now on and we expect to earn it by giving you better service than you ever had before!**

National Live Stock Commission Co.
NATIONAL STOCK YARDS, ILLINOIS.

Marshall & Sons Offer Bargains

S. R. Marshall, Glasgow, Mo., are offering the patrons of "THE MISSOURI FARMER" real bargains in spring boars and gilts. They are offering only the tops of their crop, and are priced at such prices that make them decided bargains. Their pigs are sired by Orange Lad, The Giant, Joe Jr., Bridges' Bob Wonder and M's Wonder. Write this firm for prices and description and kindly mention this paper.

Britt's Poland Chinas

Mr. W. I. Britt, Rush Hill, Mo., has decided to reduce his herd on account of being unable to hire competent help. For this reason, he offers his prize winning herd boar, Pawnee Price 2nd, 236419, a son of the noted Pawnee Price. This boar is not only royally bred but sires the desirable kind of offspring. Among the many bargains will be found three young sows bred to Pawnee Price 2nd for October farrow. Here is an opportunity to buy open sows or they will be bred for spring farrow. Anyone in need of breeding will do well to write Mr. Britt for prices, and kindly mention THE MISSOURI FARMER.

Pike County Durocs

Cherry Chief's Pride and Disturber Chief, the great team of herd boars, are largely responsible for the great array of spring boars and gilts to be found on the farm of Wilcoxin & Porter, Bowling Green, Mo. Cherry Chief's Pride is surely a great individual, possessing extreme length and thickness, very tall and has wonderful depth, and has a back that is seldom equaled. Disturber Chief is of the same type only possesses a little more thickness. The sows found in this herd are the equal of the boars, and the pigs are just what one could expect from such mating. If in need of breeding stock visit this herd or write for information, mention this paper.

Cattle Feeders Attention

THE MISSOURI FARMER has perfected arrangements by which it is in position to save several dollars per ton to Farm Clubs on the purchase of cottonseed meal and cake and oil meal. However, in those communities where no Farm Clubs have been organized as yet, we will be blad to take this matter up with individual feeders in the hope that it will speedily lead to the perfection of such an organization. The high price of cotton this year means a high price on meal and cake and it is therefore more necessary than ever before to buy it at the bottom price. To do this, however, we must be able to ship in carload quantities and we therefore suggest to the feeders of every community that they take this matter up among themselves without delay and as soon as you are in position to order a carload of either cottonseed meal or cake or oil meal, get in immediate touch with us. We feel confident we can save you around $3.00 per ton or more—and this is thoroughly worth while.

Wouldn't You Like to Know?

Wouldn't you like to know how much it would cost you to do away with your old unsanitary heating stoves and install a farm home furnace which will give you an even heat night and day—which does away with the danger of fire and having to bild fires on cold wintry mornings? There is no greater luxury in a modern home than a modern furnace and thousands of farmers all over the Country are installing them. You don't necessarily have to build a basement or cellar under your house, as you can place it in a side room or build a small "lean to" on your house at small expense. The old fashioned heating stove which gets the house "red hot" one minute and cold the next has caused many a spell of sickness which has often led to death. Elsewhere you will find the advertisement of the American Radiator Co., and we suggest that you drop them a postal card for complete information on an early mail. Whether you are ready to buy now or not you should investigate for the future. Be sure to mention THE MISSOURI FARMER.

Hog Owners Attention

Elsewhere you will find the advertisement of the Rowe Hog Oiler Co., of Galesburg, Illinois—a device which, without any effort on your part will rid your hogs of vermin and hence render them less susceptible to disease of all kinds. These Hog Oilers are being strongly recommended by the different Agricultural Colleges and thousands of farmers are buying them because they will more than pay for themselves on the average farm in one year. Drop the Company a postal card for full information and mention THE MISSOURI FARMER.

Housewives Attention!

Did you investigate that offer of a beautiful Dinner Set for $6.45 in our last issue and notice that the Company offers to send it to you for a 30 days free trial without asking you to pay a cent in advance? After that if you want to keep it—which you surely will—you can send the Company $1.00 per month until it is paid for. A few dozen eggs will do it. If you failed to write, drop a postal card to Crofts & Reed, Dept. C-346, Chicago, Ilss., at once and ask them for full particulars. Be sure to mention THE MISSOURI FARMER.

If you like the work THE FARMER is doing, why not get each of your neighbors to give you a dollar and send us a nice club of subscriptions? We will be glad to have you keep 25c out of each dollar to cover expense of sending them in. If you are for the work we are doing this is a mighty good way to show it. The great Farm Club fight cannot be won unless hundreds of farmers all over the state give us this kind of help—and you will feel better for having done your part. All of us can help if we will.

CHERRY CHIEF'S PRIDE 187003

KING OF THE BREED

We have the best lot of spring boars and gilts to be offered for sale. They are royally bred and great individuals. All immune. Special sale on boars.

WILCOXIN & PORTER,
BOWLING GREEN, - - MISSOURI

MARSHALL'S POLAND CHINAS

We are offering exceptional values in early spring pigs. Also booking orders for fall pigs. Strictly big type breeding. Satisfaction guaranteed.

S. R. MARSHALL & SONS,
GLASGOW, - - - MISSOURI

SHADY GLEN POLAND CHINAS

Am reducing my herd. Will sell my great herd boar, Pawnee Price 2nd. Choice herd sows, either bred or open, spring boars, spring and fall gilts. Write for prices.

WM. I. BRITT, RUSH HILL, MO.

Build Your WORN OUT SOIL SWEET CLOVER

The great crop for soil fertility and animal feed. Exceptionally rich in nitrogen and humus. Higher protein content than alfalfa. Sow in spring, summer or winter. Write for prices.
Bokhara Seed Co., Box F, Falmouth, Ky.

A Splendid Opportunity

For some farmer who wants to retire. I will exchange a No. 1 piece of income property in Kansas City, netting better than 8% on the investment for a farm that is or can be made a comfortable Country home. Address Box, 41, Rfd. 3, Higginsville, Mo.

Do you need a good feed grinder? Grinding your feed makes it go farther—and saves every bit of it. Elsewhere you will find the advertisement of the T. B. Bowsher Co. Drop them a postal card for full information.

THE MISSOURI STATE FAIR

Reported by Bob Hill

The sixteenth annual Missouri State Fair just closed did not show much change from fairs of the past few years. There were 1471 head of live stock on the grounds of all classes, not including light horses and ponies. In most departments the live stock exhibits were about normal, while the showing of fruits, grains and grasses was about on a par with other years. The attendance for the week was not up to standard, due perhaps to cold, rainy weather. The threatening weather kept many automobiles away, but even after considering the great number that did come, it was hard to realize that so many cars would ever crowd on the fair grounds. During the first of the week a heavy rain and hail fell, which was followed by two real cool days.

The most important exhibit of the week was the showing of dairy cattle, the greatest dairy cattle show ever held at any Missouri State Fair. The good showing in this department is explained by the fact that the southwestern dairy show preceded the state fair at Kansas City. It is to be hoped that the dairy cattle show at the Missouri State Fair will never be any smaller than it was this year, even though there is no dairy show at Kansas City. Missouri should have one of the best dairy cattle and dairy produce shows of any state in the corn belt. There were 53 head of Jerseys, 71 Guernseys, 75 Ayrshires and 58 Holsteins, all from first class herds. One of the prettiest sights of the week was the parades of all dairy breeds on exhibit on Wednesday night, the first thing on the night program in the live stock pavillion. This parade was a topic for discussion the entire week.

It is to be regretted that there is not a better showing made of heavy horses at the Missouri State Fair, especially since almost every effort has been made by the men interested in this department to make it successful. There are always a few of the faithful to show up with their stables, but this year there was but one out-state exhibitor. Six Missourians exhibited Percherons, numbering in all, 41 head, there were three Missouri exhibitors in the grade draft horse classes with 13 head, and but one exhibitor of Clydesdales and Belgians. There were but 68 head of draft horses shown in all classes.

The mule show was one of the outstanding exhibits of the fair, in fact one of the best mule shows ever held at the Missouri State Fair. There were 44 head of mules shown, of all ages, and some of the best individuals ever fitted were put up for awards. The aged mule class was exceptionally attractive, and was won by a big heavy boned, thick bodied animal with a world of quality, and as many old mule buyers put it, she was a feast for a mule buyers' eyes. There were 12 head shown in the two-year-old class and 19 yearlings. The mule show was a big feature of the week. There were six exhibitors of jacks and jennets, totalling 30 head.

The Shorthorns and Herefords furnished the big part of the beef cattle show, there being but three exhibitors of Angus and two of Gallowoys 48 and 32 head respectively. There were 107 head of Shorthorns exhibited by ten breeders, and 90 head of Herefords by eight exhibitors. The competition in these two breeds was spirited always, the classes were well filled with a good lot of well grown, well-fitted, quality cattle. The championship classes in both breeds brought out individuals of excellent merit, and the men who exhibited beef cattle at the state fair this year are to be commended for the good showing made. There were 283 head of breeding beef cattle shown by 23 exhibitors.

For the first time in a number of years the Chester White Breeders had the greatest number of hogs on exhibit, there being 138 head of them, compared with 131 head of Poland-Chinas, 83 head of Berkshires, 76 head of Duroc Jerseys, 30 Hampshires, and 22 Yorkshires. The Poland China and Duroc shows were light this year, particularly the showing of Durocs, this being the poorest showing of numbers for a number of years, and this is appreciated most by comparing the number shown this year, 76, with the number shown last year, 174. The poor showing of this breed was brought about by the failure of the Missouri State Fair Board to appoint one of the six judges recommended by the Missouri Duroc Jersey Swine Breeders' Association, inc., to judge the open classes. As a consequence of this trouble, the Missouri Duroc Jersey Futurity was called off, which very materially affected the showing of Missouri herds of Duroc Jerseys, for a greater number of the Missouri Duroc exhibitors are members of the Missouri Duroc Jersey Swine Breeders Ass'n, inc. Over twenty herds had been nominated to show in the Duroc Futurity of Missouri this year. It is hoped that this matter will be straightened out another year. The Chester White showing was one of quality, and a credit to the breed. The Poland China pig classes were the best in the whole Poland show, and some extra good pigs were brought out. The Berkshire men held up the old standard and had a show of much quality. The Hampshire classes were poorly filled, the pig classes being the most important show of this breed. There was but one herd of Yorkshires exhibited.

There was an increased number of sheep in the barns, and the pens were practically all filled, with ten different breeds represented. The competition was strongest in the Shropshire and Hampshire classes, and the men divided honors pretty evenly. Awards were unusually equally distributed in the Missouri classes, and as much could be said for the open classes in all breeds.

As usual, the poultry building was filled with every known variety, the Missouri exhibitors winning their share of the ribbons. Missouri can always be depended upon to put out a creditable exhibit of her poultry and poultry products.

Despite the dry weather the past summer, there was a showing of grains and grasses that would lead one to believe that Missouri had had an ideal season for 1916. There are always a few favored spots in the state were good crops are raised, and this statement was verified by the attractive display of corn, oats, wheat, rye, etc. In the same building with the grains and grasses Missouri demonstrated beyond a doubt that 1916 was a good apple year in many sections of the state, for the apple show was an outstanding one.

The exhibit of automobiles attracted more attention than ever, and space for exhibits was taken up to the very inch, for automobile dealers realize that farmers are buying cars, are close observers and thinkers, and there was always a crowd in the automobile department. There were the usual number of acres of machinery exhibits and as much interest in them as heretofore. The company with a late patent on some labor-saving device drew the largest attendance.

The University of Missouri building was filled with a most practical and appealing lot of material, which the visitors appreciated. The building was crowded during the entire week. Just in the rear of the University building the Veterinary Department of the College of Agriculture had prepared a hog cholera exhibit which called for as much comment and interest as anything on the ground. The exhibit consisted of six farms, each farm illustrating some method of inviting or controlling cholera, and the exhibit was educational in every respect. This is the kind of an exhibit which the College of Agriculture should send around to the county fairs of Missouri in 1917, for this exhibit will take, it appeals to the farmers and will bring out more information than any other method. The College should prepare two sets of this exhibit so that most all the fairs that want this exhibit can have it, and without any charge on the part of the fair. The hog breeders and feeders who really understand what a calamity it is to have hog cholera in a herd were loud in their praise of this exhibit and these men know full well what an exhibit of this kind would mean at the Missouri county fairs.

Send us a 2c stamp for our splendid pamphlet on Farm Clubs. It will tell you how you and your neighbors can save a lot of money on coal, feed, salt and other commodities. Get your Farm Club started before winter sets in.

POLAND CHINA SALE NOVEMBER 1

40 young boars and 15 choice gilts, tops of 150 head, all cholera immune. Offering mostly by Missouri King 74115, sired by Iowa's King 69120; Dam, big Anna Orange 164109. Other boars by Big Hercules and Blue Valley June.. These pigs are from big litters, having long bodies, good thick backs and good feet and legs. Will weigh from 200 to 300 pounds and are not fat.

Bids sent in by readers of MISSOURI FARMER will be dealt with fairly and any purchase not proving satisfactory may be returned at my expense.

A. C. Manifold, Frank L. Bradfield, } Auctioneers. OBADIAH PRETTYMAN & SONS, FAIRFAX, MO.

Sale of Poland China Hogs October 21

BENNETT BROS. & BELCHER'S SALE OF P. C. HOGS

Featuring the get of the great Smooth Columbus and Master Orphan.

45 head and the tops of the two herds. Also boars by Big Bob, Long Big Bone, Tessy's Tim, Big Tim and other noted sires.

Master Orphan 76816 one of the greatest boars developed in recent years, also sells in this sale. Everything immune.

SALE OCTOBER 21st. For catalog address,

Col. R. L. Harriman, Auct. BENNETT BROS., Lee's Summit, Mo.

Spring Boars by the Grand Champion

A desirable lot of early spring boars by The Giant, acknowledged to be one of the greatest young Poland China boars of the breed. Prices within reach of all.

WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

Poland Chinas & Shorthorns

Bred sows and gilts. The real big kind with bone and quality. A few serviceable boars. Several extra good young bulls and heifers. Satisfaction guaranteed.

H. S. Williamson, Route 6 Centralia, Mo.

BAKER'S REAL BIG-TYPE POLANDS

We have a number of extra good spring boars sired by Big Look that we are offering worth the money. Need the room and must sell.

W. A. BAKER & SONS, BUTLER, MO.

Linhardt's Polands

I have a choice lot of extra good fall gilts sired by outstanding boars. Customers in 26 states. GIANT MAMMOTH 68375 and CHIEF BIG BONE 75856 in service. Priced for farm trade.

H. O. LINHARDT, LOHMAN, MO.

DOOLEY'S SPOTTED POLANDS

Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pair and trios no relation. Also registry furnished. Send check with first letter.

EDGAR DOOLEY, - Etterville, Mo.

Poland Boar for Sale!

My fine herd boar, Spotted Lad, No. 74030 for sale. He's a fine one. Write for full particulars. Also some fine spring gilts bred or open.

E. J. YODER, - - LA TOUR, MO.

POLAND CHINA BOARS

I have a few extra good Boars for sale at Farmers prices. March farrow. The big boned type. Immune and well grown. Also any thing you want in Jersey Cattle.

J. B. SMITH, - Platte City, Mo.

DUROC JERSEYS

D. C. Thomson's Early Spring Duroc Boars!

We are now offering the trade a Select lot of early spring Duroc boars. Sired by Col. Wonder II, and T's Cherry Chief. The big kind with quality. Everyone buaranteed.

W. H. & GEO. E. THOMSON, - - COLUMBIA, MO.

Durocs With Size and Bone

I am offering a choice lot of early spring pigs with unusual size, bone and quality. Bred right and priced right. Visitors welcome.

A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

Adenhill Duroc Boar and Gilt Bargains

I can supply readers of this paper with choice yearling gilts bred for fall farrow. Also extra good spring boars. My Durocs are noted for size and quality. Satisfaction guaranteed. Inquiries gladly answered.

R. L. (BOB) HILL, ADENHILL FARM, - - COLUMBIA, MO.

Top Notch Durocs

I have 100 late spring pigs weighing from 90 to 100 lbs. All good color and quality. No better Durocs anywhere. Write me what you want.

GARRARD & SON, - McBAINE, MO.

ANGUS CATTLE

ANGUS CATTLE

Herd founded 1904

Young stock sired by Dean's Eric 139686. Also offer splendid herd bull for sale. Every one the right kind and priced to sell.

V. E. LAWRENCE, SALISBURY, MO.

RED POLLED

RED POLLED CATTLE

Herd established 16 Years

Young stock for sale. Young bulls sired by LOGAN 13500; Calves sired by KNOCKER 28791. Bred for milk and beef. Also offer spotted Poland China hogs and Rieds Yellow Dent seed corn.

M. L. SNYDER. - - POLO, MO.

Aberdeen-Angus

I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.

J. D. Blackwell - Fayette, Mo.

Bridges Brothers Annual Fall Sale

Friday, November 3, 1916

SLATER, MISSOURI

HERD BOARS

Long Wonder Timm, 75707,

Bridges Bob Wonder, 76481,

The Great Pair of Yearlings

We offer you the greatest opportunity of the season to select outstanding individuals, possessing the most popular blood lines of the day. Offering sired by our herd boars, Long Big Bone, King of Wonders, Fessy's Timm, Big Bob Wonder, The Giant, Wonder Master, Master Orphan, King of Kings. We want you to see our herd, but if unable to attend send bids to Will G. Lockridge, in our care, who represents this paper, we guarantee his selections.

All cholera immune. Write for catalogue.

20	SPRING BOARS	20
20	SPRING GILTS	20
5	FALL YEARLINGS	5
1	YEARLING BOAR	1

R. L. HARRIMAN, JNO. A. LOGSDON, } Auctioneers.

BRIDGES BROTHERS, Slater, Mo.

NO CAUSE FOR WORRY

During the 25 years in which the tuberculin test has been in use it has been applied to hundreds of thousands of animals, according to E. G. Hastings, bacteriologist, agricultural Experiment Station, Madison.

"But in spite of its fairly general and very satisfactory use not all of the opposition to the test has been overcome. Even now there are those who insist that the injection of tuberculin may produce tuberculosis in healthy animals," writes Dr. Hastings.

"Such statements are wholly without foundation. It is impossible for any tubercle bacilli to remain alive after the prolonged heating required to produce the tuberculin, and thus the production of tuberculosis by its use is impossible. The addition of carbolic acid destroys other forms of organisms that may be introduced during the filtering and bottling of the tuberculin, making it all the more impossible for the extract to carry germs of the disease.

"It is not proper to apply such terms as 'serum' or 'virus' to tuberculin for it is simply an extract of the bacillus.

"The firms making tuberculin are under the supervision of the department of agriculture if their product is sold in any state other than the one in which it is made. This supervision extends not only to methods and equipment, but determinations are also made as to the value of the product by testing samples purchased on the open market. Reports of recent examinations have shown all samples examined to be satisfactory. Without such control it is conceivable that methods might be so altered as to reduce the potency of the product, but presence of living tubercle bacilli in tuberculin is inconceivable.

"The appearance of abscesses may sometimes follow the injection of tuberculin. Such a result is due to careless and dirty methods employed by the person applying the test. If the syringe has not been cleaned and sterilized since it was previously used, or if a bottle has been opened and then allowed to stand some days before the tuberculin is injected, trouble from ordinary types of infection may follow.

"It is often asserted that tuberculosis has been transferred from animal to animal by the syringe and the thermometers used in the test. Such a thing is most improbable. Before beginning a test, the syringe should be sterilized by boiling or by the use of a disinfectant. The thermometers should be cleaned and placed in a distinfectant."

The dairy cow requires an ounce or more of salt a day, and while she should be given all she needs, she should not be forced to take more than she wants. It is best, therefore, to give only a small quantity on the feed, and to place rock salt in boxes in the yard. —Farmers' Bulletin 743.

Classified Advertising

PUREBRED DUROC PIGS, $5.00 each. Stark Farm, Arcadia, Mo. 9-1-2t

Shetland Ponies for Sale.—I am closing out my herd. Geo. Aid, Gallatin, Mo. 2-t

COCKEREL S. C. BROWN LEGHORN
Direct from hens with over 200 Egg record, $1.50 each.
BROWNIE POULTRY FARM,
R. F. D. No. 2. O'FALLON, MO.

A Great Poland Sale

Elsewhere in this issue will be found notice of Hedges Bros. Poland Sale at Slater, Mo., on Nov. 3rd. This firm is so well known that it needs no special introduction to our readers and those who are in the market for high grade Poland Boars or Gilts should make it a point to attend this sale without fail —for there will be no finer offering in Central Missouri this fall. Bids sent in care of THE MISSOURI FARMER, Columbia, Mo., will receive the best of attention.

Splendid Duroc Boar for Sale

R. L. Hill, of Columbia, Mo., offers his splendid Duroc boar, "The Exponent" for sale at a close price. Write for full pedigree and particulars. He is a fine animal and worthy thorough investigation. Mr. Hill is also offering some splendid spring boars, ready for service. Also some fine fall pigs sired by Col. Wonder II and Rexall Col., son of Select Col. II. Write him your needs when he will give you full particulars on an early mail.

Prettyman's Poland Sale

Elsewhere in this issue will be found the advertisement of Obadiah Prettyman & Sons' sale of Poland China hogs at Fairfax, Mo., on November 1st. Mr. Prettyman has a splendid herd of hogs and here is a chance to get what you want at a reasonable price. Look the advertisement up and read it carefully. It will be one of the best fall offerings in that part of the state.

Worm Remedies

If hogs are to make the greatest profit, they must be kept free from worms, says the veterinary department of the Nebraska Agricultural College.

Hogs become infested with worms by taking them up with food and drink. Hence well-drained, clean lots reduce opportunity for them to become infested. It is best to keep a good worm preventative before them at all times. Any tested commercial remedy may be used, but the following preparation is very successful: air-slaked lime, 2 parts; salt, 2 parts; charcoal, 2 parts; and pulverized copperas, 1 part.

Where the herd is badly infested, use for each 100 pounds of shoat, 8 grains santonin and 6 grains calomel thoroughly mixed with a thin slop. Let the shoats miss the evening feed, and give them a treatment in place of the morning feed. If necessary, repeat in one week.

Young Farmers, Attention

If you would like to make some extra money during the coming winter months by selling a tool which every farmer needs and which he is almost certain to buy the moment he sees it work, read the advertisement on the last page of this issue carefully. It is an opportunity to make a lot of money and to make it honestly. Why not earn $300 or $400 during the coming winter? Be sure to mention THE MISSOURI FARMER.

WHERE TO BUY JERSEYS

In the following auctions held under my personal management:

W. H. DOERR, KANSAS CITY, MO.....OCT. 3rd.
J. A. BLEDSOE, MOBERLY, MO.....OCT. 17th.
J. E. JONES, LIBERTY, MO.....OCT. 28th.
CHAS. A. FOSTER, TRENTON, MO.....OCT.

Write if interested and let me place your name on mailing list for sale catalogs.

B. C. SETTLES, - - (Box 410) - - PALMYRA, MISSOURI

SPECIAL JERSEY BARGAINS!

Due to poor crops and to reduce my herd to winter accommodations I will sell about 20 cows; 20 heifers from 10 months to two years old; and 15 bulls from calves to yearlings. The famous Blue Belle-Golden Rosebay breeding. Send for circular. No reasonable offer will be refused for this stock. All registered.

THE ENNIS STOCK AND DAIRY FARM,
(Just south of St. Louis.) HORINE, MISSOURI.

HEREFORD BULLS

Two registerd bulls, long yearlings, best of breeding and high class individuals. Not the cheap kind.

HUGH WHITEFORD,
GUILFORD, - - - MISSOURI

P. M. GROSS
Live Stock Auctioneer
"Twelve Years on the Block"
Pure bred Sales a Specialty
Sales Made Anywhere
MACON, - MISSOURI

Thos. E. Deem
LIVESTOCK AUCTIONEER
Selling for the foremost breeders. Address
Cameron, : Mo,

BROOKVIEW HAMPSHIRES

Herd headed by GEN. TIPTON and SIR BROOKVIEW, both grand champions. Spring boars and gilts of choice breeding and individuality. Prices reasonable.

ISOM J. MARTIN, - Kahoka, Mo.

Reg. Shropshire rams, yr's and twos. Square built, rugged hardy bucks with weight, bone and heavy fleece. Quick shipping facilities & priced cheap. 412 head. Above Kansas City.
HOWARD CHANDLER, Chariton, Iowa.

RAMS Registered Shropshires—yrls. and twos. Bred for weight and wool. That's what you raise lambs for. The best go first. Come to the farm or write C. W. Chandler, Kellerton, Iowa 80 miles north of St. Joseph, Mo.

JERSEY CATTLE

REG. JERSEY BULLS

Choice Registered Jersey bulls at bargain prices. Grandsons of Noble of Oaklands and out of heavy producing dams. Yearlins, $50; Calves, $20.

BLUE CLIFF FARM,
BLUE SPRINGS, - - MISSOURI

JERSEY CATTLE

Bulls ready for service. They are sired by the Owl's Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

SUNSET CORRECT TYPE JERSEYS

To keep our herd within 100 head we will offer at private sale fifty Jerseys, consisting of cows, bred and open heifers, young bulls, heifer and bull calves. Can fit out small herds for beginners. 125 head to select from. The famous Blue Belle-Golden Rosebays. Send for special circular before buying elsewhere. Bargains. Mention your wants.

THE ENNIS STOCK & DAIRY FARM,
Horine, Mo. (Just south of St. Louis.)

HOLSTEIN CATTLE

IN MISSOURI

Prince Segis Walker Pieterje 123955 heads herd. Dam 30.13 lbs. butter in 7 days, milk testing 5.07 per cent. A.R.O. of dam, grandam an ten nearest dams of sire, 29.75 lbs. Six of these are 30-lb. cows. His five nearest dams all test over 4 per cent. Bulls 2 to 8 months old, $150 to $350. Always have cows and bred heifers for sale. Everything registered Holsteins. Tuberculin-tested.

S. W. COOKE & SON,
Maysville, De Kalb Co., - - Mo.

REGISTERED PERCHERONS,
39 heavy 3 and 4 year stallions, 68 rugged 2 yr. olds. Can spare 25 reg. mares, 24 reg. Belgian stallons. Priced worth the money. Near Kansas City.

Old Fred Chandler Ranch, -
Rt. 7. - - Chariton, Iowa.

I Am Developing Money Makers—Want to Be One?

FORGET everything else and think. What do you want most for the year ahead? It is going to be a year of stiff prices. You have got to have more money.

Am I right? Then listen. I've got a big story for you. Last year I advertised for live men to come with me and make money and I got lots of answers. Say, I had almost forgotten how many men there are who never had the right chance.

Neighbors, I had forgotten my own hard years of struggle. The letters jolted me. I took off my coat and went to work. Today hundreds of those same discouraged fellows are with me, making money, feeling good, facing the future with their heads up.

Get Your Head Up—Write To Me

I am not sentimental. I like to make money. I am running this advertisement to make money. But when I slam down my desk at night and ride home under the maple trees of my Indiana town I like to think I have shown a dozen or more other men the way to make money. It warms the cockles of my heart, makes me eat a heartier supper. Don't you want to write and find out what I mean and how I do it?

See What Neighbor Runyon Says

"A man just can't help making good money with the A. C. T., unless he goes to sleep on the job and even then he is liable to have someone wake him up to buy one. I expect to average eight sales a day, and that in a territory none too good."

G. H. RUNYON.

That is the talk and G. H. Runyon isn't in the best kind of territory either. Still it is like he says. "You can't help making money" with my proposition and the help I give you.

Read This Part Carefully

My Automatic Combination Tool is a Mechanical Marvel

I could get a hundred thousand of a certain kind of men to work for me tomorrow. You know the kind I mean. The tool is such a wonder, it does so many things and does them so well that any man can sell two or three a day and make $5 or $10.

I want fellows who will make $40 to $50 a day. I want to save the best territory for such men, train them, help them. I want the big money makers. Now think. One man, without training—just my instructions—made $45.50 in one day. Another man $1000 in one month. If I had room here I could give the names of dozens of men like this.

That's the kind of fellows I'm after. You don't know whether you are one or not, eh? Of course you don't. That rich fellow who owns the big house and the touring car didn't know, once. He had to find it out. I want to show you.

First of All—Write

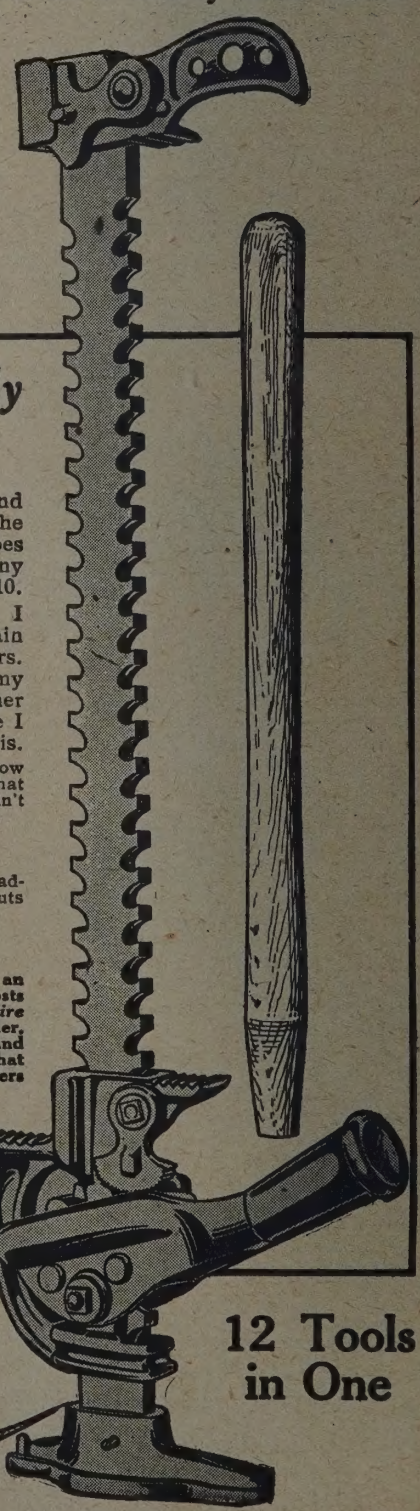
No long letter necessary at all. Just your name and address on a postal card if you are in a hurry. That puts it up to me. I've got to show you and I will.

What the Tool Does

I'll tell you more about that later. But just to give you an idea—it does all the work of the old-fashioned jack, that costs almost as much, and eleven other tools besides—*single wire* stretcher, woven wire stretcher, wire mender, post puller, rail fence repairer, wheel repairer, press, hoist, vice and clamp, stump rooter and alligator wrench. It's a tool that *farmers, teamsters,* auto owners, contractors and builders have simply got to have. Once they know its merits they want it.

But Let's Get Together

I'll tell you the whole story in all its details as soon as I get your name. That's what I want now. I want you to put it up to me. Just address me or the company. I'll get the letter or the card. And please don't put it off.



Be Sure and Write Me Today

Address P. J. HARRAH, President

The Harrah Manufacturing Co.
Dept. 122 Bloomfield, Indiana

12 Tools in One

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE MISSOURI FARMER

COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE AND THE MISSOURI EXPERIMENTAL STATION

Illinois Agricultural
URBANA, ILL.
C

How About You Boy?

How about you, my boy? Are you planning for the future? Have you made up your mind about what you are going to make of yourself? Have you mapped out your plan of campaign and is your heart on fire with a grim purpose to win? As you go about your daily tasks, do you dream of the great things you hope to accomplish in the years to come? Have you tied your rope to a star and do you, each day, fasten the knot a little more firmly? Or are you merely drifting with the current and do your thoughts dwell on the fleeting pleasures of the hour? Don't think that because you are still in your teens that this decision can be put off to some dim and distant time in the the future. I know there are those who say that youth must have its "fling" and that it is alright to sow a crop of "wild oats" first —but have a care my boy for no more subtle or dangerous lie was ever uttered and many there are who never emerge from the brambles and briars of a misspent youth.

On the contrary, the men who have left great names behind them are the men who laid the foundation for their careers while they were still in their teens—and a glance at history will confirm this fact. Not a solitary one of them sowed "wild oats" first—and yet I have no doubt that the last mothers' son of them got more true enjoyment out of life than those who take their "fling" as they say. So, whether you know it or not, you are deciding right now what manner of man you are to be in the days to come. At this very moment Destiny is sizing you up. Like shrewd old David Harum on the eve of purchasing a horse, it is taking careful account of the clearness of your eyes and your moral fibre. It is noting every blemish as well as every strong point—figuring out with unerring certainty just how far it will be able to depend upon you in the years to come. With this data jotted down in the notebook of fate, it will hurry on to the next young fellow in the line. But if what it jotted down about you is favorable it will return some day—and then it will give you your chance. Have no fear on this score for Destiny is continually looking for real men and Destiny never makes a mistake, nor does it forget. But remember also that Destiny never looks for young men in a saloon or a poolroom—for it doesn't like the popping of pool balls or the clinking of wine glasses. Likewise as I said on a former occassion, it rarely ever knocks on the door which a butler opens but prefers to choose from the ranks of the lowly—for here it finds the keenest minds, the strongest hearts and the biggest souls and without these qualities no man can rise above the common ebb tide of the crowd.

And here's another thought: The first thing to aim at is to be a real man, for this foundation you must have whatever you expect to make of yourself. Do you remember that sometime ago I quoted a great New York banker as saying that he wasn't looking for "brilliant" or "clever" young men? That message would have meant much to me in my teens—for I couldn't have qualified under either head and yet in those days I thought these qualities were essential to success. Isn't it fine to know that just every day common sense, honesty, a clean body and a willingness to "spell up from the foot of the class" are the qualities the World is looking for? And here is another thought: Don't get it into your head that the only victories worth while are to be won in the business or professional field. This great Country needs great farmers a thousand times more today than it needs great lawyers—for the first is a creator while the latter deals with musty facts which are as old as the hills. So in making your plans, don't overlook the farm which, during the next 25 years is going to need a race of giants—for from the farm came the strength which has made the Republic truly great and from this source will spring its future glory. But in any case, plan boy, plan.

There isn't a minute to lose. Never was the World more beautiful or bristling with opportunity than today. But it wants "staying qualities"—young men who are not afraid—who can stand the "gaff"—who come again with a smile when adversity topples them over.

—By the Author of After-Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VIII NOVEMBER 1, 1916 NO. 21

WILLIAM HIRTH
PUBLISHER

THE PLEA OF BOB WHITE

Please, farmer friend, may I speak before you shoot?

I am Bob White. It is my cheery whistle that comes to you through the ghost-gray mist of the morning, my

covey call that echoes o'er hill and dale as dies the day.

In early springtime when nature writes in pink her proclamations of plenty I, in orchards, fields, and pastures, begin my battle against insect pests. Then when comes the wondrous white of winter, lulling into peace the plains and crowning with heavenly whiteness the hills, I still am here—still working to increase the next harvest. All winter long I labor, eating the seeds of noxious weeds.

How many bugs and beetles and weed seeds do I eat? Well, I wonder! I cannot say, but here is what science says:

"Eighty-five different weed seeds make up in part Bob White's bill of fare. Crops have been found packed with ragweed seeds and as many as 1,000 seeds of the crabgrass have been taken from one bird. A single specimen contained about 10,000 pigweed seeds. Crops and gizzards examined in government laboratories have yielded fifty-seven kinds of beetles, twenty-seven varieties of bugs, nine grasshoppers and locusts, and thirteen different sorts of caterpillars, besides ants, flies, wasps and spiders. A teaspoonful of chinch bugs has been taken from one quail, and an adult bird has been known to eat 5,000 plant lice in two hours. Bob White feeds upon the boll-weevil, cabbage worms, cucumber beetles, squash bugs, grasshoppers, chinch bugs, the army worm, Hessian fly and many other insect pests."

What pay do I demand for thus helping you in your fight against weeds and in reducing the annual insect bill of $800,000,000? Why I ask only that I be let to live. Dead, I am only a small morsel of meat; alive, I make it easier for you and yours to live. Spare me and I will serve you.

I speak not in opposition to true sportsmanship but against unrestrained slaughter. Today our numbers are few. Tomorrow we may be no more. —W. L. Nelson, Assistant Secretary Missouri State board of Agriculture, Columbia, Missouri.

WHEN TO SELECT SEED CORN

By C. O. Cromer, Associate in Crops, Purdue Experiment Station.

The season of the year is now at hand when the practical farmer should provide for his seed corn for the coming year. A great deal has been said about the advantages of going through the field early in order to select the earliest ears, those growing on the best stalks, and those attached at the proper place on the stalk. These reasons, important as they are, however, have not convinced enough people of the necessity of making seed corn selection an important work to be done before the time to begin cribbing their corn. It has been argued many times by some people that corn selected at husking time is the best because a long time for the full development of the germ is possible. On the other hand, frosts prior to the general husking have injured otherwise good looking ears.

With a view to determining the effect of the degree of maturity on the condition of the ears at the time the germination test is made, the Department of Soils and Crops began in 1909, to select corn of different degrees of maturity, store the same in the most favorable location and when dry make germination tests of the different lots.

Fifty ears each of the following different degrees of maturity were selected:

1. Just before the corn was dented.
2. When just nicely dented.
3. The ripest obtainable when the corn was ready to cut for the shock.
4. Ripest obtainable at husking time.

These selections have been made for five years and the average germination tests of the different lots for the five years are as follows:

1. Just before denting, 78.1.
2. Just nicely dented, 93.0.
3. Ripest obtainable when ready to cut and shock, 92.7.
4. Ripest obtainable at husking time, 88.9.

Judging from the above figures one may see that, while there is not much difference between the germinator performance of the second and third selections, there is a noticable drop in the per cent. of germination of the first selection and somewhat less marked fall in the germinator performance of the corn selected at the time the corn crop was cribbed. In short, one may conclude that the corn may be selected too early as well as too late. Further observations on the condition of the corn at the time of germinating it showed that the ears of the first and second selections had a large number of diseased grains on them. In addition, the kernels were not fully developed and frequently the grain was not solid on the cob and quite often the ears were chaffy. The third selection, or the ripest obtainable at shocking time, was solid, the grain well formed and almost entirely free from mouldy or diseased kernels. The fourth selection, or the ripest obtainable at husking time, was always quite good in quality. No mouldy or diseased ears were selected. However, the five-year-average germination of this fourth selection made at husking time is not as good as that of the second and third selections. The yearly germination records show that when the fall is favorable for the maturing of the grain before the first killing frost, the germination of the corn selected at husking time is not as high as the germination of that selected earlier. For instance, in 1915, with an abundance of rain in September and the fore part of October, the corn did not mature properly and the frost, about October 25, reduced the germination of the corn about 26 per cent. In other seasons, with a dry September and October the germination percentage of the late selection goes up to that of the selection made at the time the corn was ready to shock.

The results of the experiment seem to warrant the following conclusions:

1. Seed selected before the corn has become dented does not produce a fully developed kernel. Its germination is low also.
2. The perecentage of diseased kernels is highest in ears selected before denting.
3. The best time to select seed corn is after the corn has become well dented and before the first hard freeze comes.
4. One is liable to select some of the too late maturing ears, that have been injured by frost, if seed selection is delayed until corn husking starts.
5. Since no one knows how soon the first killing frost will come, it is acting one's faith in preparedness to select the ripest seed obtainable early in the season.

Any Gullies on Your Farm?

Are there not a lot of ditches and gullies on your farm that need attention while other farm work isn't crowding? Look up the Owensboro Ditcher advertisement in this issue and then drop hem a postal card for full information.

Want to Make Some Money?

Wouldn't you like to earn some money during the coming winer while things are quiet on the farm? If so look up the advertisement of the Harrah Mfg. Co. Dept. 122 Bloomfield, Ind. and write them for full details.

More for Your Money

WON HIGHEST AWARD PANAMA-PACIFIC INTERNATIONAL EXPOSITION SAN FRANCISCO 1915 DEPARTMENT OF AGRICULTURE

International Harvester Wagons—Weber and Columbus

YOU can be sure of one thing when you buy a **Weber** or **Columbus** wagon—You get more service for your money. The good service they give is one of the strongest features of **Weber** and **Columbus** wagons. This service is the result of careful design and construction, such as is shown in the **International fifth wheel.**

Look between the front axle and bolster, where the king bolt goes through. There you will find the fifth wheel (an exclusive feature). Note the wide circular wearing surface of the two substantial fifth wheel plates. Those plates relieve the owner of a lot of trouble. They prevent breaking or bending of circle irons. They prevent the pitching of the bolster that breaks or bends king bolts. They take strain off the reach and keep the lower part of the front axle from sagging.

This one feature adds years to the life of the wagon, but, better even than that, it indicates the care and thought that have been given to every **Columbus** and **Weber** feature, and they are many.

Look over the **Weber** or **Columbus** wagon carefully, either at the local dealer's place or in the illustrated wagon folders we will send you on request. Then you will see why, if you want more for your money, your next wagon should be a **Weber** or **Columbus.**

International Harvester Company of America
(Incorporated)
CHICAGO USA
Champion Deering McCormick Milwaukee Osborne Plano

Indoor Closet

More Comfortable, Healthful, Convenient

Eliminates the out-door privy, open vault and cesspool, which are breeding places for germs. Have a warm, sanitary, odorless toilet right in your house. No going out in cold weather. A boon to invalids. Endorsed by State Boards of Health.

ABSOLUTELY ODORLESS

Put It Anywhere In The House

The germs are killed by a chemical process in water in the container, which you empty once a month. **Absolutely no odor.** No more trouble to empty than ashes. Closet absolutely guaranteed. Write for full description and price.

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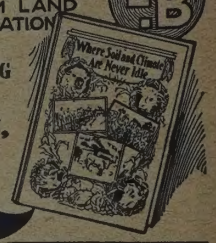

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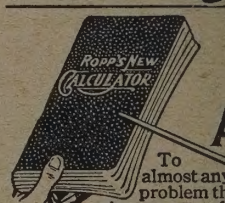

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The Missouri Farmer

VOLUME VIII NOVEMBER 1, 1916 NUMBER 21

Controlling Soil Erosion

By Roy L. Furry

Conservation of the soil is a problem that is confronting the farmer today on rolling land. Every rain that we have carries off much of our fertile soil—never to be regained again, unless it be deposited on the bottom lands.

It is difficult to estimate just how much of our soil we are losing. The gulley washing can be plainly seen to be a great loss in many sections. The sheet washing which is not so easily discernable is probably more destructive. Do you know how much of your soil is being lost by this means? We have no definite way of measuring this loss. To give some idea as to what this loss may be in a few years the writer will cite a case that came to his attention the past season. When plowing for wheat this fall the plow turned up a tiling that had been laid 30 years ago. This tile was only three to four inches from the surface in places. How deep this tile had been lain it cannot be stated as no one possibly knows, but considering that it had been lain at a moderate depth it is evident that the surface washing had indeed been great in the past 30 years.

It takes nature centuries to form a very small amount of soil and a single rainy season or a single torrential rain will undo what it has taken nature centuries to form. This soil cannot be readily replaced, and we must protect it if we are to have a fertile soil. The cream of our soil is the surface and if it is allowed to pass away the succeeding generations will have the unproductive subsoil left to them as a heritage from their careless forefathers.

Terracing Saves the Loss

What are we to do to save the soil from this endless erosion? The gullies may be stopped to a certain extent by various methods now in use; but this does not account for the sheet washing which goes on the same as ever. The only successful method that has been in practice is the system of Mangum terracing. This system has been in use in certain southern states for several years and has proven a success. The system was installed on a Carroll County farm about a year ago, and has demonstrated in its short existence, that it is filling its purpose. It has since been taken up by a few farmers in other places in the state and installed on their farms since the one installed in Carroll County.

The principle of the terrace is to reduce the rate and the volume of the flow of water over the surface. Where water flows in force and volume it will pick up the soil particles and carry them away, while if it flows slowly and is not allowed to get volume it will not carry much soil. Geologists tell us that where the rate of the flow of water is doubled that the carrying capacity for soil is increased sixty-four times. It is this reducing in the volume of the water that makes the Mangum terrace a control on erosion.

Terracing Not Suited to Steep Hillsides

The terracing system is adapted to land that has a fall from 4 to 15 feet to the hundred. Any land that has a fall of over 15 feet in a hundred is not suitable for cultivation and is not suitable to terrace. The majority of the cultivated farm lands of Missouri will fall in the limits that permit terracing.

This picture shows the top of terrace ridge where the four men are standing. The man at the left is standing in the ditch above the ridge. Last year being unusually wet for a time from one to two rows of corn were drowned out. In places the corn is good in the ditch and in ordinary years no difference will be seen.—Photograph furnished by O. R. Johnson, University of Missouri.

The terrace consists of a low broad mound from 8 to 10 feet in width with a broad shallow ditch on the upper side, 8 to 10 feet wide. This terrace follows the contour of the hillside, having a fall of 6 inches to every hundred feet, which will allow the water to flow off at a low velocity with little soil and will not cut out a ditch. The distance the terraces will be placed apart will depend on the slope of the field, being so spaced that there is a fall of 3 to 6 feet between each terrace.

The course of the first terrace is staked out near the summit of the hill. A farm level or a surveyors level must be used to get the proper fall. Starting from a definite point, stakes are set every 16 to 50 feet with the proper amount of fall between each stake to make 6 inches fall to the hundred feet. If the hillside is irregular they must be closer so that the terrace will have an even fall, otherwise there may be low places in it when completed. Continue this line to the place it is to empty. Then go back where the first terrace was started and get down the hill to a point 3 to 6 feet lower and start the line for the next errace, and so on till the field is staked out.

After the terrace line is determined, follow it with a plow and throw up a back furrow about six feet wide on each side, which will result in a terrace about 12 feet wide. This done, run a road grader or a A drag over it, throwing the dirt to the center, forming a bank and a ditch on the upper side. Add two furrows on each side and drag this to the center. This will result in a ditch about 8 feet wide and a bank of the same width, which is enough for the first year. The second year plow two or four more rounds and draw them to the center. This will result in a terrace with a broad shallow ditch about ten feet wide and eighteen inches high. This mound will not interfere with tillage or any other farm operations, as any farm tool will pass over it without being hampered, and all of the ground can be used as there is no loss. The ditch may not have a full crop if there is a wet spell at seeding time but the bank will grow crops the same as any other part of the field.

The proper time to install the terraces is in the fall when farm work is slack and there are no crops on the field. These terraces are permanent in character and will require little attention after the first year. Where the terrace crosses a gulley it should be well filled and closely watched as it is more liable to break at these points at first.

Terraces Must Not Be Too Long

No terrace should be over 1500 feet long, for if longer it may not be able to carry all of the water off during a heavy rain. Each terrace must carry away all water that runs off between it and the terrace above it. Before planning the courses of the terraces be sure that there is a suitable outlet, either in the main ditch of the field, or in a roadside if the field is near the road.

The cost of this work is indeed small when its value is considered. The expense to install this system on the Carroll County farm was $14 per mile of terrace, which was about $1 per acre. This expense was counted as the labor of the men and the teams at normal prices.

As the farmer can do his own work, he will be out of no money in installing this system, unless it would be in having the courses of the terraces laid out by one who understood.

Consider the time that you may spend on filling gullies, the loss of grain and tillable land caused by these gullies, how long would it take to pay to install this erosion control system on your farm?

The above picture shows a terrace in the process of making. The plow has been used and one round has been made with the road grader to widen the ditch. In the back ground may be seen other terraces on the opposite slope the outlet for the water being outside the margin of the picture.

SALINE COUNTY TO HOLD IMMENSE CORN SHOW

By Chester Matheny

Just read that headline again,—it means something out of the ordinary this year. If there could be a season when weather conditions were more unfavorable for a big Corn Show and Seed Corn Auction Sale than this season has been, we hope that it will never materialize,—this one has been bad enough.

In spite of a cold, wet spring and a dry, scorching summer and winds which blew down and actually uprooted much corn, in spite of all these things, Saline County comes up tranquil and agriculturally smiling with a good corn crop. It is not up to her average crop by a long way but numbers of fields are showing up with prospects of considerably over seventy bushels of corn. The best fields in the county were planted last spring with pure, carefully selected seed bought at Saline County's Annual Seed Corn Auction Sale last year. The seed sold at that sale was also grown from pure seed, one thousand bushels of which were brought in during the spring of 1915 to start Saline County on the road to becoming known as the Seed Corn Center of the Corn Belt.

The County has set as her standard, the making famous her name as a seed corn county and considerable progress in that direction has been made. The greatest advance each year is the Annual Seed Corn Auction Sale, which is the big agricultural event of the county and concludes the One Thousand Dollar Corn Contest conducted yearly by the Farm Bureau, working through its County Agent. This Show and Sale is held at Marshall, Mo.

The Seed Corn Auction of 1915 was a great success in every respect. Sam Jordan, the famous Corn Man, said he never before had seen so much excellent corn in any one show. Matthew W. Hall, who had charge of the corn exhibits at the World's Fair in St. Louis, said that the World's Fair Corn Show was as big but there wasn't as much real quality corn there as at Saline County's Show. The last day of the Show all that fine corn, a total of 534 bushels, was sold at auction for seed purposes. It sold in less than three hours for $1902.75, or an average of $3.54 per bushel. Some buyers were unable to get all they wanted and placed orders to be filled later.

Since the Auction Sale, Saline County Seed Corn has been shipped out in the county's standard bushel crate of ear corn, to the states of Kansas, Oklahoma, Florida, California, Oregon, Indiana, Iowa, Arkansas and many counties in Missouri. That is a business-like trade territory for the first year, but greater things are expected this year.

County Agent R. J. Howat, who is carrying on the work of the Contest, Show and Auction Sale, recently said, "The Show and Sale last year were wonderful, but only a start. It is a real accomplishment for the county to have another one even better during this miserable corn year, but that is what is going to happen on the first two days of December. The Seed Corn Auction at Marshall this fall should be attended by buyers from every state in the corn belt, and they will have an opportunity to buy the choicest seed corn that can be found anywhere this year. We're not going to wait and see, but we are going to work and see, and if every man in the Contest does his part, we'll see a Show and Sale that will astonish even the optimists."

The Show is the culminating event of the One Thousand Dollar Corn Contest, in which every means is employed to encourage the production of high yielding corn of superior quality. Prizes totaling $1,500 are given away in about seventy-five premiums. The awards will be made on the standing of the different contestants' corn. The yield on a measured acre of dry, shelled corn determines sixty per cent of their standing and the quality of the corn brought to the Show determines the remaining forty per cent. On account of such a system of judging, every man in the contest brings in the very choicest five bushels of his entire crop.

One hundred and eighty-six men, including the best corn-raisers in the county, have agreed to compete in the Contest this year, to measure their best acre and bring in five bushels of corn to the Show and Sale. In the neighborhood of a thousand bushels of the county's best corn, including Boone County White, Reid's Yellow Dent, White Dent, Silvermine, St. Charles White and Cartner, will be there and the entire display will be sold bushel by bushel to the highest bidder on the last day of the show, December the second.

Before it is sold or even exhibited, it will be carefully gone over by a committee of expert corn judges, who will score every bushel in the Show. Any corn which fails to come up to a set standard will be excluded. This must be done for the protection of the buyer and in order to maintain the good name of Saline County Seed Corn. All corn passed by the committee and sold at the Auction will bear the county's copyrighted trade label and be guaranteed by the Farm Bureau.

Last year farmers in localities too far distant to allow them to go to the Show and Sale, chose a representative to attend and buy for a group of men. A large shipment from the last Auction Sale went to Oklahoma and another to Iowa, bought for different parties by one representative. Orders and bids were also received by mail. All communications of that nature were attended to in a satisfactory manner by the county agent and it is his expectation that this fall quite a number of mail orders will be received. It is also likely that several communities will send buyers with a good many orders to fill for neighbors who want good corn.

In addition to the Corn Show and Auction Sale on the first two days of December the crowds of visitors will be furnished with a good program of talks and demonstrations,—or rather two programs, one for the men and another for the women. Band music will also make the occasion more enjoyable.

The Saline County Poultry Association is to hold its Fall Poultry Show on the same dates as the Corn Show, thus making two days completely full of education, instruction and entertainment.

A big crowd is expected and wanted, and everyone will be welcomed at the Corn Show and Seed Corn Auction Sale on December the first and second at Marshall, Missouri, in "Saline County, the Seed Corn Center of the Corn Belt."

FARMERS' ELEVATOR MAKES GOOD

The Missouri Farmer:

I greatly admire the splendid fight you are making for the farmers of Missouri and other states. The trouble with the American farmer is he is either working himself to death for the dollar which some other man gets, or he has no desire to get somewhere. Fortunately there are more progressive farmers than the latter class. If the progressive farmer would spend one-fiftieth of his time in organizing he would have to work less and get more for his labors. I wish we had more men who would uphold the cause of the farmers like THE MISSOURI FARMER has done and is doing. You have thousands of admirers that you know not of. My only wish is that I were a man of means so I could help you, and spend the rest of my days organizing the farmers of this state.

The object of this letter is to learn from you of any corn for sale as we did not raise sufficient corn in Henry County to feed our stock. I am writing this for the benefit of the La Due Grain & Supply Co., of which I am president. Our manager is kept pretty busy so I thought I would help him out with the correspondence. We, the farmers, have a small elevator in La Due, which has saved us quite a sum of money. We had a hard time when we first started, caused by our competitor actually paying more for grain than market price, less freight and other expenses, in order to try to knock out our elevator, but thanks to the loyalty of the farmers we have made this enterprise a success.

In the face of two of the poorest small grain crops in our history we have accomplished our desire which was to maintain a fair market price. Some few looked with disfavor on our undertaking and called our elevator the "White Elephant" but those few have now become tame and want to feed what they thought was a "White Elephant." In conclusion will say to brother farmers, organize and do it quick as every day counts. Pay no attention to kickers as they will fall in line when the procession goes by. I am sending you a report from our manager for the year ending September 9, 1916. If you can give us any quotations on shelled corn F. O. B. either end of line would be very much obliged to you. Address all quotations to, La Due Grain & Supply Co., La Due, Missouri. Following is the report of the La Due Grain & Supply Co.

"The company is a year old today. On the 9th of September, 1915, John Henny dumped the first two loads of corn in our cribs for which you paid him 65 cents per bushel and Frank Calvird sold you the first load of wheat tested 52 pounds and he received 70 cents per bushel. This completed the day's business. Since then with two of the poorest consecutive small grain crops in the history of the county you have bought and sold 13,695 bushels of wheat, 20,945 bushels of corn and 9,065 bushels of oats for which you have paid the farmer full market value and at least 1 cent per bushel more than he would have received had the elevator not existed. You have bought and sold 4,900 sacks of flour, ship and bran and every sack has cost the consumer at least 5 cents less on account of your enterprise. You have bought over a million pounds of chat every bushel of which would have cost the people at least 1 cent more had you not ventured to build an elevator. You have bought and sold 12,000 bushels of coal and homes have been warmed for at least 2 cents per bushel less than in the chilly days before the elevator.

You have ground and sold 222,515 pounds of chops and meal and every hundred has gone to the consumer for at least 10 cents less on account of the elevator that has proven more than a dream.

No serious accidents have occurred, no bones have been broken nor blood drawn and every piece of machinery is working nicely.

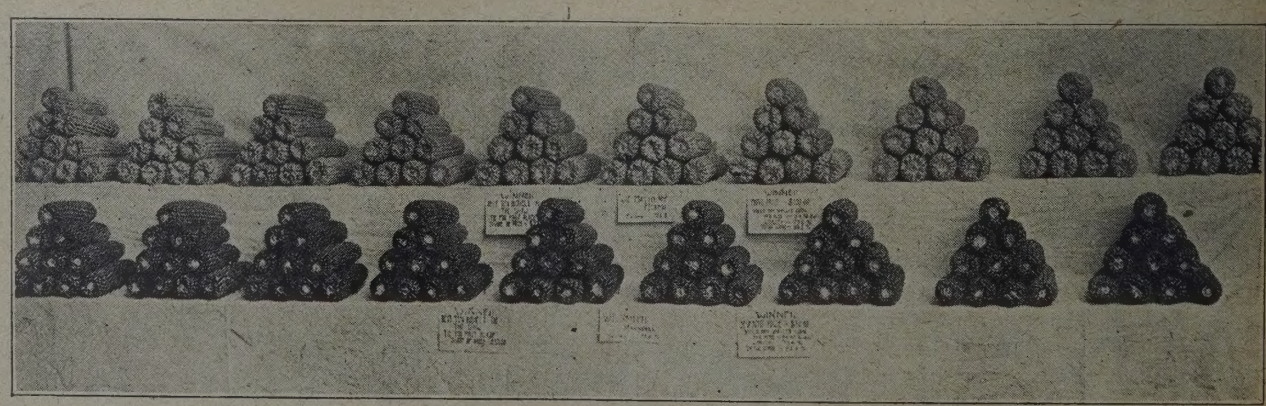
Financially, physically, morally and spiritually you are as well off as a year ago yet there is always room for improvement.

No man has been robbed, snubbed nor ignored. Those who traded with you have saved at least $1,000. The elevator has cleared above all expenses $1,000 and those who traded elsewhere made perhaps $1,000 and therefore no matter what one thinks or where he trades the elevator has been a success and will help him in spite of anything he can do.

In addition to above figures you have dealt extensively in farm seeds, cotton and oil meal, salt, brick, cement and other articles. The business of the year amounted to $50,000 or $4,160 per month. The business capital of $2,500 with which we started has been turned 20 times, or on an average of one and two-third times each month.

Wm. Lee Pinkston, Mgr.

If you see fit to publish the foregoing report and if any Farm Club or organization wishes to build an elevator I will gladly furnish them with



The above picture shows samples from the two ten-bushel exhibits at the first Saline County Corn Show which divided the honors for first place by a tie score. The top lot is Boone County White from a field grown by J. E. Matheny, and yielded 94.5 bushels per acre. The bottom row is Reid's Yellow Dent from a field raised by W. L. Smith and yielded 86.65 bushels per acre.

all the information which I possess. Wish to say that Farmers Elevators have come to stay if they are started right and managed right. There are now four farmers elevators within a radius of 20 miles of La Due which are all doing well and making money.

Now Brother Farmers get busy and start something, demand your rights and demand them till you get them, then, and not until then will you come into your own.

Otto Volkmann,
Rt. No. 5. Clinton, Mo.

A NEW WHEAT PEST

During the past month inquiries have been received from certain parts of the state relative to a small dark colored beetle that has been ruining the winter wheat quite extensively. Upon examination of the specimens submitted, the insect pest has been identified as one which has never before been known to attack wheat in damaging numbers. The insect is most likely to the so-called Western Cabbage Flea Beetle (Phyllotreta pusilla, Horn). It gets the name of "flea beetle" due to its habits of jumping like a flea when it is disturbed. There are many kinds of these minute insects, some being striped, others being mottled in color, while still others are uniform in color. Some are known to attack cabbage and allied cruciferous plants, such as radish, wild mustard, turnip, kale, etc., while others feed upon potato, tobacco, tomato, bull nettle, and still others attack certain grasses and many of our garden vegetables. The Western Cabbage Flea Beetle, as its name implies, is almost always a cruciferous plant feeder and is quite common from the Dakotas, southward to Mexico and westward to California. Due to certain climatic conditions, the pest may, however, feed upon other plants; more than likely the recent heavy frosts, having wilted the leaves of the common food plants, have caused many of the flea beetles to forsake their most desired food plants and to subsist upon any green succulent food, such as growing wheat, grasses, etc. Undoubtedly this is the cause for the new habits seemingly acquired by this insignificant little beetle. The small bettles are a deep olive green or metalic black color with the wing-covers irregularly punctate, and measure about two millimeters or about 7-100 inch long. The larvae of all these flea bettles mine the roots or in certain cases, the leaves of the host plants. The damage done in this way is not very great, for most of them in their larval or immature stage work on the roots of weeds and grasses. In the adult or beetle stage, however, they do great damage at times as recently exemplified in a number of letters of inquiry. The following quotation from a letter shows the insidiousness of the attack. "These insects are destroying my wheat and I doubt if I can save one field of thirty acres. The insect started on the side of the wheat field next to the corn, after the frost destroyed the corn and they have entirely destroyed the wheat in a strip about fifty feet wide, extending entirely across the field. They do not leave a stalk of wheat standing, the blades dying and the roots soon disappeared. From this can be easily seen that the farmers have in this little insect, a very formidable enemy, and one which is quite abundant just now.

The general practice used against the adult insects is to spray the cabbage, potato, etc., with a Bordeaux mixture, using the formula, 5—5—50 and about 100 gallons per acre. The Bordeaux mixture acts as a repellant toward the flea beetles, causing them to seek unsprayed plants which would be weeds, grasses, etc. In cases where garden flea beetles are abundant, adding about one-half pound of Paris green or two pounds of arsenate of lead to fifty gallons of water, will make the spray not only a repellant but a destroyer. In the present case, however, it is a question whether such procedure should be advocated before certain other measures are tried.

The first thing for the farmer to do, is to inspect the wheat fields to see if this new pest is present. If so, and the bettles are injuring the plants, purchase some air slacked lime and dust this on the wheat plants, especially well around the borders of the infested area. This is done preferably after a rain or when the dew is still on the leaves. This will do much toward preventing the insects from attacking the remaining wheat plants and will drive them onto grasses and weeds around the borders of the field. If the acreage is not too large, by all means dust the entire field with the lime to which may be added poison at the rate of about one-half pound of Paris green or one pound of aresnate of lead to a bushel of air-slacked lime. Apply by sif ting through a coarse gunny sack. During the winter and early spring, clean cluture which consists of the destruction of weeds, grass in fence corners and around the field and the proper disposal of waste material, will aid materially in reducing the number of hibernating adults with subsequent fewer individuals to start the next season. Act at once to prevent further loss.—A. H. Hollinger, Assistant Entomologist, Missouri Agricultural Experiment Station.

(Editorial comment: This is a new proposition for Missouri farmers as well as for the entomologists for so far as we know this is the first time these bettles have attacked the wheat in a large enough way to cause any trouble. If the lime treatment proves an efficient remedy the slaked lime could be spread over the field with a lime spreader or in small areas with a fertilizer drill. The lime would pay for itself in benefits to the soil and the only cost then would be in the application.)

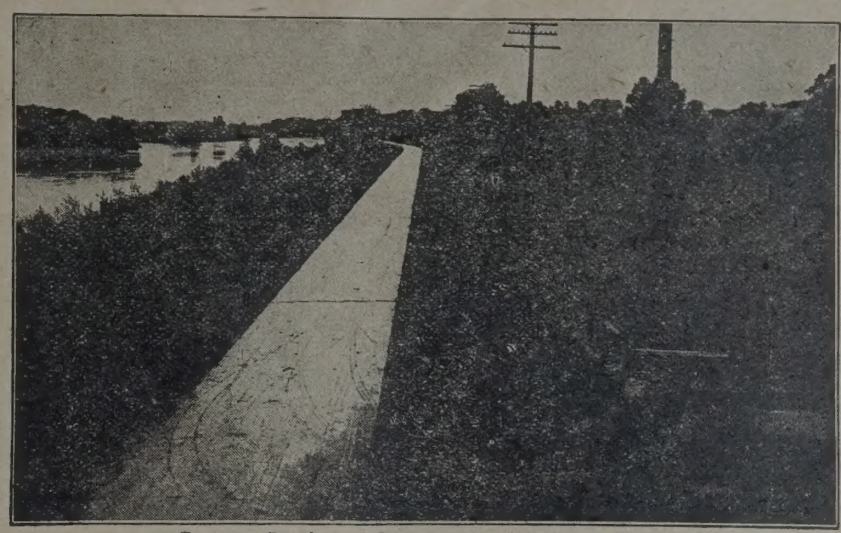
THE MISSOURI FARMER needs the active help of every farmer who believes in the great fight we are making for farm organization. Suppose 1000 farmers were to help us organize a school house Farm Club in their districts? And suppose each of these Clubs had an average membership of 15? This would mean 15,000 new farmers brought within the fold—and if each Farm Club saved $500 during the coming year it would mean a saving of a half million dollars. Don't you see what it all means and why we need your active help?

WOOD ASHES VALUABLE AS FERTILIZER

Wood ashes, which when unleached contain about five per cent potash and 30 per cent lime, are one means the farmer has for preparing against the shortage of potash salts which formerly came from Germany. The amount of potash varies somewhat, being higher in hard woods.

The potash is readily soluble in water and will be largely leached out if the ashes are not protected from rains. Farmers burning wood should store the ashes during the winter and thus furnish themselves with at least a small supply of this fertilizer that the war has made so high in price.

The Ohio Experiment Station advises the use of 400 to 500 pounds per acre of a mixture of two parts of wood ashes and one part of either acid phosphate or bonemeal. Such a fertilizer may be used to advantage on the spring crops, while the lime contained in the ashes will have a beneficial effect on acid soils. Experiments at the station show that potash does not produce its full effect except when reinforced with phosphorus.



Concrete Road near Oswego, Kendall County, Illinois

Haul in Wet Weather—on Concrete

WHEN wet weather keeps you from working in the fields you can make profitable use of your time by hauling farm products to market—IF THE ROADS ARE GOOD.

Why put up with roads which are bad—sometimes impassable—in wet weather? Rainy days are just as good as clear days on a concrete road. If your roads were built of concrete, neither season nor weather would hinder your getting to market.

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Concrete roads will increase the number of your markets, will widen your marketing territory. Ten miles on a concrete road is not as far as five miles on an unimproved road. If you use a motor truck, twenty, thirty, even forty miles can be covered in from two to three hours. Concrete roads produce no dust. Their surface is even but not slippery.

There is nothing mysterious about concrete roads. Clean sand and pebbles, or broken stone, mixed with water and Portland cement are all the materials needed. These can be had within a reasonable distance of any community. Concrete roads can be built by local labor under the supervision of a good contractor or road engineer. Permanent concrete roads cost little more than the best waterbound macadam, which soon goes to pieces under modern motor traffic. A well-built concrete road will last indefinitely under any kind or amount of traffic. The upkeep averages very low.

Let us tell you more about concrete roads, how they reduce hauling costs, and improve social, educational, and all other community interests. Write for a free copy of "Concrete Facts About Concrete Roads." With this information you can convince your road officials.

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70

Hog Raisers Attention

Every raiser of hogs should drop a postal card to the Rowe Hog Oiler Co., 103 Liberty St., Galesburg, Ill., and ask them for literature describing this device which is now in use on hundreds of farms and by means of which hogs can easily rid themselves of vermin. A postal card will bring full information.

"TOM" AT THE UNIVERSITY

By Tom

Dear Dad: I was glad to get your letter and to learn that everybody is well and that the wheat sowing and silo filling are over in good shape. Talking about silos, the more I learn about them the more I wonder why more farmers don't build them because during the bad crop seasons we have had in recent years they have certainly been a blessing—making the corn go about a third farther in its feeding value than it will go when the stalks and blades are wasted as is true where they are not chopped up into silage. Some of these days I hope farmers will realize that there is just as much wisdom in "canning corn" as in canning tomatoes, apples, beans or anything else.

But now I am going to get down to brass tacks and tell you why I switched over from Law to Agriculture—and you don't know how glad I was when I had finished reading your last letter and found that, after all, you were not downright angry with me as I had feared you would be. In the first place, when I entered up for the Freshman Law Course, I sized up the bunch and while they were all fine boys, I realized that not one in twenty was cut out to become a great lawyer. Then I tried to size myself up in the same way. I asked myself, "Why have you any right to think that you would make a better lawyer than the average of these other boys?" Then too, I went over the list of the lawyers in our county—and, as you know, outside of Jim Lovelace they eke out a pretty meagre existence and nearly all of them have to write fire insurance on the side to "get by." There is old Judge Smith for instance who used to be considered a fine criminal lawyer—but crime is becoming more and more unpopular these days and so, about all the business the judge gets these times is an occasional divorce case and other petty things of that kind. The more I thought of it the more I hated the idea of sitting around in a little stuffy office waiting for somebody to bring me a case. Again, this view which had never occurred to me before came into my mind—that nine-tenths of the money that a lawyer makes comes from other peoples quarrels and troubles. It dosen't make any difference whether a mans cause is just or unjust, when he goes to a lawyer, the lawyer usually advises him to sue—for that is the way he makes his living. If every lawyer advised his client as he really believes in his heart, 90% of the disputes which people have would be settled out of court. Mind you, I am not blaming the lawyers for all of this—for often the client is mad and wants a run for his money and if the lawyer gave him honest advice he would say that he was "no good" and would go off and hire somebody else.

In the meantime, my roommate had entered up for the Freshman Course in Agriculture—and he was so enthusiastic about it and kept on telling me how interesting and fine it all was that before long he had me almost as wild as he was. So, in desparation, I went to Mr. ————, perhaps the strongest man in the Law Faculty. He is a middle aged man, undoubtedly deeply learned in the law but as cold as an iceberg, until you get to know him at closer range. I told him about my quandary simply and frankly. For quite a while he listened without saying a word. Then he asked, "Do you love the law?" "Would you rather be a lawyer rather than anything else in the World?" "Are you willing to dig and fight for years if necessary in order to climb to the top?" And after some mumbling I finally blurted out, "If I was as crazy about it as all that, I wouldn't be coming to you in this way. I do want to make a real success at something"—and as quick as a flash came his answer, "Well if you are not crazy about it, then find something else that you can get crazy over—and then go to it with every ounce of enthusiasm and ability there is in you." In that brief second I decided and thanking him, I made a bee line for the Agricultural College, entered up, got the necessary books—and by now I have about caught up with my classes. The other morning I ran across the Law Faculty man on the campus. He greeted me with a smile and asked, "Well, how do you like Agriculture? Are you crazy about it?" And I answered, "You bet I am"—and I meant it as I ever meant anything before.

I am satisfied that many young men want to become lawyers because it sounds big. It has always been considered a dignified profession—but not one in a hundred are "crazy" about it. They are simply looking for a "place to light"—and that is the reason why the Country is full of "bum lawyers" who either have to write fire insurance, sell real estate or get hold of some political job to make a living—and the same is true of many who study medicine, engineering or some other profession. Of course the Country will always need great lawyers, doctors and engineers but before a boy tackles one of these careers he should be mighty certain that he has heard the thin, small voice of Destiny calling to him—not once but during every waking hour in the day and in his dreams by night. On the other hand, the more I think of it, the more I am convinced that there is a splendid future ahead for any young man on the farm for, after all, it is the World's greatest business. Before long I feel sure farmers will organize and work together more than they ever have before—and once we do this we will soon compel a fair price for our products and with this assured there will be no finer, broader life than farm life. Again, the farm needs big men just as much as the business, banking or professional world and I have made up my mind to be one of them. I know you have often wondered what to do with the farm when you get too old to work anymore—but if you will rent or sell it to me you needn't worry over this problem any longer. I am going to work like the Dickens here at the Agricultural College and when I get through I'll make a bee line for home and I'll be ready to "talk Turkey" to you. In my next letter I am going to tell you about some of the things I am learning. With love to all, Tom.

THE LESSON OF THE FAIRS

Missouri is one of the few states having two great live stock shows—but, then, Missouri is one of the few states capable of supporting two such shows as the State Fair at Sedalia and the American Royal at Kansas City.

This year at the Missouri State Fair 1,471 head of live stock, exclusive of light horses and ponies, were on exhibition, while at the American Royal, now—but perhaps temporarily—an exclusive cattle show, more than 1,000 head of Shorthorns, Herefords, Angus and Galloways were entered. At both shows the quality of the live stock was uniformly good, bespeaking the best of breeding and care. In fact, it is perhaps not too much to say that never before has Missouri seen, in a single year, two live stock shows made up of animals of such outstanding excellence. The very superior quality of the animals entered is ample proof of the progress that is each year being made by breeders. Higher standards of individual worth have been established and a nearer approach to the goal is each year being made by an ever-increasing number of men who are engaged in that greatest of all branches of agriculture—the breeding and feeding of live stock. Standards are also more stable. Fads are less a factor. The breeder now has pretty firmly fixed in his mind the type of animal which he is trying to produce. Just how important this is only the scientist and the experienced stockman can realize. The Missouri State Fair and the American Royal are more than "style shows." They are, in fact, great demonstrations and schools. Each year they serve as inspiration to the thousands of visitors and indirectly add to the value of the live stock on every farm represented.

We have referred to the high quality of the live stock at both these shows as exemplified in the breeding. It is also true that the animals were never exhibited in better "bloom." They were, generally speaking, a finely fitted lot, not overdone, yet presenting an appearance in keeping with quality. This is as might be expected at a time when practically all meat animals are commanding record prices and when the "spread" between the scrub and the prime steer was never wider. With market cattle and hogs on the hoof, both commanding $10 per hundred and better and with an unprecedented demand for choice breeding stock, it is natural that, even with the high prices for corn and other feed, show animals should be presented in good form.

The character of the crowds at both shows was corespondingly high. Men who breed and feed live stock are community leaders and at this time their very appearances bespeak prosperity. But not only are these men prosperous farmers: they are students—hence their success. It is not idle curiosity, not the mere seeking of pleasure, the chance to meet and mingle with old friends and to make new acquaintances, that takes these men to such shows. They go to study. And what business is it that requires more careful study and thought than does farming?

The difference between farming in the yesterday of $1.25 land and the today of $125 land was amply illustrated in the great show animals exhibited in Convention Hall in Kansas City during the day and the "long horns" lassoed and "bulldogged" by cowboys as part of a wild west show in the same hall at night. Here in the heart of the world's greatest corn and bluegras belt must be, and is, the home of the world's best beeves. On the farms of this territory successful men long ago learned that they cannot afford to put good feed into poor cow skins. So here, today, are being bred and fed live stock as good as the world knows. This is no idle boast. The truth of this statement is borne out by the records of live stock markets, of sales of registered stock and of the country's leading shows.

One of the most encouraging features of both these meetings was the increased attention given to both the

production and market sides of live stock production. As one mingled with visitors and exhibitors and listened to the conversations this fact was contstanly impressed upon him. How best to profitably grow and finish the good ones—the kind the market demands—was the problem constantly discussed. Individual practices must always differ somewhat, but there are certain well-established rules the value of which one sees demonstrated at every such show. This, in the end, is the greatest good of going. Top market prices and championship honors do not represent luck but come as a result of approved practices.

What has been said of live stock production applies with almost equal emphasis to all other branches of agriculture. The men who won highest honors and who helped make possible the really great corn show at Sedalia were corn breeders. They got the right type in mind, put the right kind of seed in the right kind of soil, gave it the right kind of cultivation —and won. In no other way can one consistently, year after year, go on producing good corn—best by the score card or the barrel. The apples that won at Sedalia were from orchards cared for, propelry spayed, pruned and cultivated. Otherwise, they would not have won. So goes the story.

Now, reader, did you go to these two great shows and did you get the story? If so, it should be reflected in your own farm. W. L. Nelson.

GRASS AND CLOVER SEEDING

I attribute a good measure of our success in keeping up soil fertility, to our heavy seeding of grass and clover, something we have never neglected, even though seed prices were high and money scarce. On our rolling lands it is absolutely necessary to protect the soil with some kind of a growing crop, and we have never found a better combination than timothy and clover, for this purpose, as well as for a hay and pasture crop.

An eastern farm paper, some twenty years ago, offered prizes for the best letters on the topic, "What is the best combination for hay, pasture and soil protection" getting several hundred answers, a large majority favoring timothy-clover. I have not succeeded well, as a rule, in seeding timothy alone for either hay or pasture, always having better success by adding the clover, neither have I had the best results by seeding either without a nurse crop.

Our grain seeding is done from October 5 to November 5, and it is at this time that most of the timothy seed is sown, but I have done well by sowing up to the first of December.

Some years ago I was half a bushel of timothy seed short, and my dealers supply was exhausted, but the day after Thanksgiving I found that I could get that much from a neighbor. It was sown about December 1, and if there was any difference between the crop grown from this half bushel and what was sown in early October, I could not see it.

A gallon of timothy seed per acre, evenly distributed, makes a fair stand, especially when three quarts of medium red, or half a gallon of alsike clover seed is to be sown in spring.

We have long practiced adding nearly an equal amount of timothy seed to the clover seed in winter or spring seeding, and think that it pays us to do so.

As to seeding clover, my favorite season is early April when the soil is dry, and following the seeder with steel harrow setting the teeth very slanting. It is not easy to lay down a rule as to the best time for clover seeding, as this varies in different localities.

I have been in two or three sections where fall seeding of clover was successfully practiced, especially with alsike, the seed being sown so late there was no danger of its germinating until spring, the seeding being done from November 25 up to December 20. A single trial of this on my own farm gave me an excellent stand.

A neighbor, and he is a very good grass grower, says that he sows almost any time in the year, and I know him to be in the habit of doing this when he has failed to get a stand at the usual time of seeding. C. D. Lyon.

FARM LOANS AND THE RENTER

The question has been frequently asked, "How can a renter who has not saved 50 per cent of the purchase price of land make use of the Federal Farm Loan Act to get land of his own?"

This question has been answered by P. W. Goebel, of Kansas City, Kansas, president of the American Bankers' Association, before the hearing of the Federal Farm Loan Board at Topeka, Kansas. Mr. Goebel's verbatim statement covering this matter follows:

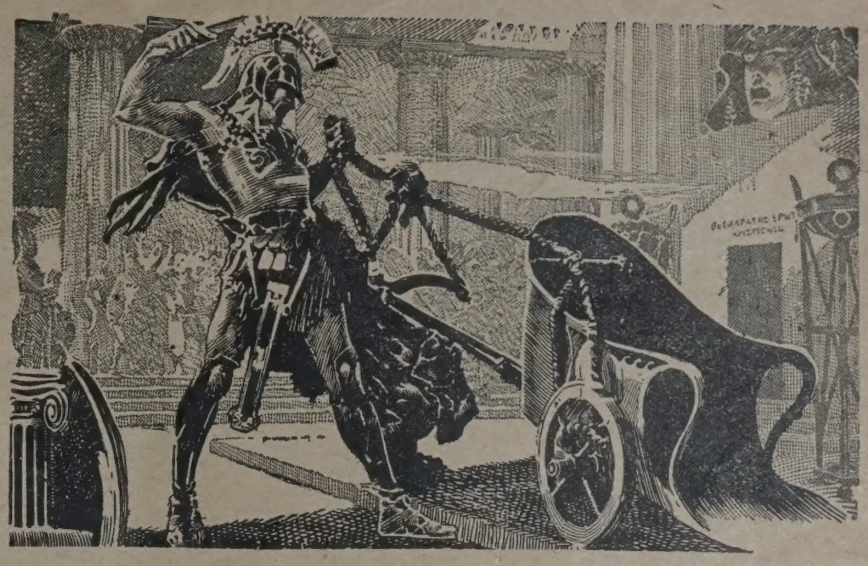
I heard several gentlemen say this morning, "But how are you going to advance the interests of the tenant farmer that has not got the 50 per cent saved up to buy his land?" Why, if the tenant is the right kind of man there will be no trouble whatever. And here the personal equation comes in. The Government must require absolutely the same maximum requirements from everybody that does business with these banks, and the local banker will take into consideration the personal equation of a man wanting to buy the land; and, as a banker, I would not hesitate to say that I would loan freely on second mortgages. I would not in a commercial bank; but in a trust company or investment bank I would lend freely on second mortgages so long as I could see that the interest and the amortized payment on the first mortgage and the interest on the second mortgage and taxes and upkeep of the land would still be less than the rental value of the land.

"We will say a young man who has worked for a farmer for a number of years, or a man of middle age whom I have known for years who has rented a place, comes to me and he says, 'I have $1,000, and I have two span of horses and some cows and some sows—enough reasonably to stock 60 acres of land. I have got to pay $50 an acre for the land. I can get a loan through the National Farm Loan Association of Staunton township for $2,000. Will you loan me the otehr $1,000?'

"Now it is a very easy proposition to figure it out. I will figure that on the first mortgage of $2,000 he will pay $120 interest at 6 per cent. I am figuring now on the maximum. He will pay $20 on the amortization fund. Now, I loan him the $1,000 at 7 per cent, if you please. He will pay me $70, and I will figure that his taxes cost him $50, which makes a total of $290.

"Now, that 80 acres of land if he rented it would cost him anywhere from $325 to $400 a year rental. It goes without saying that he will take more interest in that piece of land as an owner than as a renter. He will take better care of it and improve it. It will be improved rather than deteriorated. It does not take a great stretch of imagination to see this man with the $1,000 I loaned him can pay on an average of $100 a year on the principal. In other words, he can retire the $1,000 I am loaning him in 10 years. Then, he will simply have a proposition that with any intelligent work at all he will absolutely make a living, and the small sum he pays yearly to retire his loan finally will hardly be taken into consideration. In fact, it is my opinion, and what I am saying to you, gentlemen, is simply based on years and years of observation of the farmer and continuous financial and other business I have had with him, with any intelligent work he will have something that will make him an absolutely sure living for a good sized family.

"The result of these long-time loans will also be that more of the income from the farm can be placed into equipment for the farm; equipment not only to bring larger returns in dollars to the farmer, but that will make the family feel like they want to stay there. To my notion the greatest lure of the city is the fact that these farmers' wives and daughters come into the city to visit friends perhaps who have modern equipment in their houses. It appeals to them more strongly than anything elese, and makes them more dissatisfied with farm life than anything else. Now, with the bugaboo that the mortgage is going to come due in two or three years 'I don't know how I am going to be able to renew it, or I don't know what I have to pay; there may be stagnation in land values,'—with that bugaboo removed, why, anyone who has the welfare of the farmer at heart can readily advise him, "Now, put some money into your house and make it modern so you can make your family feel that they have the same chances for comfort and pleasure as the average laborer has in the city."



Doing "the Impossible"

The Gordian knot is the ages-old symbol of the seemingly impossible. Alexander the Great gave it a place in legendary history when, unable to untie it, he cut it in twain with his sword.

This famous incident of antiquity has its modern counterpart in the real work of the men whose vision and unrestricted initiative brought forth the great Bell System.

In the development of the telephone, one Gordian knot after another has been met with. Yet each new obstacle yielded to the enterprise of the telephone pioneers. Every difficulty was handled with a will and a courage which knew not failure.

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THE MISSOURI FARMER
Devoted to Better Farming, Better Farm Homes and Better Citizenship.

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William Hirth, - - - Publisher
Geo. B. Ellis, - - Managing Editor

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Agents Wanted. We want some one to represent us in every community and make up clubs for which we will pay liberal commissions. Write us for terms and sample copies.

We solicit communications from farmers and members of the family on timely and practical subjects. Photographs illustrating farm life or plans for buildings, live stock, etc., are appreciated.

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THE COMMUNITY SPIRIT

No individual can accomplish much for himself without more or less enthusiasm for his work. The man who loves his work and has some aim ahead of him will accomplish something worth while in spite of heavy handicaps that may possibly get in his way. What is true of the individual in this respect is true of the community whether we apply it to the small neighborhood community, the county or the state.

The community spirit that accomplishes things of worth is the spirit of co-operation and unselfishness. But if the individual should consider his own welfare of first importance his own good will be taken care of in a much better way by working with his neighbors in those things which can be done better by the community than the individual can do them alone.

A pure bred animal or a bushel of high quality seed will have more buyers and ordinarily sell for a better price if it is produced in a community having a reputation for producing good live stock or good crops. The article has the good name of the community added to the reputation of the individual to help find buyers and to make a sale.

If this be true then why should any man fail to join with his neighbors to make a neighborhood reputation for producing high class live stock, poultry, seeds, fruits or something for which the community is adapted? In most any township in Missouri we can find two or three and possibly a half dozen breed of cattle, horses or hogs and none of them, or at most few of them of any particular merit. If instead of this condition we could have a community or better a whole county where but one breed was produced and every body working with his neighbor to make that breed better how long would it take to give that county a reputation that would spread over the entire state, and beyond the borders of the state?

This is a work that can be taken up to advantage by the many farm clubs of the state and we would suggest this as one of the things farm clubs should do this winter. In order to do this every man and every club must join in with the true co-operative and unselfish spirit.

An example of the value of the community spirit is shown in the success of the effort to make a seed corn center in Saline County, Missouri, which was inaugurated by the County Farm Bureau and largely directed by the County Agent. More than 100 farmers joined in the first year's work and actually paid something to get to do it. Think of it dear readers of THE MISSOURI FARMER, you who may happen to live in a community where there is no effort to do things in a co-operative way, that here in Saline County one of the old conservative counties of the state more than 100 farmers actually paid something to get into a co-operative movement to help the whole county. The County Farm Bureau put on a County Corn Contest and offered prizes amounting to $1,000 but the fine spirit of the movement is shown in the fact that the money for the prizes was furnished by the contestants themselves. Each contestant agreed to give to the Farm Bureau ten bushels of selected seed corn and in the event that this corn was not considered of good enough quality to be offered for seed the contestant agreed to pay $10 in cash to the prize fund.

As a result of this splendid movement 534 bushels of fine selected seed corn was sold at last year's corn show for an average of $3.54 a bushel and this represented only a small part of the good work, for hundreds of bushels were sold privately as a result of the advertising given Saline County by the contest.

On another page will be found the announcement of the second contest to be held at Marshall on December 1 and 2 with 186 contestants entered. Last year the corn sold went to eight different states besides a number of counties in Missouri and this year ought to prove even greater than that. There is not a county or a community in Missouri but what could make a reputation for producing something of superior merit and bring prosperity to the farmers if they would only get together and show the same enthusiasm and good judgment that the farmers of Saline County have manifested in this seed corn contest.

SAVE THE TOWN

We hear a lot of tommy-rot these days about saving the town but I think it is about as important that we try to save the country. As soon as we start a more efficient way of buying or selling the things we need and what we produce on the farm some interested party raises the cry "save the town." I know a small town of about 1000 people typical of many other towns in Missouri located in good agricultural sections and in this town there are three cream buyers buying cream and shipping to centralized creameries. When some one suggested a co-operative creamery for that community these three men held up their hands and said "why, a co-operative creamery will put us out of business" and through their selfish influence the movement for a co-operative creamery was killed. Now these men are entitled to consideration but shall we let the interests of three men outweigh that of 1000 people? Why not adjust the business of the town so that it will best serve the 1000 together with three or four thousand more who live about the town and help to make it?

In the above instance a co-operative creamery would kill the business of three men but the building of a creamery would furnish several weeks employment for masons, carpenters, painters and others who need to be considered when we talk about "saving the town." A co-operative creamery carefully managed should be able to pay 5 cents a pound more for butter fat than the creamery agents can pay and in a community where 500 cows are milked this should amount to an increased income of $3,000 to $4,000 a year. Would not this be a good way to "save the town" even though you must destroy the business of those men whose business is destroyed?

There are some pretty cold facts staring us in the face and the sooner business men as well as farmers realize the trend of events the better it will be for both town and country. The truth is that very few farmers are making any money and it is for this reason that the brightest of our farm boys are leaving the country. It is for this reason that farm mortgages are yearly growing in both size and number and that each year we see that more of our farm lands are owned by landlords who live in the city. In today's mail we received a letter from one of the best 240-acre farmers in Western Missouri lamenting the fact that his son had been lured from the farm by a $100-a-month job with a mining company. Talk about the beauty, health and pleasure of farm life all you please to that young man, it would not keep him on the farm for he knows that not one young farmer in a hundred can get a labor income of $1,200 a year out of the farm with a $10,000 or $15,000 investment to work with.

Some farmers blame the bad crop years for present conditions but it is our opinion that poor crops are not half so much the result of drouth as they are of a worn out soil. The worn out soil is not so much the result of poor farming as it is the effect of a system that compels the farmer to work his land hard and to draw on the natural fertility in order to make a living out of it.

I want to "save the town" but I do not want to see it done at the sacrifice of the country. Most men who have studied this matter agree that there is now too much waste between the producer and consumer and this is true whether the producer is a manufacturer or a farmer. We can use more men in the factories of this country and more men on the farms but we now have a surplus of retailers and their number ought to be reduced. The large number of retailers and the credit system are two of the principal causes of high prices today and the sooner they are both reduced the better it will be for both town and country. Those who would "save the town" had better begin within than without to find the remedy.

CATCHING THE SPIRIT

Eevery mail brings us letters from dozens of farmers who have caught the spirit of the fight which THE MISSOURI FARMER is making and we believe we are safe in saying that there well be at least a thousand Farm Clubs in Missouri by the first of the year. Scores of these letters wind up by saying that the writer appreciates the "splendid farm information" which each issue of the paper contains—and this is a point I want to touch upon briefly. It is true that THE MISSOURI FARMER believes the question of farmer organization to be the overshadowing farm problem of the hour. We believe that only by this means will farmers ever be able to rescue themselves from an idiotic situation where they are compelled to pay what the other fellow asks and accept what he offers for the fruits of the farmers toil—that only through organization will farmers ever be able to free themselves from the throat clutch of the Big Packers and the grain gamblers who manipulate grain prices—that only in this way will we be able to shorten the route from producer to consumer which, under existing conditions shames the intelligence of the entire Nation. Nor do we believe for a single moment that we have over-estimated the gravity of the situation. The two last census decades reveal an increase of over 100% in farm mortgages. Likewise they show that approximately 40% of the farms of the Nation are in the hands of tenants—with rural population growing constantly less. And these alarming conditions offer overwhelming proof of the fact that the hour has come when farmers must organize and, like the manufacturer, merchant, Organized Labor and other classes demand the production cost, together with a reasonable profit on the things produced upon the farm.

But this does not mean for a single moment that we propose to relax our interest in better farming or that we expect farmer organization to take the place of thrift and intelligence. On the contrary, what we are trying to do is to give thrift and intelligence a fair show—to reward them as they are rewarded in other fields—to so intrench them that they will no longer be at the mercy of the "stuffed club" of the Packers or other manipulators who can, under present conditions, destroy within the space of a few hours or days, the years' profits for millions of farmers.

And now, my good Brother Farmer, won't you put your "shoulder to the wheel" and help? Won't you try try to get a half dozen of your neighbors to give you a dollar for two years subscription to the paper so they may become enlisted in this great fight? If you would like to see a Farm Club organized in your district, this is the quickest way to bring it about. We are fighting not merely for you alone. We are fighting for a "square deal" for your children in the years to come. With a good fighting friend in every school district we could soon make THE MISSOURI FARMER the greatest power in the state—and won't you help do it? I will be glad to send you a bunch of sample copies and full information about organizing a Farm Club if you will send a 2c stamp to cover postage. This is **your** fight.

WILLIAM HIRTH, Publisher.

Ownership of The Missouri Farmer

In accordance with the law enacted by Congress which requires newspapers and magazines to file a statement showing the name of the editor, business manager, the owners of the publication and the names of any bond holedhs, mortgagees and other security holders, The Missouri Farmer has filed the following statement with the Potsoffice Department: The managing editor is Geo. B. Ellis. The business manager is William Hirth. The Hirth Publishing Company, which owns The Missouri Farmer, is incorporated for $20,000 divided into 200 shares, 189 of which are owned by William Hirth and 10 shares by Lillian Hirth.

COME LET US REASON TOGETEHR

A Boone County subscriber writes the following letter to THE MISSOURI FARMER which probably shows why it is some farmers are not in favor of the Missouri Land Bank.

Mr. William Hirth, Publisher:

I am a reader of your paper and I want to thank you for the many good things you advocate in the interest of farmers. However I can't see that Land Bank Bill like you put it up. I have read and re-read everything you said about it. There are several features about the measure I do not like and I will only speak of a few of them.

It provides for a number of expert land appraisers at a salary of $2,000 and expenses. Can you show me a man who is careful about his expenses when the other fellow foots the bill? In the next place it takes so much money to run the state as the matter now stands when both the lender and the borrower are supposed to pay taxes but if I borrow $1,000 and bu a piece of land and you have the $1,000 and buy bonds with it then where wil the taxes which are released from the bonds come from? Will not the land have to make it up?

If I borrow $1,000 I can elect to pay it in five annual payments of $240. Then I would pay $200 of the principal the first year and so on for the five years. Now at the end of four years I have paid all the principal but $200 and have just as much interest to pa at the end of the fifth year as I did the first year. Now did you stop to think the interest would be $200? I can borrow $1,000 at 7 per cent and pay $200 on the principal each year, the interest would only be $210 so I have only gained $10. Do you think that would pay? You can pay only on any interest paying date. When you tie a farmer down to a certain day it will catch him sooner or later and then he can get only half of the worth of the land.

This is a little of my own experience. In 1899 I bought a piece of land borrowed four-fifths of the money at 6 per cent and could make a payment on it any day in the year when I the money. As I now see it I can't support the Bill. J. B. Hendrix.

Editor al Comment:

Your discussion of the Land Bank has been referred to me by Mr. Hirth and I am going to talk it over with you through THE MISSOURI FARMER in a neighborly fashion. In the first place the printer made an error in Mr. Hirth's article. The annual payment on $1,000 under the Missouri Land Bank will be only $224 for a five year loan instead of $240 as the printer had it. I also note some mistakes in your figures but let us try to get at this matter so we will both understand it. So I will take up your objections in their order. But before we begin to answer your criticisms let us first ask if you have any prejudices or self interest in this question? If so you must try to put them aside or it will be of no use to discuss the matter. This question of better credit facilities for borrowing farmers must be considered from the standpoint of the general good and not from that of any individual. I find some men opposing the Gardner Land Bank because they are opposed to any change—think the present order of things is good enough—these men are controlled by prejudices and of course they are not going to be convinced. I find other men who have a little money to loan and they are against any plan of rural credits because they fear it may cut down their interest, forgetting, of course, the help it will be to those who are most in need of help—the mortgage-ridden farmers. In the same class, I find men who are stockholders in banks and trust companies opposing the Missouri Land Bank and the reason is apparent, it is self-interest, and selfishness is about as hard to overcome as prejudice. You know the good Book says "Ephraim is joined to idols, let him alone" and I am not expecting the above classes or others I might mention to favor the Land Bank Bill. But all men who will study this measure carefully and who can understand the inevitable trend of conditions in this country and who will divest their minds of prejudices and selfish interests I am sure will be for any practicable scheme of better farm loans.

In 1910 nearly three-fifths of all the farm land of the United Sstates was owned by less than one-fifth of the land owners. One-half the farms of the country, approximately, are now mortgaged and more than one-third are run by tenants. Suppose these tendencies keep on, how long will it be before the land will be in the hands of a few men and the rest will be tenants? Do you want to see that condition in this country as it now exists in England or do you want to see the land well distributed among the many who will own and operate it just as the farmers of France and Germany do today? We are at the forks of the road on this question and we must take our choice which way we will go.

Your first objection to the measure is that it provides for expert appraisers who will value the land. Now lets be fair. How otherwise would you get at this? Would you take the borrowers word for it? That would be idiotic would it not? These appraisers will get their salaries out of the reserve fund and the one-half per cent all borrowers pay on their loans to that fund will pay all the appraisers and create a nice surplus besides. The appraisers are not appointed by the Governor at all, but they are appointed by the manager of the bank and must be approved by the board. This is just about as safe as it can be made. Who pays the expense of appraisement now? The borrower of course. One insurance company which has twenty million dollars loaned in Missouri pays their chief appraiser $6,000 a year and expenses—just three times what the Land Bank will pay.

The reason these bonds are exempt from taxation is to make them sell readily at par, drawing a low rate of interest. They are exempt because double taxation is wrong. Now, suppose on the first day of June you own an 80-acre farm worth $4,000 on which you are assessed for taxes and I have $2,000 in money on which I am assesed. The state then gets taxes on a $6,000 valuation from both of us. But suppose that on May 31 you sold me the land for $4,000 taking my note and mortgage for $2,000 and the $2,000 in cash. Now what happens? There is no more wealth or property than before but the assessor will get you for $2,000 cash, the $2,000 note and will get me for the $4,000 on the lanc. On the same property we will now pay taxes on $8,000 instead of $6,000 as before. Do you see anything fair about that? No, the present system is more like the single tax because it places more tax on the land and the Land Bank will take it off by giving the borrowers a lower rate of interest. But most of the money loaned on our farms comes from outside the state, is loaned by insurance companies and other corporations or individuals and these bonds and mortgages are not assessed now. If we should require a small registration fee for all these mortgages we would make the man outside the state pay the same as the one inside and without the double taxation would get a great deal more money into the state treasury than we do now.

Now as to comparison of the cost of a loan from the Land Bank and from a private source, let me give you this illustration which I think will make it plain to you. You can get a 5-year loan of $1,000 from the Land Bank and pay it off, principal and interest with five payments of $224 each. If you borrow $1,000 at 7 per cent in the ordinary way and make the same payment, $224 a year, you will still owe after making the five payments $114.39. That is quite a saving on a small loan don't you think? But there is a much greater difference if you make the time 20 years, and few land loans are really paid off these days in mucn shorter time. If you borrow $1,000 from the Land Bank for 20 years you will make twenty payments of $75 each and the debt is wiped off the slate. But if you borrow $1,000 in the ordinary way at 7 per cent for 20 years and make the same twenty payments of $75 you will still owe $795.07. Would not $795.07 look pretty good to a man after he had struggled along for 20 years with a $1,000 mortgage on his farm?

Your last objection is that the Land Bank allows payments to be made only on interest paying dates. While there may be a few loans made by individuals who will take payments at any time, we think it safe to say tat more than ine-tenths of the money loaned on Missouri farms can be paid only on interest paying dates and so this is only following the ordinary rule in this matter.

I hope I have made this plain to you. We should study these questions apart from our own personal interests. Perhaps you nor the writer will ever negotiate a loan from the Land Bank if it is authorized but there are more than 128,000 mortgaged farmers in this state who will be benefitted by it and for one I am ready to help them. Geo. B. Ellis.

Our crop yields may not have been all that we would have had them, but with hogs and cattle prices "away up in the tree tops" there's much for which to be thankful.

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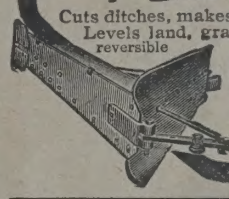

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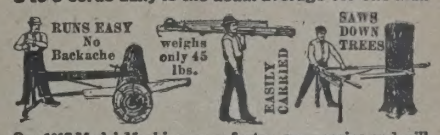

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The Code of the Mountains

By CHARLES NEVILLE BUCK

A STORY OF A MOUNTAINEER WHO BECAME CIVILIZED

The town of Winchester, like all the county seats of central Kentucky, breaks from its drowsy somnolence into a brief activity on court-day. On one Monday in each month the roads fill with an unaccustomed caravan of trade. Then under the hammer of the street autioneer farm gear and live stock change hands; saloons and eating-houses do a banner business; politicians often harangue in the court-house square; friends renew old acquaintanceships and sometimes enemies renew old quarrels. But Winchester differs in one respect from its sister towns. The savor of a soil rich in chilvaric traditions hangs here as it does over neighboring counties, and yet there is a difference. For Winchester is the nearest town of consequence to that foothilled borderland where the opulent bluegrass ends and the illiterate Cumberlands pile their grim ramparts. Here come the farther-wandering traders from the mountains; gaunt men with steady-gazing eyes and lean sinews and noiseless tread, to mingle with the louder-spoken and fuller-nourished brothers of the lowlands. It is on court-day that they come in greatest numbers. Here, too, live some of their own kin whom the menace of feudal reprisal has driven from their native slopes and "coves." With the montaineer's strong yearning to remain as near as possible to his birthplace, these refugees have made new homes and new lives at the edge of the bluegrass where on occasion they can again see familiar faces. From Frankfort to Wincehster is a matter of almost fifty miles, and Newt Spooner, who had taken up his homeward journey on a Saturday morning, saw its court-house cupola and church spires pierce the screen of foliage on the forenoon of Monday, which chanced to be the Monday allotted to Clark County for its court.

Newt was very tired and very hungry. His rebuff at the farmhouse had festered and rankled in his mind, and he had refused to ask hospitality again or to speak to any man, save for the curt asking of necessary directions. In Lexington he had bought himself a "snack," but because he was penuriously hoarding his small capital, he spent with a stingy hand and pushed onward unsatisfied.

Now, as he trudged wearily, he saw a figure by the roadside at his front. The figure was that of a negro, who sat on a rock pile in the sun, hammering limestone chunks into road metal. As the boy came nearer, he saw another detail. The black man, though unguarded, was a prisoner and he sat safe against the chance of escape by reason of the huge iron ball fastened to one ankle by a padlocked chain. The white man, himself so lately released from the penitentiary, halted. He had the mountaineer's chronic aversion to "niggers," but here was someone whom he could question and who was in no position to insult him.

"How fur mout hit be ter Winchester?" he demanded.

The negro, welcoming interruption and conversation, turned with his granite-headed hammer poised over a piece of limestone.

"It's a right-smart piece, if a man's leg-weary. It's about a mile, boss," he said.

A mile to the hills-man is nothing; a mere "whoop and a holler," yet now it seemed to the ex-convict as his informant said, "a right-smart piece." The glow which spotted his pallid face at the cheekbones told of a temperature. Through his limbs went a dull ache. From time to time he coughed. Finally the negro laid aside his rock-hammer, and gazed long and inquiringly at his silent visitor. He, too, recognized the state-bestowed clothing and its meaning.

"'Scuse me, boss," he suggested, "but yer done come from Frankfort, ain't yer?"

Newt Spooner nodded, but his eyes narrowed, discouraging interrogation.

"Was yer—was yer in de pen'tenshery, boss?"

The man chained to his rock pile doubted the wisdom of his question but African inquisitiveness had mastered his better judgment.

Instantly he recognized his mistake. The boy from Troublesome was at once on his feet and his sallow face was distorted with anger. From his lips came profane volleys of abuse. Transported by rage, he took a step forward with clenched fists. The negro clambered to his feet, and, since he was anchored against flight, backed away defensively, waving his rock hammer.

Newt Spooner selected a huge fragment of the scaly limestone, and withdrew just beyond the range of hammer and chain; but as the negro, in a paroxysm of terror, fell pleadingly to his knees, he dropped the missile at his side.

"I hain't a-goin' ter bust in yore black head," he said in slow wrath, "because I got another job ter do. Thet's ther only reason why I hain't a-goin' ter kill ye." Then he turned into the road and took up his joruney again.

* * * * * * *

Back there in the fastnesses of the hills, toward which he was making his way, the leaven of change was beginning to work, yeast-like. When he reached his destination he was to learn with surprise that he could not take up without interruption the story of his life; the story out of which pages standing for two years had been torn. Births and deaths and the giving in marriage were not the only things that had happened. Quietly a new agent had entered in; the agent of a patient spirit of education. This spirit came burning in the hearts of men and women from below, who realized that they must breast stubborn opposition and that they must adapt their methods to the life they sought to change. They must plant and nourish the new idea in the younger minds and they must not seek to alter in a twinkling a regime that had long been immutable.

But buried deep in the forestry of the tangled hills, far back from a railroad stood a group of buildings that seemed miracle-reared. They were stanch buildings of square-hewn logs, which in contrast to the ramshackle huts about them appeared to have been lifted from another world and transported on the winds of some benevolent cyclone. It was difficult to think of these houses as having been raised from solid foundation to level ridgepole so far from the facilities of transportation. Yet here in the wildersness stood the "college."

It was no vaunting boastfulness that had inspired the almost fanatical men and women who stood as sponsors for the enterprise to give so high-sounding a name to the institution which taught kindergarten and primary classes. Some day, they hoped, it might grow up to its title, and meanwhile there were gray-beards and wrinkled women who sought to study primer and multiplication-table, but whose pride would bar them from advantages undignified by the name of college.

On the spring morning when Newt Spooner was trudging homeward, Doctor Murray, who had slowly and courageously turned his dream into a reality, sat in the study of the college. There was a smile on his lips, and the square-jawed face, which escaped all trace of the pedagogic, was contented. The sun streamed in through his windows and lighted a room finished in wainscoting of oak and maple—sawed at the mill, which was part of the instituition and which he could see from his window, when he looked down.

Above, when he cast his eyes in that direction through another window, nestled the small hospital, where barbaric methods of local surgery were being altered. But, best of all, there came to his ears laughter and shouts from the trim campus where boys and girls were at play; boys and girls who until they had come here, had known little about laughter and much about drudgery. And every peal of mirth was a challenge to the old order of hatred and the ancient thraldom of sullenness.

A girl came into the room and laid some papers on his desk, and the doctor nodded at her with a smile.

"Minerva," he said, "I'm afraid you are working too hard. One doesn't have to learn everything at once, you know."

The pupil flushed and stood for a moment silent. She was straight and lithe, and under the blue calico dress that was turned down at her neck, her throat was brown with a tan through which a petal-like color glowed. Her brown hair glistened with the glint of polished mahogany, and her eyes struck the doctor as eyes meant for mirth, though they had hardly learned to laugh. The deadly seriousness of the hills and the Calvinistic seriousness that makes martyrs, seemed to hold in bondage a spirit that nature had intended to radiate gaiety. Her fingers drew themselves together into fists, and after a moment she spoke slowly, and her speech was a strange blending of the illiterate argot of the hills and a conscious effort to speak in the phrases dictated by the education which she coveted.

"I reckon ye don't hardly know how much I've got to learn," she said. "I reckon ye don't realize how plumb ign'rant I am."

Suddenly her voice became passionate.

"Maybe ye don't know how I hate it all—how I want to get away from ign'rance an dirt an' wickedness. I've been wonderin' if I didn't err in comin' here. It's just makin' me hate that cabin over yon—I mean over there—on Troublesome. Sometimes I think it can't hardly do nothin'—do anything—but make me dissatisfied."

The head of the school looked up, and his face grew grave.

"There are times," he said, "when that thought comes to me, too. I don't mean as to you, Minerva, alone, but as to all hose we take here and teach. At first it was all a dream of bringing a light to a place that was dark. That was the only phase I saw. But later I saw more. One can't make a dream a reality without struggle. Dissatisfaction is the price we must pay for regeneration—and people like you and myself must be among the first to pay it."

"Over there," she went on, as though talking to herself, "they only hates me for it. They says I'm stuck on myself an' that what's been good enough for my folks for all time ain't good enough for me no more—I mean any more."

"It takes time," the man reassured her. "In the place of ignorance, we offer education. In the place of lawlessness, we offer law. In the place of squalor, we offer thrift. Are those things not worth what they cost?"

The girl stood silent for a moment, then nodded her head.

"I reckon so," she answered simply, and turned to leave the library. After she had gone, the teacher sat for a time with his book open before him, but his eyes were contemplative, and it was from memory and not from the printed page that he was reading.

He was thinking back and seeing over again a day shortly after his school had opened. In those times there had been fewer buildings, and of the many pupils who came, hungry to learn, only a few could be taken in. Among the first had been Minerva.

She had come exhausted and tired because she had come on foot, and her mean calico dress had been briar-torn, and her feet, which were bare, had been bruised. But in her eyes was gleaming a passion of hunger and resolve for the food which the school offered the mind. She had presented herself, a ragged little medicant asking the alms of education, carrying what belonging she had in such a bundle as tramps carry.

Back in her unlighted and windowless cabin, she had heard of this "new-fangled" institution where was to be dispensed the pabulum of "larnin'"—and she had made her pilgrimage. Now Doctor Murray was recalling that day. He had been down by the stile which gave entrance from the creek-bed road, when he had seen the slight figure trudging along, and the girl had stopped and eyed him shyly.

"Air ye the feller frum down below what aims ter give folks larnin'?" she had demanded, as her large eyes held his with a tense directness, untinged by any humor.

"To give folks learning is a large contract," he had answered with a quizzical smile; "but we hope to give to as many as we can, at least its rudiments."

"What's them?"

"The start. Have you ever been to school at all?"

"I've done been ter the blab-school. I kin read an' write an' figger."

Dr. Murray had stood there looking at her, and it had come to him that she made a very pathetic picture, with the yearning in her eyes and the dust of travel on her calico, so he denied her with a heavy heart.

"Just now," he said regretfully, "we can only take in a few pupils and we are already overcrowded. I'm afraid we can't make room for you." Suddenly he added, "How far have you come?"

"The rise of twenty mile, sence sun-up," she informed him simply, then tears welled rebelliously into her eyes. Her voice broke from her lips with a fierce passionateness.

"Ye've got ter take me," she cried out. "Ye've jest simply got ter take me. I've done been prayin' ter God Almighty ter give me a chanst. I've done heerd that ye war a preacher of ther Gospel, an' I reckon God hain't a-goin' ter suffer ye ter turn me away."

Doctor Murray had then been new to the hills. The storm-like intensity of the mountain character was bringing him its revelations. He stood there by the road, watching the ox-teams that were bringing logs in to his saw-mill and made rapid calculations and as he did so he heard the new candidate for matriculation rushing on:

"There Scripters says thet God's servant won't tern away sich as comes to him seeking light—an' I've done come."

"At all events," he answered gently, "come up and have something to eat, and I'll talk it over with my wife."

Mrs. Murray had spent a half-hour with the girl, and then had come back to her husband.

"She is as wild as a squirrel," was her announcement, "but I have never seen such a starving heart or brain. I don't know what we shall do with her, but we must let her stay." And so Minerva had stayed.

Now she went out of the library, and made her way to a favorite spot up on the hillside. It was a study hour, and she carried a book with her. The time she had spent here had wrought a transformation. The brain had unfolded and the heart had become unplaced. The terms of this school adapted themselves to the needs of the environment. They did not conflict with the nearer demands of farm work, but accommodated themselves to necessity. When the frequent vacations came, Minerva went back to the cbain which she called her home. Each of these visits she dreaded.

Mountain reserve is hard to break. Even in her tempestuous appeal to the head of the school, she had not told her full story. Now she was thinking of it.

Mountain women grow old while they are yet young, but her mother had seemed to her different. Mountain women are grave with a gravity which is more than half sullen, but she remembered a mother who had laughed and whose voice had been often raised in song. Then when she was still very small, she remembered one of those rude mountain funerals where those who come raise their voices in a weird incantation of "mourning," which they leave off for gossip as soon as the period set aside for the clamor comes to its end. After that she had been motherless and had kept house for a shiftless and surly father. That house-keeping had been simple enough in the shack of one room, but it had been unrelieved drudgery, and because she was one of those human beings who are less near of kinship to the members of the family with whom they live than with some far-off ancestor whose nature is strangely duplicated, Minerva had al-

ways had longings for things which were to her undefined dreams. Her nature had always been in insurrection against the squalid facts of her life. Her inclinations and thoughts struck back, by one of Nature's practical jokes, to some woman who had been a lady in the courtly life of Virginia a century, or maybe two centuries, ago, before her ancestors became stranded pioneers and lapsed into illiteracy, degeneracy and venal sloth here in the hard hills. What this all meant she had not known, but she knew that one memory alone was sweet to her thoughts, and that was the memory of her mother. She knew, too, that even before they had taught her at the college how perverted it all was, this whole scheme of mountain feudalism and black ignorance and bitterness had seemed to her wrong and repugnant. Something had told her that somewhere there must be something different and that somehow she must find it and weave it into the pattern of her life. Of these things she had thought as she sat in the summer evenings on the slab bench before the cabin door. In summer there was a great pine, which, just after twilight had faded into velvet blackness in the sky, pointed an index upward beyond the valley; and over it, before the other stars came out there always appeared a tiny point of light, which she chose to call her star. Somehow, it seemed that in some vague future day that star would lead her.

She was often alone, for her father would leave her there and go his own ways, but a day came when he returned and began throwing his few possessions into a bundle.

"M'nervy," he said with a sullen sort of embarrassment, "I reckon thar's times when ye gits right-smart lonesome way up hyar, hain't thar?"

A catch had come into her voice as she said:

"Right often, Pappy."

He nodded, then added abruptly:

"Waal, we're ergwine ter nail up thet door ter-night an' quit this-hyar place."

"Whar air we a-goin' ter?"

"I done got myarried terday," he announced. "I reckon we'll go down an' dwell with my wife's folks."

The sun was nearing the western peaks and the afternoon was well spent. The girl had had no intimation in advance of this contemplated change of order. She stood there stunned. Life had been empty enough, but here at least she had been in a fashion mistress of the wretched house, and here she had had her pine tree and her star, which were the emblems of her dreams.

A long, low moan escaped her, and her father's face reddened in anger. He turned away and left her, going into the house, and she fled precipitately to the heights above and sobbed out her misery at the roots of the pine to which she was bidding farewell.

Then they had moved, and life had meant fitting herself into a new family, no member of which liked her, and submitting to the shrewish heckling of a step-mother, who seemed to her a hideous libel upon the memory of the woman who had been lucky enough to die young.

Now, as she sat with her book in her lap, because in a few days she must go back to that cabin, the past was parading in review before her eyes, and though she was very hungry for "larnin'" she was neglecting her books.

CHAPTER III

The late convict had wasted his strength. His violent paroxysm of anger had exhausted him more than his laborious tramp. It had sent his temperature up and brought a sickening weakness to his muscles. He wavered as he plodded and once or twice even stumbled to his knees, until at last, with only three-quarters of a mile left, he turned aside to the bank of the roadside and sat down with the sweat of weakness dripping from his face.

It was such a day as must have set poets to making jeweled phrases out of words. The air and skies held that radiance which can make of a Kentucky June morning a miracle of beauty. The horizons were dreamily soft and warm. In the field at Newt Spooner's back a meadow-lark was madly trying to burst his pulsating throat with the flood of golden joy. In Newt Spooner's mind was a somber picture; a picture of the mountains which a few days more would throw across the eastern sky-line, and of a man who lived there and who was to die. He was to die without opportunity to defend himself and without benefit of clergy. It was not to be a fight, but an execution. In the entire mental range of the young man panting by the roadside was no reflex of any other thing than brute bitterness and "pizen meanness."

A buggy and horse rose into view over the crest of the hill. It had only one occupant and the occupant was a girl. She was unlike any woman Newt Spooner had ever known; unlike any of the "gals" back in the mountains. Her lithe figure had all the spirited quality of the thoroughbred. And just as to Newt Spooner the world held only gall, so to her it held only fragrance and music and sunshine—and an abiding faith in men and women.

She was happy because she had not yet discovered any unhappiness and because she was young * * * and because to-day she would see in Winchester a certain member of the opposite sex in whom her interest was direct and personal. Meantime, June was softly glowing around the whole circle of the sky's embrace and the trees were rustling their fresh greenery and the birds were singing.

She was singing, too, but suddenly she stopped as her eyes fell on the young man by the roadside. Her quick gaze discerned that he was desperately thin and that the color in his face burned only in hectic spots against a chalky pallor. She saw, too, that as he wiped his forehead on his sleeve his forearm and hand trembled. His clothes proclaimed him lately released from the penitentiary, but her ideas on the subject of prisons were vaguely confined to a compassionate regret that they existed. Quite probably had she found him there looking weak and sick even had he worn stripes, she would still have offered him help. She drew the horse to a standstill, and called out cheerfully in a voice as tuneful as the lark over yonder in the field:

"Good-morning. Can't I give you a lift?"

Newt Spooner gazed back at her sullenly and definnatly. The dog that has only been kicked distrusts the hand thrust out in kindness. It is unknown to his experience.

"Naw," he declined, with as surly an utterance as possible.

The girl flushed and her lips tightened. She flung back her head with a gesture that set truant curls tantalizingly astir and flapped the reins on the horse's back, but in quick afterthought she drew him down again. This boy's rudeness did not alter the fact that he was sick. He looked like a mountaineer and could hardly be expected to measure up to the bluegrass requirements of courtesy.

"You're about as polite as—as a mud-turtle," she calmly informed the traveler, holding his eyes with an unflinching gaze, before which they shamefacedly drooped; "but that doesn't make any difference. I'm going into Winchester, and you don't look very well. Hadn't you better get in and ride to town?"

The boy from Troublesome stared his incredulity. She seemed to him a marvelous sort of being. Her simple dress was to his eyes extravagantly elegant and her patrician delicacy of feature belonged to an order which neither the drudgery of the hills nor that of the state prison had given him opportunity to study.

"I reckon," he said slowly and diffidently, but no longer with a note of bitterness, "hit hain't wuth while to pester ye."

"That's all right," she commanded. "Climb in." Slowly he rose and obeyed, and when they had gone a quarter of a mile. Newt made his sole voluntary contribution to the conversation.

"I'm obleeged ter ye," he said.

She did not question him unduly nor ply him with conversation, but she smiled, and in some subtle fashion there broke through the storm-wreck of the boy's bitterness a thin ray of light and glow of graciousness. She let him out at the court-house square, where buggies stood in rows and traders jostled and the auctioneer's shout resounded, and there he lost himself in the crowd; but first he stood looking after her until her buggy turned a corner, and then he remembered that she had nodded with a freindly smile of farewell. It was rather wonderful to be treated like a human being.

Newt Spooner wanted food and he wanted it to be cheap, so he foraged up and down Main Street until he came upon that lower section where several shabby eating-houses were sandwiched between equally shabby saloons.

And while he stood on the pavement undecided which way to turn, a hand was laid on his shoulder, and he wheeled, startled, to find himself gazing into the face of his kinsman, Red Newton.

"Come hyar," commanded the older man. "I done heered thet ye was pardoned out, an' I sorter 'lowed ye'd be making tracks fer ther mountings. I wants ter have talk with ye afore ye goes back."

"I aims ter git a snack ter eat," demurred Newt. "I hain't a-goin' ter talk ter no man afore I eats."

The other nodded.

I knows a place whar we kin eat an' talk, too. Fult Cawsler hes done moved hyar from over on Squabble Creek, an' opened a resteraw. All our folks eats thar.

(To be continued.)

I Like To Make Money—Do You?

OF course you do. You want to know how. You want to be honest and square and you are willing to work, but want the right start. All right—let's get together. You write me and let me show you what others are doing. If you have energy and punch, I'll furnish the way.

Just Follow My Plan—I'll Show You and Back You

Just the same as I have thousands of other men—just like yourself. And there's no trick to this. It is simple and straightforward. It shows a man how to best use his ability.

My Big Page Ad Which Preceded This

has brought me thousands of inquiries from men in all walks of life. No doubt you saw this ad but neglected to answer. Now, don't do that. Think! This means money to you and it won't cost you a cent to find out. I have been making money myself and for other men for years. And I want men who want to make from $100 to $200 a week. My men are doing it every day. You can do it, too.

Answer This Advertisement Now

Sit down now and write me a letter—not necessarily a long one, just tell me you are interested and that you want to know more about the proposition. Your name and address will bring you everything.

My Automatic Combination Tool is a Mechanical Marvel

It's a tool that farmers, teamsters, auto owners, contractors and builders have simply got to have. Once they know its merits they want it.

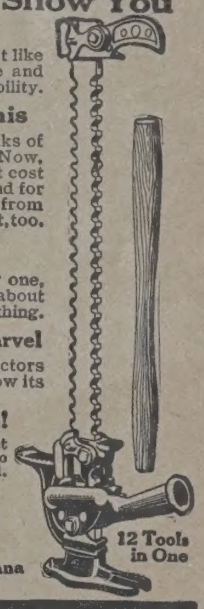
Write Me Now—Don't Lose a Moment's Time!

I'll tell you the whole story, in all its details as soon as I get your name. That's what I want now. I want you to put it up to me. Just address me or the company. I'll get the letter or card. And please don't put it off. Address

P. J. Harrah, President

The Harrah Manufacturing Co.

122 Main St. Bloomfield, Indiana



ORCHARD AND GARDEN

Celery may be banked with earth or boards to cause it to bleach well.

Follow up the premium won at the state or county fair with a little judicious advertising. It will help make sales.

If you don't want a lot of seedling asparagus plants coming up wild in your patch, remove the fruiting canes before the seed shells.

Have you laid in a supply of walnuts, butternuts, and hazel nuts for winter use? There may be a few on the trees yet, although the squirrels have been busy.

One of the pretty sights at this time of year along a few of our country roads are flocks of quail. They are protected by law and have some chance of increasing if the winter is not too severe.

Now is a good time to get together the horticultural books, bulletins, and papers for use this winter.

Have you saved seed of fruiting-shrubs and nut plants to plant next spring? Put them in sand until spring and then plant.

Some vegetable growers have found that it pays to put produce in packages that are easily salable. This saves recounting and handling. Thus, one-third bushel baskets are used for perishable crops like tomatoes; corn is put in sacks holding six dozen.

Be sure the shrubs and trees go into winter with plenty of water at the roots. Remember considerable moisture is lost from the tree from the time the ground freezes until it thaws in spring. Don't water the top of the ground only, but the soil clear to the roots. This means many heavy rains or watering by hand. Mulching later will help to save water, but it must be in the ground to be saved.—LeRoy Cady, associate horticulturist, University Farm, St. Paul, Minnesota.

Federal Farm Loan System

No subject is of greater importance to farmers just now than that of farm loans or as it is usually referred to as rural credits. About half the farms of Missouri are mortgaged and the relative number is increasing every year as well as the amount of the loans.

The new Federal System now being organized will premit farmers to borrow money at the lowest rate of interest and on long time with easy payments and every farmer should acquaint himself with the system and be ready to get its benefits.

The fullest and best explanation of the Federal Farm Loan System that we have seen is in a new book just off the press written by Herbert Myrick, author of co-operative finance, every question concerning the subject is explained. Price, $1.00 net.—Orange Judd Company, Publishers, New York.

THE PUBLISHER'S CORNER

Do you know my good friend that if the Farm Clubs of Missouri will take over the complete buying of corn, hay bran, shorts, cottonseed meal and cake, oil meal, tankage, flour, coal and salt that it will mean the saving of several hundred thousand dollars this winter? —and that if we had a Farm Club in every school district in the state it would mean the saving of several millions? And why in heavens name shouldn't we do this? THE MISSOURI FARMER is in position to furnish you the lowest wholesale price on all these commodities—and all in the World you need to do is to send us a 2c stamp for literature, Constiution, By-Laws, etc., call a school house meeting, perfect an organization and then get in touch with us when we will do the rest.

Scores of farmers have done this within the last few weeks—but the wonder to me is that we haven't heard from some aggressive, wide awake farmer in every school district in which THE MISSOURI FARMER circulates. The other day in the same mail, we heard from one Farm Club which has recently saved $300 on mill feed. Another had saved $75 on coal. Now isn't this just like finding money in the middle of the road—and isn't it a serious reflection against the common sense and thrift of farmers when they do not place themselves in position to pick up this money?

Especially should this appeal to farmers in the drouth stricken sections of the state where much feed will have to be shipped in—and where, beyond the slightest question, we will be able to save farmers many thousands of dollars if they will only give us the chance. To this end, won't you, my good brother, take the lead in your school district?

* * *

The market on cottonseed meal, cake and linseed oil meal has been climbing so steadily during the last 30 days that it has been impossible for us to quote prices which would hold good for 48 hours. However, we expect the market to find its level in the next week or ten days and I feel sure we will be able to affect a saving of several dollars per ton to the cattle feeders of the state on these items and if you and your neighbors can use a carload of either of the above commodities, get in touch with me at once. We will be willing to help you out in this matter whether there is a Farm Club in your district at the present time or not, for fear that the perfecting of an organization might delay matters too long. But after we have helped you I will expect you to perfect a Farm Club as soon as possible—for you owe this much to this great movement which can never be made a real success until every school district in the state has been organized.

* * *

We are trying to locate a lot of corn in Iowa where a fairly good crop has been raised in order that we may move it direct from Iowa farmers to Missouri farmers who will have to buy—but should we not succeed in locating enough to supply our Farm Club friends, we will put you in position to order direct from a big commission company and in this way save you considerable money in any event.

* * *

I heard a farmer compliment the Packers the other day on the prices they are paying for prime hogs and cattle. I asked him whether he remembered the prices they paid a year ago and whether, if hogs and cattle are worth what they are bringing today, they were not worth a great deal more than they brought last fall and winter? He answered, "Yes it looks like it." As explained in a recent article in THE MISSOURI FARMER, the Canadian Packers and the independent buyers are giving the "Big Bunch" the greatest "run for their money" they have had in years. These little fellows have captured a lot of foreign meat orders and as a result there has been a battle royal for the available supply. The moment these independent fellows cease to be a fighting factor however, the big fellows will smash the market within 24 hours. It isn't because they have had a "change of heart"—and today, just as a year ago, they constitute a "sword of Damocles" which hangs suspended over the head of every live stock producer in the land. And we will never be safe until the power of this giant monopoly has been permanently destroyed—and nothing short of the most powerful farmers organization the Country has ever known will accomplish this herculean task. There isn't a live stock producer in Missouri who isn't destined to feel the clutch of the Packers Combine many times upon his throat during the next ten years unless we destroy its present power—and I hate to see a farmer who goes to sleep the moment he gets one square meal in his stomach and thus forgets the wrongs of other days or the wrongs that are certain to be perpetrated in the future. Again, is there any "philanthropy" in present prices when the cost of feed is considered?

* * *

We have made arrangements to buy Alfalfa Hay direct from the farmers of Kansas and undoubtedly will be able to affect a big saving for our readers. Therefore try to make up a carload order and then get in touch with THE MISSOURI FARMER at once. In a little while this hay will be in the hands of dealers and then it will be too late. Don't forget to let us know whether you will have corn to sell.

William Hirth, Publisher.

SAM JORDAN'S SENSE AND NONSENSE

Are you worshiping $'s or manhood?

* * *

But what's the use to growl about every thing?

* * *

Approach every duty bravely, even the woodpile.

* * *

If your neighborhood is up-to-date, who has made it so?

* * *

If farmers had their way, the dirty booze traffic would soon be a relic.

* * *

A sure cure for corns.—Get six feet under the ground, cover up well, and stay there.

* * *

Did you ever think that a wrong act bravely done, may not be much worse than a cowardly shirking of an evident duty?

* * *

By the way, I saw in the paper something about a foot ball "squab," although I do not know what that is. The paper did not state.

* * *

And for that matter if there is "something you don't know," and are afraid to say you don't, is that cowardise, or is it ignorance?

* * *

Your uselessness usually determines your social position. The social "lion" is just about as useless as a fat pup, and almost as interesting.

* * *

If all the town loafers were made to work just two hours each day on the walks, parkings, streets and alleys, what fine towns some towns would be?

* * *

Do you put the "best on top"? Or your finest in the show window? Or do your goods come up to the sample? If not are you not a business coward?

* * *

Farmers should know more about politics,for if farmers do not look after their own interests, it should be very evident that other people will not do it for them.

* * *

Don't farmers have gumption enough to go to Congress? I scarcely think such is the case but politicians have made us think the farmers haven't got sense enough.

* * *

If all the boozers did not booze, what a fine lot of men they would be? Most all boozers are at heart "good fellows," and a "good fellow" is a man who loves men.

* * *

Thirty men out of every 31 can give but two real reasons why they are Democrats or why they are Republicans. The first and best one is that they were born that way and the other one is that most every man thinks he may some day want to run for office and if he ever scratched his ticket, his "party" will knife him as a candidate. All men at some time hear the buzz of the run-for-office bug.

* * *

Why so few farmers in Congress? and why so many lawyers in Congress? I have no fight on the lawyer up to his fair share of representation, and after that I do have a kick. The lawyer can represent you alright in your divorce suit or some other tangle, but what he does not know about farming would make a good large joke book. He cannot get the farmer's viewpoint any better than the farmer can get the lawyer's viewpoint, hence proportionate representation would at least be square.

* * *

A good thought well said should be passed along. For the above reason, I am "handing in" my son's letter, written to his Grandmother on the event of her 74th birthday. George and his Grandmother have always been "chummy," and great favorites with each other.

George may "put me on the carpet" for publishing his private correspondence, when he is so far away and cannot defend himself, but I am always likely to do the imprudent thing. So will take my chances on results since a fine sentiment well expressed may do good to some one else along the line of life.

* * *

My Dear Grandma:—

I have just received a letter from Father, and in it was a clipping containing a lot of information about that reception which so many of your friends gave you on the 74th anniversary of your birth. The story was well written, but all the words of all the editors, all the space on paper which could be devoted to this one happening, and all the good wishes of the friends gathered to wish you well and many, many more years of life, cannot in even the smallest way, tell of the good, the love, and kindly influence of which your stay on this old Earth has been so full.

You had passed almost half a century when my advent into this world took place. What happened before that is not clear in my mind. No doubt you were much like other girls, —full of life, fun, pranks and the joy of living. Then too, you may have had a dozen beaux, more or less; and then growing into womanhood, you met the man with whom the more than fifty years of married life bespeaks the truest love that could be found. By and by, children came to bless your home. Since this all the joys as well as the sorrows of motherhood have come to you. The hand of death left its mark; the road which all have had to travel maybe has been rough; but when you have lived to that age that you can look back over the past with all its trials and still possess those qualities which make you friends, which cause you to be loved, and allow you to love others, the acid test has failed to leave the slightest blemish on your character; and the greatest commendation that anyone can give are those two words,—"Well Done."

As far back as I can remember, to those days of my toddling steps, your influence has been felt. It may have been a great deal through the bringing-up of that baby girl who was to some day become my mother, that those principles of love and uprightness were so firmly taught me, and with the aid of Dad and a few good spankings, I learned very quickly of right and wrong. I also remember when I used to run to you when trouble threatened, and there is no doubt but that my "nether end" escaped some healthy slaps because of your protecting lap and protecting arms around me.

Then again, were the days with Grandpa. How we used to live at the farm and batch, cut wood, hoe (a little)) fish, and hunt. How carefree those times were for me, and how they never grew old. No boy could have wished for more. With true boy instinct I love that life, because there were no ear-washings, no shoes, pants (usually ripped), a piece of bed ticking for a "gallus", and the customary rag around some sore toe accompanied by the smell of that medicine Grandpa used to use. But the other side, the home coming, was just about as fine. Grandpa was a pretty good cook, but its needless for me to say that your fried chicken, potato salad and pancakes were the best ever.

All too soon these days have passed. Your children are grown, your grandchildren are to manhood and womanhood, with another "sweetest baby" in this world just starting the fourth generation. These things are a lot to crowd into one life, and some there are who might feel the weight of years. But thats not for you. The body may grow old, but the spirit never, the "business of growing old" is not your sphere. With your always cheerful self the thought of age will never be tolerated, and this in itself is the one big assurance that all of your loved ones will have many more years of your kindly influence.

It may often seem that some of us are neglectful. I know myself that I should write you oftener, but Grandma, all the love that any man can feel is what I have for you. No other lap was ever softer, except maybe mothers', and no other hand could soothe me as could yours. So in these days, though I am almost across the continent from you, the boyish love for mother is for you as well; and I want you to know that always when I think of home my thoughts are on you too.

With heartiest congratulations, my very best wishes, and all my love, I am, your grandson, Geo. P. Jordan.

LYON'S PRACTICAL FARM PAPERS

Last week I went to Cincinnati, and while there attended a meeting of the Audubon Society, the society that is doing so much for bird protection.

I find that sportsmen are trying to get some of our game laws repealed, and are seeking an open season on quail again, something we have not had in Ohio for several years.

The representatives from the rural counties will nearly all stand with the farmers who elected them, but nearly all the city members will vote to repeal the law and allow quail to be shot.

We have Cleveland, Cincinnati, Columbus, Dayton, Toledo and Youngstown, all cities of the first class, and about a dozen more in the 30,000—70,000 class, these casting enough votes to override anything that the farmers of the state want.

When engaged in our tobacco war some years ago, the city press uniformly denounced the farmers as "night riders," "barn burners" and the like, when 90 per cent of all the disorder in the tobacco district was actuated by the very tobacco trust that we were fighting, this being done to bring discredit upon us.

In the milk war that is now on, we see in the city press headlines telling of suffering babies in the cities, but only in the farm and local papers do we see the truth stated, this truth being, the milk companies buy the milk from the farmers at 2 to 4 cents a quart, and sell it for city babies, etc. at 7 to 12 cents a quart.

Who cares if the milk producers' baby has to sleep under an old horse blanket, if the city milk company's magnates want to transport their babies over the boulevards in $5,000 limousine?

Writing this on the morning of October 21, a cold wind has been blowing since day before yesterday, but as yet none but the tenderest vegetation has been cut down by frost.

Corn is all in the shock and seeding all done, with some early seeding damaged by fly. Potatoes a short half crop for early ones, and a full crop of those planted in late July with prices getting close to the $2 mark.

A coal famine is on with coal selling at 25 cents per bushel or $5.75 per ton. Just double what we are accustomed to paying.

When we organized, as farmers, for better prices in tobacco, a federal examination was made, to see if we were not restraining trade, and one is talked of in connection with the organization of milk producers, but there will not be any investigation made of coal men's methods.

Farmers are not organized, and when they do attempt something of the kind it is looked upon by our rulers as something near akin to treason, but million dollar corporations are organized, and the same rulers

only consider this good business sense.

Although I have never been a prohibitionist, I will vote for the candidate of that party for president, as the candidates of the two great parties are not in sympathy with me or my avocation, and, I will vote for two democrats and two republicans on the state ticket, but for neither candidate for governor or U. S. senator.

Never again will I cast a vote for a man whose record I do not believe to be clean, or who is not in sympathy with the men who have to feed the world. C. D. Lyon.

By Old Jim Riley

Every 90 days my banker sends me a postal card and asts me t' drop around t' th' bank t' renew my note. When I come in he asts me whether my mule is still livin'. Th' mule went on my note y' know. Then when I say th' mule's still kickin" he gits out a little book, turns to th' 8% Department and I get stung for whatever th' book says. When it comes t' brain work, th' feller that runs th' peanut roaster down on th' corner has got my banker skinned t' death. So far nobody ain't even sed Bevo to me about th' election.

BUCKSHOT BY THE PROFESSOR

Thank the good Lord the election will soon be over and then the politicians will quit chasing around after my little vote.

* * *

Be mighty careful about the kind of young men that keep company with that sweet daughter of yours—for her life's happiness is at stake.

* * *

Where there is real companionship between a father and his boys, the boys rarely ever go wrong—that is, if the father has the right kind of stuff in him.

* * *

When you get up in the morning, make up your mind not to say an ugly or unkind thing to anybody during the entire day. It's a mighty fine recipe for happiness.

* * *

Remember my boy that neither profanity nor vulgarity will help you in the great struggle of life—that, on the contrary, they will close a pile of doors in your face.

* * *

It is up to every one of us to be necessary in the sphere in which we move—and there are some mules who can give a better account of themselves in this respect than some men.

* * *

That Jim Riley person told a friend of mine the other day that I ought to trap polecats for a living instead of trying to write for the papers. Well, if I did and if I landed a half dozen good pelts they would be worth more to society than he is.

* * *

You know I think the average woman gets the worst of it when she marries—but on the other hand, a pile of homes would be happier if the wife tried to make herself more agreeable to the fellow she's hooked up with Even a bear or a mule likes kindness you know.

* * *

Honest Injun now, don't you think this is a mighty clean, fine farm paper—and do you know of any other paper that is making such a hard fight for the farmer? Why not contribute your mite by making up a Club of subscriptions among your neighbors? Don't you realize that there is a great work for this paper to do in Missouri during the next few years and that what it will be able to accomplish depends on the kind of support you and your neighbors give it?

SALESMEN TO STUDY AGRICULTURE

So that their representatives may be of greater service to the farmers of America with whom they come in daily contact the 3,000 salesmen, blockmen and general agents of the International Harvester Company in the United States will study improved farming methods at movable agricultural extension schools to be conducted during the fall and winter in thirty-five cities in all parts of the country. These schools have just closed a two days session in Kansas City, salesmen from many other places being present.

Today, more than ever before, world conditions demand that every acre of American farm land should be made to yield its utmost and that the fertility of the soil be preserved and built up. We must understand the need of crop rotation. We must know how to fight weeds and insect pests, smut and black rust. We must be familiar with the diseases of the farm animals and how to prevent them. We must be made to realize that diversified farming and the raising of live stock are necessary for profitable agriculture.

Given a practical working knowledge of these matters, these 3,000 salesmen will be able to render a greater and lasting service to the people. They meet the farmers every day. They visit them at their homes. They are familiar with the problems which are constantly confronting the farmer and his wife and children. They will have many opportunities to give advice and assistance—to show by actual demonstrations how better crops or more profitable results in dairying or live stock raising may be obtained.

Because of these opportunities for service; because of the need of giving the farmers every assistance possible; because of a desire to be of practical help to the people, to make farm life and community life better, the sales and agricultural extension departments of the Harvester Company are co-operating in this line of extension work.

The movable schools will be conducted by Professor P. G. Holden, director of the Agricultural Extension Department. Professor Holden will be assisted by several members of his staff and the instruction will be thorough on all agricultural subjects of importance in those communities where the schools are held. In addition, many insect enemies of plant life will be exhibited that the salesmen may become familiar with them; with their work of destruction and with the best methods of combating them.

In each city where those Agricultural Schools are held the sessions will last two days and salesmen from neighboring cities, as well as local salesmen, will attend. As soon as the school closes in one selling district it will move on to another district, until each of the four selling districts has been covered.

The schools were conducted in the southwestern territory during September, in the eastern territory during February and in the northwestern territory during March.

INSECT PESTS EASILY KILLED IN FALL

Take advantage of the bugs in their winter quarters, the remnants of old plants, the trash and litter about the garden and orchard. Burn out the fence rows, destroy the trash and litter wherever it has accumulated by burning it or plowing it under. Cut out the dead trees and limbs in the orchard and make them into fire wood.

This cleaning up about the orchard and garden will destroy a dozen or more of our most destructive pests. For example, the plum curculio is now wintering as a full grown beetle in the trash and littler along the fence rows or about the trees; the codling moth will be found in the worm stage within a silken cocoon tucked away under the shelly bark of dead trees and dead limbs; and the fruit tree bark beetles or shot hole borers will also be found wintering mostly as adult beetles in dead or dying trees.

Under the old stalks and rubbish in the garden and about the borders will be found the adult asparagus bettle, bean leaf beetle, harlequin cabbage bug, flea bettles, the striped cucumber beetle, and the chrysalis of the cabbage worm. If you want to kill these pests, pile and burn dead tomato and pea vines and other remains of vegetation in the garden and along the border.

Deep fall or early winter plowing will also destroy many insects. This is especially true of the cut worms, potato beetles, white grubs, and wire worms which are now hibernating in the soil. Late fall or early winter plowing will turn these insects up near the surface and expose them to an attack of birds, poultry and other animals. At this season of the year the insects are in a dormant or semi-dormant condition and when brought up near the surface of the ground they are unable to go deeper in the soil or to construct new cases or cocoons and they are killed by being subjected to excessive weather conditions and to the alternate freezing and thawing.

Fall plowing and cultivation will also enable you to have vegetables a week or ten days earlier next spring because you will be able to plant earlier on fall plowed ground. Early, thrifty, healthy plants are also less liable to injury from insects.—T. J. Talbert, Missouri Agricultural Experiment Station.

A MISTAKE TO SELL ALL YOUR POULTRY

The Missouri Farmer:

No doubt you have already noticed the tendency to market poultry. Presumably this may be on account of the high price of grain. I have been making some investigation both locally and in surrounding markets. One buyer, that gathers from house to house using an auto truck of four decks, tells me that in some cases he is buying all the poultry that there is on the farm. He says too often this is not always stock that the farmer is selling off preparatory to leaving the country or taking up other business but that the farmer feels it is profitable for him to sell, rather than feed it at the present price of grain.

I am sure you will agree with me that it is an unwise move the farmers are making in selling off their poultry too closely, because though grain prices are high they are receiving more for their poultry products than ever. I contend that the poultry raiser cannot afford to disorganize his poultry plans for the little saved in the price of grain. At times the above plan might be logical with most farm animals, but, at the most, cheickens are not heavy feeders and the few dollars saved in the price of grain would not make up for the many dollars that would be made in poultry products.

This last year egg producers, including both market and pure bred had big demands and at higher prices than usual. To the poultry raisers who are selling off too closely with the expectations of buying eggs in the spring and hatching their chicks, there is a possibility that they will be badly disappointed, even though eggs should not continue to be so high priced. A scarcity of poultry would mean a scarcity of eggs. They would be hard to get and in turn many would have to hatch late or not at all.

H. H. Johnson.

STANDARD BRED HORSE SALE!

MARSHALL, MO., NOVEMBER 11, 1916

On the above date we will offer at public sale 25 head of Standard bred horses at the Fair Grounds in Marshall. The offering consists of mares and geldings ranging in age from yearlings to six years old. They are being driven now and are all good individuals. Here is a fine opportunity for anyone in the market.

BEN HUR STOCK FARM

Per L. H. ELMORE, - - - - MARSHALL, MISSOURI

New Corn and Hog Cholera

Hogs often take cholera soon after being put on a ration of new corn, and its use is often condemned on this account. New corn alone is not the cause of hog cholera, but it may be a factor, along with other conditions, that helps weaken the vitality and renders the animal less resistant to disease. In order that new corn may be fed with safety, the animals should be put in a healthy, vigorous condition before time to begin feeding.

When the animals are in a thrifty growing condition, there should be much less danger but the herd should be gotten on full feed gradually. It is well to give them about a stalk of corn per hog the first day, gradually increasing it by one stalk a head every other day so that it is getting two stalks the third day, three stalks the fifth day, and so on until they are on full feed.

This gives the stomach time to adjust itself to the new ration and is a specially good thing to do before turning old hogs into the field to hog down corn. It is less necessary in case of the shoats which are not so likely to overfed because they do not have the weight and experience which enable them to break down the stalks very rapidly.—E. R. Spence, University of Missouri, College of Agriculture.

Shorthorn Breeders Attention

Shorthorn breeders, or breeders who are contemplating of founding a Shorthorn herd will be interested in a good roan Shorthorn heifer calf I have for sale, calved May 18, 1916. This calf is a good one, roan in color, and decidedly well bred. She is out of a big roan cow weighing 1300 pounds sired by Modern Marshall, and this calf is sired by College Knight, the good roan bull recently at the head of the University of Missouri Shorthorn herd. This bull, College Knight, topped the Shorthorn sale at the American Royal Live Stock Show at Kansas City last week, selling for $1,065. This heifer calf will make a good cow, and she is an excellent prospect. I have her priced reasonably. R. L. (Bob) Hill, Columbia, Mo.

Hill's Durocs

R. L. Hill of Columbia, Mo., is offering a lot of splendid Duroc boars that have grown out well, have good bone, splendid color, strong backs, deep sides and are the easy feeding, quick maturing kind that should get good big litters of pigs. If a farmer buys a boar or gilt from Mr. Hill and is not pleased with his bargain, he will let you ship the hog back without expense to you and refund your money. Surely this is as much as any one could ask. Mr. Hill's prices are also very liberal. He is one of the best hog authorities in the state and those who are in the market for Durocs will do well to get in touch with him.

Indian Runner Ducks for Sale

For sale fawn and white Indian Runners. For prices write Mrs. C. E. Alford, Box 333, Columbia, Mo. 1t

Live Stock Notes

Taylor's Champion Durocs

Chas. L. Taylor, Olean, Mo., is again before the readers of "THE MISSOURI FARMER" with an unusually attractive lot of Durocs. Mr. Taylor and his Durocs are so widely known that it is needless to dwell upon the reputation they have justly won.

Mr. Taylor not only breeds and develops his champions but keeps them in his herd, and it is from these matings that he furnishes his customers with breeding stock. The show records of this herd afford ample proof as to the class of stock Mr. Taylor breeds and develops.

With such boars as the Grand Champion, Col. Wonder, and the Junior Champion, Show Me, mated with the champion sows in this herd, the explanation of "why, such size, uniformity, richness of quality," is very simple. Mr. Taylor offers breeding stock for every need at prices within reach of all. Write or go see this herd. Mention THE MISSOURI FARMER.

Petty's Polands Please

G. E. Petty, Versailles, Mo., has decided not to hold a fall sale, and in offering the reserved tops at private treaty. Mr. Petty held one of the top sales last fall, and would have again equaled or surpassed his former record. The Grand Champion, Mo. State Fair, 1916, is a good sample of the kind Mr. Petty raises, as this boar was purchased in his fall sale last year.

All interested in Poland Chinas know that Mr. Petty buys only top stuff regardless of price for his breeding stock. The boars and gilts which he offers, afford you an opportunity to select superb individuals of almost any popular blood lines. Everything is immune and ready for shipment. Write Mr. Petty, mentioning THE MISSOURI FARMER.

Frank's Poland Chinas

Anyone in the market for good breeding stock at prices hard to duplicate will do well to write Ben Frank, Jefferson City, Mo. The list of his satisfied customers throughout the country is conclusive evidence that you not only get high class stock, but that you are dealing with a man thoroughly dependable and fair in his dealings.

Mr. Frank is making special prices on boars sired by Charter's Best, Mogul and Golden Gate King 2nd out sows by A Wonder, Big Orange, Mo. King, etc. Everything is immune and ready for shipment. Write Mr. Frank and mention this paper.

SELECTION OF BREEDING HOGS

In choosing a sow, one of the first things to look for is lots of size and capacity for a large litter of pigs. Extreme quality at the expense of size will give poor results, a thing which breeders are beginning to realize more than ever before. The sow must have good length and depth, a strong back, strong feet and pasterns, and a feminine head. Although judges differ as to what constitutes a good head for a breeding sow, yet there are some essentials which must not be overlooked. The head must be of a medium size, with a nose that is a little long and slightly dished. The eyes should be prominent and not sunken. Experience shows that a fairsized ear with plenty of quality is better than either an ear that is too large or too small, just so it does not flop over and bother the sight.

It is very important that the eyes be in good condition. A sow must be able to see where she is going and what she is doing. A sow with poor eyesight will often permanently injure her pigs while they are small or may even kill the whole litter. Another particular point in selecting the brood sow is the udder and teats. If the sow has borne several litters you can generally tell from the number of developed teats how large her litter usually is, thus indicating what her value will be to your herd. Be certain that the udder is not caked and that the teats have not spoiled. If the sow is young and has had no pigs yet, look out for blind teats; these never develop. As a rule the sow should have a least twelve teats which are sound and capable of development.

Temperament is another important thing to consider, a thing which cannot always be determined by one passing judgment. If the sow is going to be mean and hard to handle, then she is not the animal for your herd. If she is cross and irritable she will often injure her pigs, though she is trying to protect them. Often, too, her pigs will show the same crossness and irritability.

Taking the whole into consideration, then, the sow should be feminine, large, with plenty of quality, and, if pure-bred, a good representative of her breed type.

In selecting the boar, some of the things to look for will be the same as in the sow, while others will be different. He must at first sight show plainly that he is a boar; his masculinity must be pronounced. The head should be broad with the nose broad and perhaps a little shorter than that of the sow. The eyes should be large and prominent. The neck may be shorter and thicker than that of the sow, denoting masculinity. The bone should be strong and of good quality. If the bone is of good quality, then the pasterns will be upright and the toes will be strong and straight. Do not neglect the back: It is just as important for the boar to have a strong back, nicely arched as it is for the sow. Do not select a boar having a weak back thinking that because the sows you are using have good strong backs the pigs will be all right. It is hard enough to keep up the strength of the backs without having the breeding on either side deficient in this respect.

The ham is an important part to consider in any hog; it should be thick, long, broad and deep, extending well down to the hock. If possible get a boar that is as broad in the hams as he is in the shoulders.

We cannot get eight or ten pigs from a sow if she does not farrow that many. In selecting breeding animals of either sex to place in a herd, ascertain the size of the litter for two or three generations back. The size of the litter from which the animals come is a good indication of their prolificacy.

In passing on an animal to be placed in the herd, make a careful study of the pedigree and give it about as much importance as the individual. By pedigree we mean that the history of the animal must show good animals for three or four generations, not that it may trace to some noted sire or dam five or ten generations back. Do not be misled into thinking that an animal necessarily has a good pedigree because it has won a blue ribbon at some of the shows. Experience and careful study are necessary in order to know a good pedigree. Very valuable information also may be secured from old and experienced breeders about what are and have been the best lines of breeding.

Care of Brood Sows

The way a sow is handled before farrowing has much to do with the value of her litter, according to the Nebraska Agricultural College.

The sow does best when she is kept in healthy condition but is not allowed to become too fat. Heavy corn feeding makes sows fat, and they are not likely to produce large, healthy pigs. For this reason, breeding stock must be separated from fattening pigs if best results are secured. Feeds that produce bone and muscle are best. Any one of the following rations supplemented by alfalfa hay in the rack will give good results:

(1) Corn, 1 part; shorts, 1 part. (2) Corn, 5 parts; shorts, 3 parts; oil meal, 1 part. (3) Corn, 3 parts; shorts, 4 parts; tankage, 1 part. (4) Corn, 8 parts; tankage, 1 part. (5) Corn, 1 part; ground oats, 1 part; shorts, 1 part. (6) Ground barley, 1 part; ground oats, 1 part.

You can help THE MISSOURI FARMER by studying our advertisements carefully and then mentioning this paper when you write.

POLAND CHINAS

Spring Boars by the Grand Champion

A desirable lot of early spring boars by The Giant, acknowledged to be one of the greatest young Poland China boars of the breed. Prices within reach of all.

WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

Poland Chinas & Shorthorns

Bred sows and gilts. The real big kind with bone and quality. A few serviceable boars. Several extra good young bulls and heifers. Satisfaction guaranteed.

H. S. Williamson, Route 6 Centralia, Mo.

BAKER'S REAL BIG-TYPE POLANDS

We have a number of extra good spring boars sired by Big Look that we are offering worth the money. Need the room and must sell.

W. A. BAKER & SONS, BUTLER, MO.

Linhardt's Polands

I have a choice lot of extra good fall gilts sired by outstanding boars. Customers in 26 states. GIANT MAMMOTH 68375 and CHIEF BIG BONE 75856 in service. Priced for farm trade.

H. O. LINHARDT, LOHMAN, MO.

DOOLEY'S SPOTTED POLANDS

Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pair and trios no relation. Also registry furnished. Send check with first letter.

EDGAR DOOLEY, - Ettervile, Mo.

SPOTTED POLAND BOAR

My fine herd boar, Spotted Lad, No. 74030 for sale. He's a fine one. Write for full particulars. Also some fine spring gilts bred or open, for sale.

E. J. YODER, - - LA TOUR, MO.

POLAND CHINA BOARS

I have a few extra good Boars for sale at Farmers prices. March farrow. The big boned type. Immune and well grown. Also any thing you want in Jersey Cattle.

J. B. SMITH, - Platte City, Mo.

CHERRY CHIEF'S PRIDE 187003

KING OF THE BREED

We have the best lot of spring boars and gilts to be offered for sale. They are royally bred and great individuals. All immune. Special sale on boars.

WILCOXIN & PORTER,
BOWLING GREEN, - - MISSOURI

MARSHALL'S POLAND CHINAS

We are offering exceptional values in early spring pigs. Also booking orders for fall pigs. Strictly big type breeding. Satisfaction guaranteed.

S. R. MARSHALL & SONS,
GLASGOW, - - - MISSOURI

SHADY GLEN POLAND CHINAS

Am reducing my herd. Will sell my great herd boar, Pawnee Price 2nd. Choice herd sows, either bred or open, spring boars, spring and fall gilts. Write for prices.

WM. I. BRITT, RUSH HILL, MO.

POLAND CHINA

Am offering you an opportunity to buy boars and gilts of outstanding individual merit and most popular blood lines. Sired by Big Bone Leader, Big Bob, Bridges' Bob Wonder, Crow's Extra, Big Black Orange, etc. Prices reasonable. Everything immune. Satisfaction guaranteed.

G. E. PETTY, - VERSAILLES, MO.

REGISTERED PERCHERONS,
39 heavy 3 and 4 year stallions, 68 rugged 2 yr. olds. Can spare 25 reg. mares, 24 reg. Belgian stallons. Priced worth the money. Near Kansas City.

OLD FRED CHANDLER RANCH,
Route 7 - - CHARITON, IOWA.

POLAND CHINAS

Am offering rare bargains in spring boars and gilts of strictly Big Type Breeding, everything immune. Write for information.

BEN FRANK, - Jefferson City, Mo.

DUROC JERSEYS

D. C. Thomson's Early Spring Duroc Boars!

We are now offering the trade a Select lot of early spring Duroc boars. Sired by Col. Wonder II, and T's Cherry Chief. The big kind with quality. Everyone buaranteed.

W. H. & GEO. E. THOMSON, - - COLUMBIA, MO.

Durocs With Size and Bone

I am offering a choice lot of early spring pigs with unusual size, bone and quality. Bred right and priced right. Visitors welcome.

A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

Adenhill Duroc Boar and Gilt Bargains

I can supply readers of this paper with choice yearling gilts bred for fall farrow. Also extra good spring boars. My Durocs are noted for size and quality. Satisfaction guaranteed. Inquiries gladly answered.

R. L. (BOB) HILL, ADENHILL FARM, - - COLUMBIA, MO.

Top Notch Durocs

I have 100 late spring pigs weighing from 90 to 100 lbs. All good color and quality. No better Durocs anywhere. Write me what you want.

GARRARD & SON, - McBAINE, MO.

Taylor's Grand Champion Durocs!

Am offering choice boars and gilts, same breeding that won 6 champions, 26 Firsts, and a total of 63 prizes at Mo. State Fair and St. Louis Agricultural Show, at reasonable prices. Write for prices and descriptions.

CHAS. L. TAYLOR, - OLEAN, MO.

REGISTER OF MERIT JERSEYS!

Anticipate your needs—If you will be needing a bull next year, buy a calf now. Price less—transportation less and danger less—than in buying a mature dairy bull. Bull calves from 2 months to 2 yrs. old—out of heavy producing—good type—officially tested dams.

J. A. BUFFUM,
Jersey Place, Rt. 3. Columbia, Mo.

ANGUS CATTLE

ANGUS CATTLE

Herd founded 1904

Young stock sired by Dean's Eric 139686. Also offer splendid herd bull for sale. Every one the right kind and priced to sell.

V. E. LAWRENCE, SALISBURY, MO.

RED POLLED

RED POLLED CATTLE

Herd established 16 Years

Young stock for sale. Young bulls sired by LOGAN 13500; Calves sired by KNOCKER 28791. Bred for milk and beef. Also offer spotted Poland China hogs and Rieds Yellow Dent seed corn.

M. L. SNYDER, - - POLO, MO.

Aberdeen-Angus

I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.

J. D. Blackwell - Fayette, Mo.

SUGGESTIONS ON FEEDING CORN ENSILAGE

Corn ensilage is a food which may be termed "grass like." For this reason it can be used very much as pasture in the feeding of domestic animals. The analysis of good corn silage however, will show that it is richer than a great many of the pasture grasses and therefore will go farther in feeding.

As soon as the silo is filled the feeding operation may start and though it be in the heating process, it will be just as good food and will be relished by the animals quite as much as old silage. It is generally conceded, however, that silage which is several months old is better than newer silage. Some feeders prefer silage that is six months to a year old. However, it may be safely said that silage can be fed from the time the blower pipe is taken out of the silo until the feeder desires to open his silo and this may be after it has stood for several years.

Silage is strong in carbohydrates, the principal food requirement for all animals but needs protein to balance it. Alfalfa hay is perhaps the cheapest and best for this purpose. Throughout the alfalfa belt it should form a part of the ration where silage is used. This is not necessary but simply makes it possible for the feeder to gain a greater economy in his operations and at the same time give the animal a wholesome balanced ration.

Corn silage may be fed out of doors in bunks, in the stall, or in fact any place where animals can eat it without waste. In very severe weather it is best to feed silage inside, as some will freeze and this will be hard for the stock to masticate, although the feeder need not be alarmed over feeding freezing ensilage. It will not injure the animals, but frozen food is not easy for them to consume.

In feeding milch cows it is a very good plan to give the hay in rack outside or some place where the animals will not waste it, and feed the ensilage in the barn after milking. It may be given twice a day in rations from 10 to 15 pounds at a feeding or 20 to 30 pounds per day. Some large animals will take as high as 40 to 50 pounds of silage per day and make good use of it. In feeding fattening stock or steers silage may be fed twice a day in smaller rations ranging from 10 to 15 pounds at a feed for grown stock and for young animals from 6 to 12 pounds. Sheep will consume from 2 to 4 pounds daily and horses from 4 to 12 pounds when not working. It is not advisable to feed work horses large quantities of silage no more than to give them large quantities of new grass.

Feed the ensilage so that the animals will eat it up clean as it spoils or freezes when exposed to the air for several days.

SILAGE AS A SHEEP FEED

The experience of every successful sheep feeder and breeder has been that some succulence is necessary in a ration to insure the greatest gain and thrift in the flock. Everyone knows that mutton in Great Britain has a world's reputation for its flavor and quality. All sheepmen of the British Isles realize the value of succulence in a ration for their sheep. They rely upon roots as a source of succulence. In America the average farmer will not raise roots as a feed for live stock even though he knows they are good, because he feels that the labor involved is too great. But why should he not resort to the use of another feed which will supply succulence and can be produced with less labor and expense than roots? This crop is corn silage and has proven iteslef as essential to economical feeding of sheep as it has with beef cattle.

Results show that when judiciously fed it can replace roots in a ration for the breeding stock. By judicious feeding is meant the feeding of silage which is free from mold, acid and rot. Also, that the amount of silage fed to breeding ewes should be limited to two pounds daily per head. At the Pennsylvania State College an experiment on this point showed that feeding corn silage as a sole roughage is fatal to pregnant ewes in a high percentage of cases. For that reason it should be fed in conjunction with other roughages, as alfalfa or clover hay, allowing two pounds as the maximum amount of corn silage to be fed to the pregnant ewe. Spoiled or rotten silage is apt to be fed in the spring of the year when the warm days come on and fermentation takes place at a more rapid rate. Feeding of spoiled silage often causes death, especially with lambs.

Silage gives thrift to sheep because it has a desirable effect upon the digestive system, keeping the bowels in good condition. It increases the appetite and saves on the amount of grain required to keep the breeding stock in good condition. Silage, when used as a portion of the ration, has been found for fattening lambs to be the most profitable method of feeding.

At the Illinois Station in 1912-1913 it was found when they compared alfalfa hay, corn silage, corn stover and oat straw, shelled corn being fed as the concentrate in all the rations, that the most profitable ration was one composed of shelled corn, corn silage and corn stover. Corn silage tends to have a beneficial effect upon the fleeces of sheep. This fact was noted at the Pennsylvania State College and also by the Purdue University on bredeing ewes that they had under investigation. Corn silage should be fed to give succulence, cheapness and palatability to feed rations for sheep.—B. O. Severson, Penn'a, State College.

USE OF BETTER SIRES WOULD NET MILLIONS

Good, indifferent, and poor, there are over 20,000,000 dairy cows in the United States.

The good cows under most any conditions of environment return more or less profit to the owners; the indifferent cows return a profit or loss according to the conditions of their environment; while the poor cows, under like conditions, show only less or more of loss.

The key to the whole betterment problem is the education of the cow owner along dairy lines, coupled with the betterment of the dairy stock of the country.

As soon as any farmer-dairyman sees the need of better stock and begins to take pride in such stock as he has, he will also begin to give thought to the bettering of the environment; and, as his dairy education progresses, he will begin to give attention and support to intelligent efforts toward betterment of the distribution of product, which means higher prices for milk and milk products.

The great bulk of the common stock of the country is mongrel. In calling it mongrel, I mean that it is so mixed in blood that nearly all desirable characteristics resulting from any infusion of improved blood have been either lost or neutralized.

If each of the 20,000,000 or more dairy cows in the United States could today wear a card showing her production during the year 1915, together with the cost of food consumed, I have not the slightest doubt that one-fourth of these cows would be found wholly unprofitable.

There is but one practical way to better this mongrel stock situation, and that is by either replacing with pure bred stock, or by grading up the herds through the use of pure bred bulls of the established dairy breeds, at the same time eliminating the unprofitable cows from the herds.

Suppose for a moment, that it were possible to cut out and save the care and feeding expenses on 5,000,000 unprofitable cows; the saving would be at least $100,000,000 per year. And again suppose it were possible to add 600 pounds of milk, worth at least $9, during the present year to the production of each of the remaining 15,000,000 cows in the country; in that case the yearly gain would amount to $135,000,000 more.

Such an immediate saving and gain is of course impossible, because improvement takes time; but it is not only a possible accomplishment for the future but may be far surpassed.

But one out of 20 of the pure bred dairy bulls born in the herds of the country is needed for use within his breed, leaving 19 out of the 20 available for use in the improvement of grade or common herds.

What is wanted is the bringing together of the one who needs and the one who breeds the surplus bull; and thanks to the progressive spirit abroad in the land, this is fast being accomplished.—By Malcolm H. Gardner, Walworth County, Wis.

State Herd Registration

The dairy interests of Missouri are working on a legislative bill for the registration of all state-owned herds of cattle.

Thirty years ago pure bred Holstein cattle were bought for the Fulton Asylum, but no pedigrees were kept and none filed for the stock raised on the asylum farm. The result is that Superintendent M. O. Biggs, who is anxious to record the herd, is unable to make satisfactory filings for any of the two hundred fine Holsteins.

It is proposed to create, without expense to the state, an Institutional Registry Board composed of the Professor of Dairying of the Universit the State Dairy Commissioner and the State Veterinarian, to oversee the selection of pure bred sires and the registration of all cattle eligible for pedigrees.

Crude Oil Kills Lice

Hog oilers are the cheapest and most efficient means of ridding the hog of lice, says the veterinary department of the college of agriculture.

One application of crude oil kills both lice and nits. The most convenient method of applying the oil is by means of a hog oiler, of which there are several good types. They are always ready and require little attention. The best oiler allows the pig to rub the oil on any part of the body.

The oiler can also be applied with a sprinkler, spray pump, broom, or brush. If there is any indication of skin disease, the parts may be scrubbed with a broom or brush so as to get the oil well into the skin. When crude oil is used, the appearance of skin and hair is greatly improved.—University Farm, Nebraska.

A Sanitary Necessity

Elsewhere in this issue the reader will find the advertisement of the Rowe Sanitary Mfg. Co. of 1138B Rowe Bldg., Detroit, Mich. You should read it carefully and then drop the company a postal card for full information.

Does the label on your paper show that you are "way behind?" If so, send us a check for $1.00 for two years renewal and thus show your appreciation for what we are trying to do for the farmers of this great state.

SPECIAL JERSEY BARGAINS!

Due to poor crops and to reduce my herd to winter accommodations I will sell about 20 cows; 20 heifers from 10 months to two years old; and 15 bulls from calves to yearlings. The famous Blue Belle-Golden Rosebay breeding. Send for circular. No reasonable offer will be refused for this stock. All registered.

THE ENNIS STOCK AND DAIRY FARM,
(Just south of St. Louis.) HORINE, MISSOURI.

JERSEY CATTLE

REG. JERSEY BULLS

Choice Registered Jersey bulls at bargain prices. Grandsons of Noble of Oaklands and out of heavy producing dams. Yearlins, $50; Calves, $20.
BLUE CLIFF FARM,
BLUE SPRINGS, - - MISSOURI

JERSEY CATTLE

Bulls ready for service. They are sired by the Owl's Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.
Wm. H. Bruns & Son, Concordia, Mo.

SUNSET CORRECT TYPE JERSEYS

To keep our herd within 100 head we will offer at private sale fifty Jerseys, consisting of cows, bred and open heifers, young bulls, heifer and bull calves. Can fit out small herds for beginners. 125 head to select from. The famous Blue Belle-Golden Rosebays. Send for special circular before buying elsewhere. Bargains. Mention your wants.
THE ENNIS STOCK & DAIRY FARM,
Horine, Mo. (Just south of St. Louis.)

HOLSTEIN CATTLE

IN MISSOURI

Prince Segis Walker Pieterje 123955 heads herd. Dam 30.13 lbs. butter in 7 days, milk testing 5.07 per cent. A.R.O. of dam, grandam an ten nearest dams of sire, 29.75 lbs. Six of these are 30-lb. cows. His five nearest dams all test over 4 per cent. Bulls 2 to 8 months old, $150 to $350. Always have cows and bred heifers for sale. Everything registered Holsteins. Tuberculin-tested.
S. W. COOKE & SON,
Maysville, De Kalb Co., - - Mo.

Build Your WORN OUT SOIL SWEET CLOVER

The great crop for soil fertility and animal feed. Exceptionally rich in nitrogen and humus. Higher protein content than alfalfa. Sow in spring, summer or winter. Write for prices.
Bokhara Seed Co., Box F, Falmouth, Ky.

HEREFORD BULLS

Two registerd bulls, long yearlings, best of breeding and high class individuals. Not the cheap kind.
HUGH WHITEFORD,
GUILFORD, - - - MISSOURI

P. M. GROSS
Live Stock Auctioneer
"Twelve Years on the Block"
Pure bred Sales a Specialty
Sales Made Anywhere
MACON, - MISSOURI

Thos. E. Deem
LIVESTOCK AUCTIONEER
Selling for the foremost breeders. Address
Cameron, : Mo,

BROOKVIEW HAMPSHIRES

Herd headed by GEN. TIPTON and SIR BROOKVIEW, both grand champions. Spring boars and gilts of choice breeding and individuality. Prices reasonable.
ISOM J. MARTIN, - Kahoka, Mo.

Reg. Shropshire rams, yr's and twos. Square built, rugged hardy bucks with weight, bone and heavy fleece. Quick shipping facilities & priced cheap. 412 head. Above Kansas City.
HOWARD CHANDLER, Chariton, Iowa.

RAMS Registered Shropshires—yrls. and twos. Bred for weight and wool. That's what you raise lambs for. The best go first. Come to the farm or write
C. W. Chandler, Kellerton, Iowa
80 miles north of St. Joseph, Mo.

Classified Advertising

FOR SALE—Female Collie pups, also a bred bitch, chuck full of quality. Short Bros., Jackson, Mo.

PUREBRED DUROC PIGS, $5.00 each. Stark Farm, Arcadia, Mo. 9-1-2t

Shetland Ponies for Sale.—I am closing out my herd. Geo. Aid, Gallatin, Mo. 2-t

COCKEREL S. C. BROWN LEGHORN
Direct from hens with over 200 Egg record, $1.50 each.
BROWNIE POULTRY FARM,
R. F. D. No. 2. O'FALLON, MO.

A WORD TO LIVE STOCK SHIPPERS

Are you going to ship to the National Stock Yards in the near future? If you are, then you will be keenly interested in this advertisement—for of course, you will want the "high dollar" for your Live Stock and it is that "high dollar" we want to talk about for a moment.

There is a reason why the **National Live Stock Commission Co.,** does the largest business at the National Stock Yards. It is because we have built up the most powerful **Sales Force** which stands back of any Live Stock Commission firm in the United States today. From the moment the gong sounds in the morning until the last buyer has left the yards in the afternoon, these men are in the thick of the scrimmage—**fighting with might and main to get the "high dollar" for the shippers who have entrusted their welfare in our hands!** Whether you have sent us one car or a dozen makes no difference. We realize that whether your consignment is large or small, **it means everything to you!** More than that: Getting the "high dollar" for you **means everything to us**—for this is the way we built up our great business **and this is the way we hold it!**

There is an old saying that "nothing succeeds like success"—and this maxim applies vitally to our business. We realize that "Superior Service" alone is what has given us our great and ever increasing volume of business—that it is because of this "Superior Service" that we have been able to build up hundreds of warm friends among the Live Stock shippers in National Stock Yards territory—**Shippers who know from past experience that we always go the limit for them and who therefore never think of consigning to any other firm!**

Now if we can render "Superior Service" for other shippers, why shouldn't you give us a chance to render it for you? Why not give us a chance at your next consignment? **A trial is all we ask!** After that, you can be the judge. We know we will not be able to hold your business unless we "make good." But in the meantime, are we not entitled to the benefit of the doubt? Would we be doing the biggest business at the National Yards **if we were not in the habit of "making good?"** To this end, get in touch with us at once. Tell us what you are feeding and when you expect to be on the market. We will be glad to give you every helpful suggestion possible—**because we want your business from now on and we expect to earn it by giving you better service than you ever had before!**

National Live Stock Commission Co.

NATIONAL STOCK YARDS, ILLINOIS.

(Political Advertisement)

A STATEMENT FROM SENATOR REED

"To the readers of
The Missouri Farmer:

Standing on the eve of the election, there are certain things which I wish to say to the readers of THE MISSOURI FARMER. I know that many of you are republicans but when I was elected to the Senate of the United States six years ago, I became the senator of all the people of our splendid commonwealth—and I therefore desire to render a brief account of my stewardship in so far as it directly touches the interests of the farmer and in which I believe every farmer in the state will be interested, regardless of his political affiliations. However sharply we may differ on the great fundamental policies which divide the two dominant political parties, all of us are agreed that Agriculture constitutes the great basic industry of the Nation and that, as it has been the real source of our greatness in the past, so it must ever remain the true basis of our National wellbeing and prosperity in the years to come. And never in any other administration has this great truth been so profoundly recognized as during the present one which, as the record will show, has done more for the farmer than any other in the history of the Republic.

As is more or less generally known, I took an active part in writing the Federal Reserve Act which has admittedly given us the greatest banking system in the World and made it impossible for us to ever again become the victims of panics as we were in years gone by. I was instrumental in placing in this Act the provision which makes our National Banks an open market for $450,000,000 of farm mortgages—this being the first time that National Banks have ever had authority to loan money on collateral of this kind.

Largely at my instance, we made cattle paper eligible for rediscount by Federal Reserve Banks, the same as ordinary commercial paper—and thus we placed millions of dollars of cattle paper on an equal footing with the regular commercial paper of the Country. In other words, National Banks are now permitted to make cattle paper the basis for the issuance of Federal Reserve notes the same as any other high grade commercial paper—and that it will mean much to the cattle feeders of the Nation as the Federal Reserve System becomes better understood, there is not the slightest question in my mind.

I heartily supported the Agricultural Bill which, among other things, contained the following provisions: Ist, It increased the appropriations for the Federal Department of Agriculture by 50%; 2nd, It increased the appropriation for eradicating the cattle tick from $100,000 to $360,000; 3rd, It established a Division of Markets and Rural Organization to disseminate information regarding transportation, storage and marketing; 4th, It appropriated $8,600,000 for Agricultural extension work which, through the cooperation of the states will carry the fight for better farming to every cross roads in the land; 5th, It provides for the issuance of negotiable warehouse receipts which will enable farmers to store their grain and obtain the necessary funds to tide them over until more favorable prices justify them in selling; 6th, It appropriated $75,000,000 for good roads to be expended in connection with the co-operation of the states and this will insure an investment of $150,000,000 in better public highways during the next five years. Beyond question this marks the greatest stride in the building of good roads in the history of the Nation—and best of all, it compels the general public to share this heavy burden with the farmer. Under this provision, the farmers of Missouri will receive approximately $1,250,000 of Government road building aid.

I supported the River and Navigation Bill which insures an expenditure of approximately $8,000,000 on the Missouri and Mississippi Rivers this year—a fact in which not merely all who live in the Mississippi Valley are keenly interested from the standpoint of navigation but which means much to thousands of bottom land farmers. It is this bill which Mr. Hughes states he would have vetoed—although while his party was in power the rivers in the great republican states were always lavishly provided for while the Missouri and Mississippi Rivers were shamefully neglected.

As a member of the Banking and Currency Committee of the Senate, I helped to write the Federal Farm Loan Bill which, in my humble judgment, constitutes the greatest single piece of legislation in the interest of the farmer ever enacted in the history of the American Congress—and which means, once it gets into full operation, that the day of excessive interest rates and embarrassing short time loans for the farmers of this Country are at an end. By the passage of this great Act, the present Administration marks a milestone in the history of American Agriculture—and partisan as we may be upon other matters, it seems to me there should not be a single farmer in the Country who will not feel profoundly grateful for this great and long needed service. However, the passage of the Federal Land Bank Bill does not mean that we no longer need a Missouri Land Bank. On the contrary the capacity of both will be taxed for sometime to come—and the two can be co-ordinated just as state banks and trust companies supplment the National Banking System.

In conclusion, if I am re-elected to the Senate I pledge myself here and now that I will make every effort in my power to see that a thorough inquiry is made into the conditions which surround the Live Stock markets and the great Packing Houses of the Country. A resolution demanding such an inquiry at the hands of the Federal Trade Commission was introduced in the House of Representatives last winter—but it failed to reach the Senate and hence I had no opportunity to get actively into the matter. But a soon as Congress reconvenes I shall inquire into the situation at once. I do not mean to say at this time that these great interests are robbing the live stock producer but what I do say is that if I am returned to the Senate I will make it my business to find out—for it is a situation in which not merely the man who raises cattle, hogs and sheep is vitally interested but the scores of millions of meat consumers as well. This, in brief, is my record as a senator wherever the interests of the farmers of Missouri were involved in Congressional action—and if it meets with the approval of the readers of THE MISSOURI FARMER, I will feel deeply grateful for your support on election day. Respectfully Submitted, James A. Reed, Democratic Candidate for re-election to the U. S. Senate."—(Political Advertisement.)

For Sale

280-acre farm belonging to the estate of Samuel Morton, located 10 miles west of Columbia, Mo., and 2 miles north of Huntsdale, consisting of 280 acres of good hill and creek bottom land all in splendid state of cultivation and mostly in grass, plenty of stock water the year around furnished by living springs. Improvements consist of good 4 room frame dwelling, 2 tenant houses, 2 barns and other necessary outbuildings. This is one of the best stock farms in Boone County and must be sold in order to make a division of the estate. I also have for sale splendid 80-acre farm near Columbia. Very respectfully, L. T. Proctor, Adm'r, Columbia, Mo.

We need a good friend to solicit subscriptions for us in every school district in Missouri—men who believe in THE MISSOURI FARMER and who want their neighbors to learn of the gospel it is preaching. In no other way can you do better service for the cause—for once a majority of the farmers of your district read the paper it will be easy to form a Farm Club.

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THE

MISSOURI FARMER

COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE AND THE MISSOURI EXPERIMENTAL STATION

Time to Sound the "War Whoop"

Don't you realize my good farmer friend that the hour has come when, to use a slang phrase, you ought to "cut more ice" as a man and citizen? They say you feed the World and it is true—as indeed it has been true of the farmer since long before the great Shepherd herded His flocks upon the Gallilean hillsides. There isn't a towering sky scraper, a great factory or a great mercantile establishment in the Country which does not owe its existence at least indirectly to the victories which you have won in your fields and feed lots in days gone by. And even so the fact that we are rapidly becoming the creditor Nation of the World is due, not to the gun makers and the powder kings, but to the never ending fruitage which annually comes forth from your golden harvest fields and from the cattle which browse in indolent content upon your thousand verdant hills.

Now don't get the idea that I am trying to make a martyr out of you or that I want you to hate anybody. I am merely trying to get you to realize that, as a farmer, you are tremendously necessary and vital to your Country—and, being thus necessary, that you should insist upon a seat close to the head of the table. For instance we held a great National election the other day and, as the big party chiefs gathered around the council table for the last time, they asked three questions: First, "What will Organized Labor do?" Second, "Where will the Captains of Industry line up?" Third, "How will the Germans vote?" They didn't ask, "What will the farmer do?" They knew that you men were unorganized —and hence they figured that, as usual, you would "scatter your fire." Had farmers been organized as Labor is organized for instance, some of them might have wondered about that stifled investigation of the Packers Combine. But they didn't—and yet collectively you farmers have the power to tell all of them where to "head in."

And now let's look at a few other things: When you go to market to buy a suit of clothes, a bolt of calico or a pair of shoes, the merchant tells you what you must pay—and there is no appeal from his decision and this price represents a profit for the merchant and for the manufacturer who produced it. Nor is there anything wrong about this if his figures are honest. But when you go to market with your hogs, cattle, sheep, grain, butter, eggs or poultry, you have nothing to say about what they shall bring. Unlike the merchant, you are in no position to demand production cost together with a reasonable profit—and that you and your neighbors should consent to stand for this idiotic condtion of affairs, year after year, is one of the marvels of our time.

In the meantime, your farm mortgages are rapidly increasing. Already nearly 40% of our farms are in the hands of tenants while our soil fertility is rapidly declining. Tiring of the fruitless toil and hardship your boys and girls are flocking to the already overcrowded cities. Our public highways are in a sad state because the present profits of farming don't justify building good ones. The little rural school house is little better then it was 40 years ago—and hence your children are tremendously handicapped in the great battle of life. Your farm home is without many of the comforts for which you justly yearn and the house and barn are sadly in need of a new coat of paint—and all because you and your neighbors haven't been playing the game like the other fellows play it. And now don't hang your head or jump in the creek—for what we need is not a funeral but a "war whoop" which will echo from Plmouth Rock to the Golden Gate—a sort of Rebel Yell which roars in lusty cheerfulness. , "I want a square deal and by the eternal I am going to have it!" And as that yell goes reverberating through the hills and valleys, the millions who toil in the cities will shout "Amen!"—while the fellows who have been skinning you will look at each other and grin and say, "Well, the jig is up." In hundreds of little school houses all over Missouri tonight this war whoop is already being sounded—and its time for you and your neigbors to wake up and join the procession.

—By the Author of After-Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VIII NOVEMBER 15, 1916 NO. 22

WILLIAM HIRTH
PUBLISHER

THE FARM CLUB MOVEMENT

We believe we are safe in saying that there will be no less than One Thousand Farm Clubs in existence in Missouri by the first of the year and that they will represent a membership of at least 20,000 farmers—and considering that the movement is less than one year old, it strikes us that this will be a pretty good showing. If we were to reproduce the scores of enthusiastic letters which are reaching us daily, they would fill a paper twice the regular size of THE MISSOURI FARMER. Again, every mail brings us many requests for literature, a suitable Constitution and By-Laws, etc.—and these requests are constantly increasing.

And now that we stand upon the threshold of the long winter months, when farmers will have the spare time to give to this great question—and since the election is out of the way—I want to make a personal appeal to every reader of THE MISSOURI FARMER to get into this great fight without further delay and see to it that a Farm Club is organized in his school district. As has often been stated before, the purpose of the present movement is, that through the organization of School House Farm Clubs, farmers shall take over the complete handling of such commodities as corn, hay, bran, shorts, flour, cotton seed meal and cake, oil meal, coal, tankage, farm seeds, fertilizers and other similar commodities—for once the farmers of the state are compactly organized, a saving of a number of millions of dollars will be involved in these items alone.

To show how foolish the present disorganized condition of the farmer is, six weeks ago THE MISSOURI FARMER had the refusal of several hundred carloads of Northern potatoes at 85c per bushel F. O. B. Dakota and Minnesota shipping points—and at that price, which we had obtained direct from the farmers in the above states, these potatoes could have been laid down, freight paid, in the average Missouri town at from $1.10 to $1.15 per bushel. At that time we sent out an urgent appeal to the Farm Clubs of the state—suggesting to them to make up a car load order without delaf and warning them that the price would soon go much higher. Only in those communities, however, where a half dozen or so Farm Clubs had been formed was it possible to get prompt action—for too often one or two Clubs found it impossible to use an entire car. In the meantime, although we asked these Northern farmers to hold their supply for us until we could get wider action, they got tired of waiting and sold to the dealers who were on the ground early and late. As a result, the opportunity passed—and before the present winter is over the retail price of potatoes is apt to go close to $3.00 per bushel, for the country has a short crop and, as usual, the commission men will have things in their own hands and will receive a good deal more for giving the people a chance to buy these potatoes than the Northern farmers got for growing them.

United Action Vital

In the meantime, enough new clubs have been formed in many communities over the state so that now a car load shipment could be handled—and during the last three weeks we have had requests for perhaps 100 cars. We have recently sent new inquiries into the Dakotas, Colorado and Minnesota in the hope of locating farmers who have not as yet sold their crop and trust we will still be able to supply these Clubs at a substantial saving—but the real opportunity for this year is gone and all because so few farmers were organized or because those who were, were isolated in scattered Clubs. It is conservative to say that the farmers of Missouri could have used 500 cars of these Northern potatoes—and a saving of 50c per bushel on that quantity—500 bushels to the car—would meant the saving of $125,000.

Likewise, through arrangements made by THE MISSOURI FARMER with a big Illinois coal concern last summer, many Farm Clubs have been saving from 50c to $1.35 per ton on coal—and where all the farmers at a given shipping point act together, it is easy for them to save from $500 to $750 on their winters' coal bill. Again, since the above contract was made, coal has advanced considerably at the mines—but our agreement holds good until next March and hence we are in position to protect our Farm Club friends.

The shortage of cars has greatly interfered with the movement of coal and hence many Clubs have had to wait—but this is a Nation-wide condition which cannot be helped and local coal dealers are up against it just as badly as the Farm Clubs. Already this arrangement has grown to such proportions that the above coal company is not taking on any new business—and by next year I am satisfied we will be able to buy the entire output of a number of big Illinois mines. That this will put us in position to demand as low prices as those made to the most powerful manufacturing concern in the Country, is apparent at a glance.

The chaotic condition which reigns in the general feed market also prevails on cotton seed meal and cake. The mills are paying from $55 to $60 per ton for cotton seed—an unprecedented price and hence the meal and cake market has been climbing steadily and it has been impossible to obtain prices which would hold good for 48 hours. We are in touch with a number of big mills in Arkansas and Oklahoma and as this article is being written these products, containing 38½% protein, can be lain down at the average point in Missouri at around $42.50 per ton—and it will be well for the interested reader to compare these figures with local prices and then get in touch with us. In any case however we can get you the lowest wholesale price at the mills, plus the freight. That the prices of meal and cake are exceedingly high goes without saying—and yet the amount of protein in these, as against other feeds, must be considered.

But here once more the necessity of a powerful state-wide farmers organization is illustrated, for once such an organization has been perfected we will be in position to submit our cotton seed meal and cake requirements to the lowest bidder—and if we could contract for 1000 cars at a time there is no sort of question but what we could affect an enormous saving. In other words, if the farmers of 50 or 60 of the leading live stock producing counties of Missouri were solidly organized, I have no doubt that a million dollars could easily be saved on cotton seed meal and cake and linseed oil meal.

A Movement With Vision

We merely mention the above items to show the scope and vision of this great Farm Club movement which, unlike the other farm organizations in the past is planned on a strictly business basis and which already, although it has hardly gotten started, is saving a lot of money for Farm Club members. Besides the above, many Clubs are ordering bran, shorts and flour by the car, while many others have arranged to buy these commodities at the wholesale price from the local flour mills—and wherever this can be done we heartily approve of this idea, for the prime motive back of the Farm Clubs should be to save money on these things and not to destroy or punish anybody who is willing to cooperate. Likewise, the buying of Alfalfa hay direct from the farmers of Kansas and other Western states is rapidly being worked out and is destined to become an item of great importance for the future.

What I want every farmer who reads THE MISSOURI FARMER to realize is that this Farm Club movement is unlike any other movement of the kind ever inaugurated among farmers—that it is based upon the idea of taking over the complete handling of the commodities mentioned above and that this alone will mean the saving of millions of dollars—that the movement has come to stay and that it is up to you and your neighbors to decide whether you want to place yourselves in position to reap your share of the benefits. For years farmers have been talking organization—and now that the opportunity is knocking at your door, why keep on drifting along in the same "devil take the hindmost" fashion?

(Continued on page 7)

Wherever THE MISSOURI FARMER has a good circulation, there you will find the Farm Clubs flourishing. If you want them to flourish in your neighborhood, get a dozen of your neighbors to give you a dollar for two years subscription. The paper will do the rest.

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The war's devastation of European crops has caused an unusual demand for grain from the American Continent. The people of the world must be fed and wheat near $2 a bushel offers great profits to the farmer. Canada's invitation is therefore especially attractive. She wants settlers to make money and happy, prosperous homes for themselves by helping her raise immense wheat crops.

You can get a Homestead of 160 acres FREE and other lands at remarkably low prices. During many years Canadian wheat fields have averaged 20 bushels to the acre—many yields as high as 45 bushels to acre. Wonderful crops also of **Oats, Barley and Flax.**

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Military service is not compulsory in Canada, but there is an extra demand for farm labor to replace the many young men who have volunteered for the war. The Government is urging farmers to put extra acreage into grain. Write for literature and particulars as to reduced railway rates to Supt. of Immigration, Ottawa, Canada, or

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I pay freight and send one gallon of Medicated Oil free with each post. Test them 30 days on your farm—then pay if pleased. If not, return at my expense. You take no risk. Order direct from this ad. Catalog Folder sent free on request. ALVIN V. ROWE, Pres't

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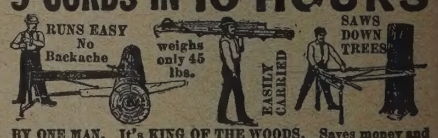

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The Missouri Farmer

VOLUME VIII NOVEMBER 15, 1916 NUMBER 22

Butchering on the Farm

By T. B. Ingwersen

Hardly without exception, the prices for hogs are lowest during the winter-time. Nine years out of ten the unfortunate farmer who has raised and fed hogs is compelled to turn them over for a good deal less than the cost of production to the only buyer we have in this great and free country of ours—the Beef and Grain Trust. Is it any wonder then that the mortgages on farm lands have increased 50% during the past ten years? If a man sells below the cost of production, he diminishes his capital; if he has no capital, he increases his debts or mortgage; if he does this just once too often it spells ruin for him and his family and possibly it means a sheriff's sale of the old homestead and his personal property.

The Farmer Supports the Trust

It is true his property then has gone to make up a part of the immense profits which this great Trust is making every year, and this past year, the saddest of all for the farmers, this Trust is counting its annual profits by the tens of millions of dollars, and is boasting of "The Greatest Prosperity" this country ever had. How many Sheriff's sales did it take and how many farmers and their families had to be ruined to create this so much praised "prosperity" of the Trusts no one knows but anyone who has taken only so much as a look into our newspapers could not help but noticing the endless advertising of farms to be sold under deeds of trust. Everybody will remember the year of the financial panic, 1907, and every farmer will recall how the Beef Trust that winter stole our cattle and hogs—hogs taken from us at $4 to $5 a hundred were really worth $8 and more and it was so proven later.

This was not the first time that I had been "trimmed" and "skinned" properly according to the rules of "Big Business" but this time it got me to a point where I would not stand for this highway-robbery any longer. I got busy, converted a machine-shed into a small slaughter-house, provided it with a cutting room, a smoke-room and a storage room, bought the necessary tools, including a small power meat grinder, a sausage stuffer, lard press and a lot of lard cans neatly painted with my name and the name of the farm. On a trip to my native land in the old country (Denmark) I made it a point to get acquainted with the methods over there and especially learned the preparation of the high class hams and sausages as well as the examination of hogs for Trichinosis for which purpose I had to buy a microscope.

Now at last I was ready to begin. Realizing that I knew as yet but little and had no experience, with no place to go for advice or help, I began on a very small scale—learning the business as I went along. Luck enabled me to run across an old butcher who was looking for work. He was an elderly man who had worked in packing-houses and butcher-shops and in every branch of this business he was an expert and knew every detail of it. He has worked for me two winters and from him I have learned the practical part of the business. Since, I have visited The Farmers Week in Columbia, Missouri, where Prof. P. F. Trowbridge is teaching this particular branch and it is now comparatively an easy matter to learn these things. Considering the short time that I am able to pack—only a little over three months in the winter—my total inexperience, and my poor location, I have done fairly well. Some years I have done better than in others—but in no one year have I lost any money at it. Therefore I believe every farmer should put up at least enough meat for his own use and some could make a nice little profit by supplying the home demand in their little town or village.

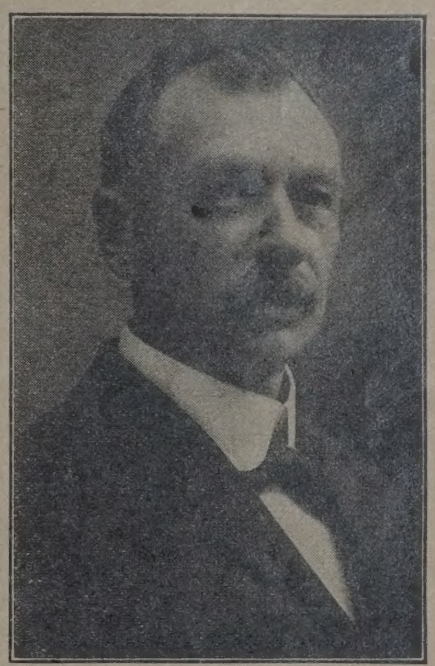
What Every Farmer Should Do

In order to do this, the farmer must know something about this business and he must also be prepared for it. By this I do not mean that he should have an expensive plant with modern machinery, which, although I prefer it, would be unpractical for, and not within the means of the average farmer. But small and inexpensive devices can be provided. A tackle-block saves a good deal of hard lifting. The ancient barrel can be replaced by a regular scalding vat which every village blacksmith can make at a small cost. Instead of scraping the hogs on a few boards, just laid on the ground, as is usually done, a table can be used or the boards can be laid on a pair of saw-horses—and this will make the work much easier and saves the back. A few good tools will do better work and facilitate it. A few hog scrapers, the proper knives, a meat-saw, a cleaver, a lard-kettle, a lard-press, and a meat-grinder are indispensible and should be procured, but these, as well as the scalding vat, can be owned and used by different parties in common. For cutting the hogs up, a clean and well lighted room is very desirable.

The day before killing, the hogs should be brought to a pen next to the scalding vat where they are kept quietly and comfortably with good dry bedding but without feed or water. The next morning when the water is hot enough, about 140 degrees Fahrenheit, one hog is caught by a hind leg and by means of the tackle-block hoisted so high that its nose is about two feet above the ground; then it is stuck and left to bleed. In this way all the blood will run out and there will be no bloody shoulders and heads as is usually the case if the hog is knocked down and stuck on the ground. When the blood is all out and life has gone, the hog is let down into the scalding-vat where it is moved about and turned until the hair come loose; then it is pulled out and placed on the table where it is quickly scraped, then hung by the hind-legs in the usual way, only with the help of the tackle-block. Then the carcass is thoroughly washed and cleaned, the last hair are now removed with a sharp knife and then the hog is dressed. While this is going on a second hog may be caught, hoisted, stuck, and left to bleed to follow the first one or as soon as time and help permit.

Discloses His "Secrets"

The carcasses are left to cool until the next morning when they are taken into the cutting-room where they are cut, trimmed and prepared according to the uses to be made of the meat. I receive a good many letters from parties desiring to put up fancy meats, begging for the secret of my recipes, promising to keep it to themselves, etc. As a matter of fact I have no secrets except a few which however I am going to reveal in this article. The first secret is CLEANLINESS in dressing the carcass, in keeping the tools, tables, blocks, the meat-grinder, the cutting-room and everything else absolutely spick and span and sanitary.



T. B. Ingwersen.

The second is the proper selection of the animal. Out of an old stag or male hog, fancy meat cannot be made, nor can good hams be made out of a hog that is too poor or over fat. As far as the recipes go, they are in my opinion of minor importance. They are largely a matter of taste. Thousands of them exist and can be bought in small books and in large books. Below I give a few recipes:

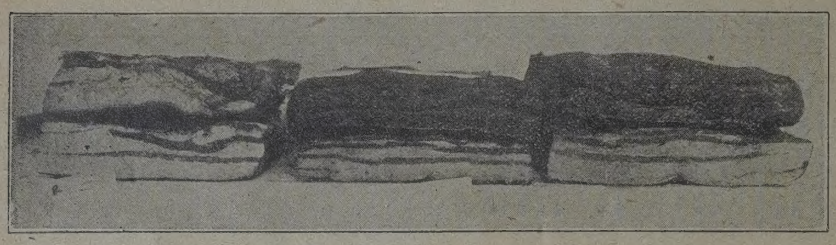
DRY CURE:—For 100 lbs. of meat; 4 lbs. salt, 1 lb. sugar, ¼ lb. pepper, 2 ounces saltpeter.

BRINE CURE:—For 100 lbs. meat; 7 lbs. salt, 5 lbs. sugar, 1½ ounces saltpeter, 4 gallons water.

It is advisable to use only the best of ingredients and it is especially the salt that I desire to call the readers attention to; only the very best of it is good enough for the good and expensive meats. A specially prepared salt like that which is used for butter making should be bought. We use the Wor-

The splendid farm home of Mr. T. B. Ingwersen, Pike County, Missouri.

cester Salt exclusively and the result is satisfactory. The time of curing depends on the kind of meat and the size of it. Small hams about 14 days, with large hams up to 30 days. Bacon never longer than four days. When taken out of the cure, all meats must be washed in warm water, in order to remove any salt adhering to it. Then the smoking begins: About the lenghth of time to smoke the different pieces of meat, I am not able to give any rules; good judgment alone must govern here. The only thing I have to say is that I prefer a frost-free smoke-room or smoke-house (We understand Mr. Ingwersen kills about 200 hogs a year and if this number were handled in this way by every community it would save a great many thousands of dollars annually to Missouri farmers.) that I am very partial to hickory wood and like frequent short, and not too hot smokes.



Prize bacon Missouri Ham and Bacon show, 1915.

To dispose of the ribs and bones is still an unsolved problem. As these must be sold fresh, I have so far only sold them at home, which as the demand here is rather slim, has limited my packing operations to such a comparatively small business; however I intend to give this problem my serious attention this winter and I hope to solve it by establishing connections in St. Louis and there dispose of these meats by means of Parcel-Post and Express. Another way to solve this problem is to scrape all the meat off these bones and use it in the sausage and grind the bones for chicken-feed. In the same manner can the heads be disposed of. The jowls must be taken off first and these can be cured and smoked; if there is, however, no demand for jowls they can be cut up and rendered in the lard kettle as they make good lard. There is a little very good lean meat on the head which can be used for some kind of a sausage; the greatest part however is bone and will have to be ground into chicken-feed.

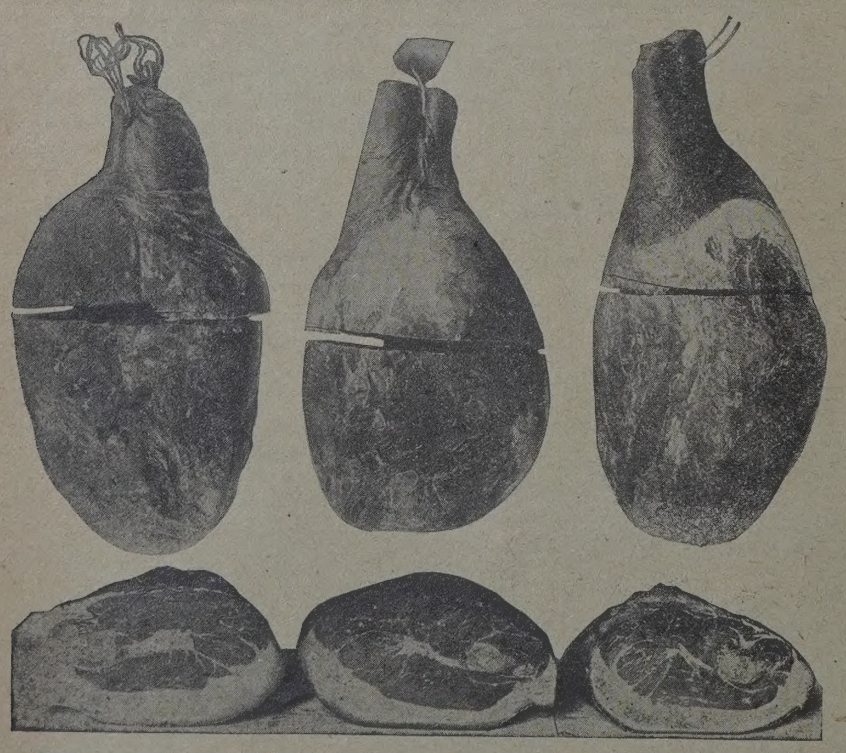
The profits of this business naturally vary. This last winter because of the low market price was very favorable for it. I have cleared above all expenses about two dollars a hundred. However what could be done at the basis of the present market would be fortelling the future—but it is very seldom that less than one dollar per hundred can be made.

A good deal has been said about the big packers making use of every bit of offal and having in this respect a great advantage over the farmer-packer. This may be so, yet most of this offal consists of tankage and fertilizer —all of which should go back to the farm. In my packing operations but little has been wasted and what the hogs and chickens will not eat makes good fertilizer. This winter we are going to install a Bone-Cutter which will help to reduce the waste still more. Green bone is an egg-producing feed and is of great value to the flock.

While it is my wish that the farmer may get some relief from the tyrannical rule of the Beef Trust through his home butchering, I believe that the real solution of this problem will have to be solved by co-operative packing companies owned and controlled by the farmers themselves, like they do it in Denmark so successfully. Then it will be possible to make use of all the labor saving machinery and utilize even the smallest item—including possibly the "squeal and the scent" as they say the big Packers do.

My business is still so small that it has not justified my doing any advertising—but somehow my meats have always found a ready sale. I have a good many friends in different states and through them I have found many new customers.

If the weeds on our farms could be turned into feed, wouldn't we have a lot of feed to sell? It is not necessary, neither is it good business, nor good farm sense to grow so many weeds as we do grow. You can draw your own conclusions as to whether it is carelessness, laziness, ignorance or just pure cussedness. Sam Jordan.



First, second and third prize hams at the 1915 Ham and Bacon show held by the Missouri State Board of Agriculture. The lower cut shows the fine texture of the meat after the hams were cut.

DRAINING LAND IN CARROL COUNTY

It does not always take a lot of money to drain land. During the Farm Management survey last summer in Carroll County a farmer was found who had some drains in successful operation that had cost him nothing but his labor. This was on land that had plenty of slope so that the question of fall in laying his drain did not enter in. The reason this did not cost him anything but his labor was because he used poles instead of tile. He had a large grove of maples that furnished the poles. He dug a ditch as though he were going to put in tile. Instead of tile he laid two poles in the bottom of the ditch with a third pole on top of these poles and plowed in the ditch. Some of this work was done twenty-five years ago,—seventeen years ago he did some more—today this drain is running a good stream of water and draining some bad seepy places on the hillside in his fields.

It is true these poles rotted out in a few years, but this did not stop the drain by any means. When these drains work satisfactorily for twenty-five years, they ought to be worth while.

A great many farmers who do not have the money to buy tile have lots of poles on their farms that might be used in this way. This farmer had a grove that was worth mighty little to him as it stood. By utilizing the poles in this grove he was able to make them worth a great deal to him.—O. R. Johnson, Missouri College of Agriculture.

A SEED LAW FOR MISSOURI

By Sam Jordan

We have been misled much too long by depending on the percentage of purity of seed as advertised by those selling seeds. A sample of seed may be 99½ per cent pure, yet be wholly unfit to use for seed. What the impurity consists of is of the most vital importance. A sample of seed might contain a large per cent of some sorts of weeds, and yet not be very objectionable. Fox tail, crab grass, smart weed, and such are not considered as bad by any means as buck horn, and other plantains, willow-leafed dock, red topped sorrel, quack grass, or Canada thistle.

To show that even one-half of one per cent is by far too much, a little calculation will make it clear. Suppose the seed to be considered is red clover. There are about 375,000 seeds in a pound of red clover seed, and one-half of one per cent is 1875. If the impurity is buckhorn this will mean that about 11 of these seeds would be sown per square rod, by sowing one pound to the acre. If six pounds be sown it would mean 66 buck horn seed per square rod.

Suppose that we are considering Alsyke clover. A pound of this has about 700,000 seeds. Suppose the one-half per cent be red sorrel or Canada thistle. By sowing five pounds of this seed that is 99½ per cent pure would mean that we would sow at the rate of 100 of these weeds per square rod.

It has been claimed that the farmers have "protection" against the use of bad seed, by the College of Agriculture. Protection is hardly the right word in this case. The farmers can get "information" as to purity or viability of seed from the College of Agriculture, but not protection. The College can also give us information as to whether or not a dealer is giving us oleo when he claimed that he was selling us butter, but that is not sufficient. A law requires that he let us know what he sells, or that it be true in name, and the goods be what they are represented to be.

Many of the worst weeds in the world are becoming scattered more and more over the farms of Missouri from year to year, and as long as the present situation exists there is little hope of improvement.

How long are Missouri farmers going to stand for this condition? How long are we going to allow seeds to be sown on our farms that are a great damage not to us only, but to our community as well?

How will your member vote on this law at the coming session of the legislature? Why not ask him and see what he says? By so doing you may find out how he stands on matters vital to the farmers.

THAT STORY OF AN OLD FARM

I have four letters and three postal cards in regard to the series of articles written on that subject. Two writers want to get into a useless discussion of the merits of deep and shallow plowing, one critises our method of handling manure, one, who evidently knew nothing about the nature of our soil, thinks that we ought to break more land every year while the other three thank me for writing the articles, saying that they will be of great benefit to many readers.

As a dozen farmers stood in the hardware store one stormy morning last week, they held a sort of a farmers institute with manure as the main topic. They were all good farmers, and they agreed to a man, that, while perhaps the ideal plan for handling manure was to get it on the fields as fast as made, that the ideal was not always the most practical plan, and that the use of a large amount of bedding and litter under the stock, with the cleaning of the stables often enough to prevent their interfering with the comfort of the stock, was the plan most nearly satisfactory to a majority of farmers.

Three of these men were enthusiastic advocates of shredding fodder, and claim that the waste from this fodder makes the best bedding, two or three silo owners said that they would buy damaged shredded fodder at half price to use as bedding, while the majority were satisfied, as we are, with straw.

There was one dissenting voice to the proposition, that as a rule we would get more benefit from our manures by spreading them at a lighter rate per acre than is the usual custom, and one man thought that extra heavy bedding cut down the value of the manure, this man not being willing to concede the value of humus in the soil.

He is an extra good farmer, and presented some good arguments on his side of the question, and I may also say that he has some good authority on his side, but most of us are going to stick to the old theory that humus not only assists us in making the soil work better, but that it is a solvent and container of actual plant food.

In regard to breaking more than one-fourth of our land per year, such a plan certainly would have delayed our building up the soil from its depleted condition, especially during the years 1868-1882, that we were unable to secure clover stands.

If there was an absolute certainty

that we would never miss a stand of clover, I am not sure that soil improvement could not be carried on as rapidly under a three year rotation of plow crop, small grain-clover, as under our four years rotation of plow crops, small grain, clover timothy, timothy-clover, but when we miss a stand of clover, as we do yet, we would either have to break two-thirds of the farm, or permit one-third to lay in weeds.

As we practice, in case of a failure in clover, we have the timothy to fall back on as a cover and pasture crop, and oftentimes we conclude to let some field, already in good grass and clover, stand a year or two out of its turn, and break the field where the failure was made.

Another thing I have not drawn out at length, is, the fact that our special crop, tobacco, has stood in the way of rapid soil improvement, not that tobacco draws any more heavily on the soil than a 200 bushel potato crop, but for years we disregarded this fact, and used our manures too heavily on the tobacco crop.

Again, the time the tobacco demands every man and every hour, August 25, October 5, is the time we could be making a few tons of cowpea hay, getting a double reward from the cowpea crop, but an impossibility with tobacco in the field.

We have never, to any extent, practiced the scraping up and saving of the manure that always accumulates about the milking yard, or at the corners of fields where stock congregates.

Some of the men who held that hardware store institute, had done this, and one man said that he got three to five good loads of manure per year in this way, certainly an amount of manure well worth considering.

In the summer, and up to the time when the milk stock is stabled every night, our cows each has a place to which she comes and is tied up for milking night and morning.

It is not much trouble to go over this place every morning, with shovel and wheelbarrow, take up the droppings and dump them in a pen, and if this is done regularly, enough manure to grow thirty or forty bushels of corn can be saved.

We have increased our milk herd to seven cows, and want to get up to ten within a year. When this is done, the tobacco crop is to be cut from six to four acres, then, by 1918 at the latest, the silo is to be built, and it is going to take less labor to run the farm.

For seven years we kept up a few acres of alfalfa, but one year made the serious mistake of cutting a fourth crop late in the season, damaging the stand, and have had a failure in seeding since.

We got a good stand of sweet clover last spring by seeding with oats, after having failed to do so several times by other methods.

As a rule I only favor seeding sweet clover on rough, stony, or steep lands, those not easy to cultivate, but we had the seed, and so we put it, ten pounds per acre on the less fertile end of a twelve acre field, and are glad we did so.

This answers a query as to what time I would sow sweet clover, as it is the first time I ever got a good stand, and I have seeded at several other seasons, and in several ways.

C. D. Lyon.

There are a pile of little school house Farm Clubs which have already saved $300 or $400 for their members. Why shouldn't you and your neighbors do likewise?

SHIPPING LIVE STOCK DIRECT

We have been watching the direct shipment and selling of Live Stock to the big Packers for sometime and believe that the practice is fraught with grave danger to Live Stock producers throughout the Country. Beyond question, it is of vital importance to the Live Stock industry that the open market shall be maintained, if a fair degree of competition in the selling is to remain—and the more cattle, hogs and sheep that are sold direct to the Packers in the feed lot or through local buyers who sell direct, the more the open market will become weakened. If it is a good thing for a half dozen feeders to sell direct to the Packers, then it should be an equally good thing for 1000 or 5000 feeders to do likewise—and thus, in a little while, the open competitive market would become a thing of the past and then indeed would the last vestige of control be delivered over to those powerful concerns which, in latter years, have so often found themselves in position to smash prices at will.

A splendid case in point is the history of the last twelve months: A year ago, as if by an agreed signal, the big Packers pounded down the price of hogs over one dollar per hundred within the short space of 48 hours—and the hog and cattle prices which thereafter obtained until in January of the present year, lost tens of millions of dollars for the Live Stock feeders and producers of the Country. Then suddenly something happened. The Canadian Packers had succeeded in landing some big foreign meat contracts and no sooner had they tucked these contracts away in their pockets when they appeared in the American markets as fighting competitors for cattle and hogs—and it has been a battle royal between them and the Big Fellows ever since.

To these 'invaders" from the North and to the activity of the independent buyers in general during recent months is due entirely the fact that cattle and hogs have been and are selling at $10 per cwt. at the present time—for the man who thinks that the Packers have had a "change of heart," or that they are throwing out a little "sop" because of fear for a Congressional investigation has another guess coming. Now suppose that during the last ten years feeders had sold enough of their cattle and hogs direct so as to have destroyed these big open markets—or at least have materially enfeebled them? Where would the Canadian crowd and our own independent order buyers be going today for their cattle, hogs and sheep? Again, if today you should sell a carload of cattle direct and get $10.50 per cwt. for them on your farm, remember that the pace for this price was set in the big open markets—not in your feed lot, for there the representative of the big Packer is the sole bidder and therefore without competition. Therefore, if he consents to pay you a good price it is only because the standard for that price has been fought out in the big competitive markets which, regardless of all other considerations, must be maintained at all hazards.

The good Lord knows the Packers have their own way often enough as it is—for the moment the independent factors in the market get out of the fight, prices begin to tumble like a house of cards. But at least let us hold to what independence remains to us. Let us preserve the open market—and perhaps someday if farmers use enough foresight to organize we will be able to dominate the selling end completely, so that the law of supply and demand may become a living fact—for not until this goal is realized will the Live Stock industry rest upon a solid foundation.

I know there are those who sell direct to the Packers because in this way they can avoid the payment of commissions to a Live Stock Commission Co.—but here again, if we are correct in the conclusions voiced above, the feeder is merely "selling his birthright for a mess of pottage." As matters stand, the commission man stands as an effective barrier between the Live Stock producer and a closed market—and therefore, for the present at least, their interests are mutual and they should fight side by side. The saving of the commission is the "bait" on the hook. At first glance, like all other "bait," it looks like a "good thing"—but, as usual, it is wise to look carefully into what the felllow who put the bait on the hook has up his sleeve. If the big Packers have made a single move during the last 25 years which was not calculated to tighten their grip on the Live Stock producer it has escaped our attention—and hence, from our view of the matter at this time, we would advise feeders to ship to the open market and sell only to buyers who consign to the open market.

William Hirth.

Year-after-year Comfort with Ideal Heating

It's a mistake to think that you too cannot have IDEAL Heating. Just read these reasons, then send for our free book "IDEAL Heating" and you will see how easy it will be for you to have these comforts and conveniences.

"Come right in, folks, where it's warm all over—radiators make a heap of difference"

Reason 1. IDEAL heating can be put in a house, new or old, without tearing out partitions, walls, or floors, or disturbing present heating arrangements. No dirt, fuss, or confusion.

Reason 2. Not necessary to have water pressure because IDEAL boilers use the same water for years. The outfit may the first time be filled with a bucket.

Reason 3. Not necessary to have a cellar because IDEAL boiler may be placed in side room or "lean-to." Thousands of boilers are so placed.

Reason 4. The savings in fuel (IDEAL boilers burn any local fuel) soon pay the original cost of the outfit and the absence of labor and attention, and repairs of IDEAL heating, repay many times the cost.

Reason 5. The cost, as illustrated below, is not large. Consider that you buy an IDEAL outfit for a lifetime of service with no further upkeep expense, and when you are through with it, it's just as good as when first bought. It's the only equipment you can buy which is never worth less than you pay for it. In the meantime, it gives you unequaled heating service with less fuel bill per season and it increases the value of your property more than any one thing will do.

Reason 6. Because your wife wants it and ought to have it. The outfit changes a house into a home.

AMERICAN RADIATORS & IDEAL BOILERS

Write today for Free Book

A No. 4-19-W IDEAL Boiler and 270 ft. of 38-in. AMERICAN Radiators, costing the owner $200, were used to heat this farm house. At this price the goods can be bought of any reputable, competent Fitter. This did not include cost of labor, pipe, valves, freight, etc., which vary according to climatic and other conditions.

Our book, "IDEAL Heating" is the best one published, giving illustrations and description of Radiator Heating—you can't make the best choice until you read it.

Send for it TODAY.

Sold by all dealers. No exclusive agents.

AMERICAN RADIATOR COMPANY

Write to Dept. F-32 Chicago

A Great Sale of Jerseys

Elsewhere in this issue appears the announcement of the sale of the great herd of Jerseys owned by the late Col. W. H. Phleps, at Carthage, Mo. This is one of the finest herds of Jerseys in this section of the Country and those who are interested should not fail to attend. It is a great opportunity and one which does not come often.

"The Road to Somewhere"

This is the title of an inspiring, illustrated lecture for boys and girls which Chas. F. Alt, Principal of the Robidoux High School, at St. Joseph, Mo., delivers to rural school audiences and our friends will do well to get in touch with him and arrange for this lecture. Teachers and school boards should write to him for his terms.

TOM AT THE UNIVERSITY

By "Tom."

Dear Dad: I am getting along fine in my school work and like it better every day. You said that you would like to hear more about the University and what we learn here. I am going to tell you what I am learning about modern agriculture in my letters now so that you may think over them during the long winter evenings and see if you can be able to apply some of them on the farm. I do not want you to get the idea that many farmers and other people have, that a study of modern agriculture is based on "theories" and "book larnin'", for such is not the case.

No business could ever be a success if not based on a substantial foundation, and agriculture is a real business, and a complicated one at that if properly conducted. To base it on theories would be placing the nation's greatest industry on the sands.

When grandfather came upon good old Missouri's soil it was cheap and fertile. He farmed it according to the standard of his day and was able to make it pay for itself after so long a time. He had no serious marketing problems to face then as we have today and the fertile soil produced all that was required to make a living at that time. It was useless for him to form a Farmer's Club to aid in selling or buying, and an agricultural education would have been out of the question as there was no need for it. Yet today, many of the older farmers will look upon an agricultural education with an unfavorable eye and say it is unnecessary, and cite their own case where they have a small fortune in owning the land that they obtained when they were young. But look at it this way. Was this fortune made by farming of a high degree? No, excellent farming methods may have been used, but in many cases the fortune was brought about by an increase in value of the land and the farming methods had little to do with it. It is impossible for the young farmer of today to get land like his father obtained when he was young, because it is all taken up now. Instead, he must pay four or five times as much for the land as grandfather, accepting it after much of the fertility has been destroyed; face fluctuating market conditions that usually allow him to get barely enough to pay for the work of production, to say nothing of having any left to pay down on the farm.

It is up to the young man of today to learn more of the fundamentals of agriculture to fit him to meet these new conditions, and I feel that here in the College of Agriculture I am learning a few things that will fit me to run the farm on a more intelligent and better paying basis than we have been able to before and help make farm life the best of all to live.

But now I will tell you a point that I have learned since I have been here that may be of interest to you. For several years we have been trying to grow cowpeas in our corn but have never been able to get a real sucess out of them. Cowpeas are alright in the corn in the southern part of the state but in the northern part it has been found that the soybeans are better. I had never heard so very much about the soybeans until lately and as far as I can see they are a worthwhile proposition, as a "side line" to the corn crop. They are planted the same time as the corn with a cowpea attachment, putting two or three beans in each hill of corn. From experiments and the results of practical farmers it has been found that a normal season will produce six or seven bushels to the acre. These are worth about $1.50 per bushel as a feed which would mean about $10 per acre if they were fed. Where the corn is hogged down as is now a more or less common practice, the hogs will eat these seeds, and here is where their value comes in. As you well know, tankage or some other high protein feed must be fed to fattening hogs if they are to make the most economical gains and the seed of the soybean is high in protein and will replace a part of the tankage that is necessary to feed and save this expense to a certain extent.

In cutting corn for silage the soybeans will go in the bundle with the corn as they stand erect. Silage in itself does not make a "balanced ration" and must have clover, alfalfa or some other feed which has a high protein content to balance it up. The soybean has a protein content as high as alfalfa and will help replace these other feeds.

Where sheep are turned in the corn in the fall they will clean up some of the weeds and get a large amount of feed from the soybeans as they will cut the leaves and the pods also. This is a good feature and I think more farmers should keep sheep around their farms to act as scavengers and they could be turned in and allowed to get the good of the soybeans. Young sheep are easily finished out where they have these soybeans to feed upon and the farmer has no expense of feeding them as they do the harvesting for him.

Another feature of this crop combination is that it adds fertility to the soil. The soybeans are what we call legumes and have the ability, when inoculated, of taking the nitrogen from the air and placing it in the soil in such a form that it may be used as a food for the following crops. Nitrogen is one of our most needed plant foods in the soil and must be well taken care of. The roots of the soybean go deeper than the roots of our grass crops and bring up fertility that would not be used by our other crops.

Now I do not want you to think that I am trying to exaggerate the good of this one little feature for I am not; these little things if added to our greater ones will help make our crops pay out better and may be enough to make a profit that is paying rather than one that is not and any added gain, even if small, should always be taken into consideration. It is getting late and I must be going to bed. In my next letter I will tell you about some other point that I have learned. Love to all, Tom.

DO SOMETHING—YOU!

For weal or for woe, the Farm Club is here. It is being "cussed" and discussed. It is well. Both courses help to advertise. If you are a farmer and are not in touch with this movement, I say "look around you." Wake up! The band wagon is coming. Don't wait till it runs over your toes before you wake up to the fact that it is here. Come down the road and meet us half way. The hand of co-operation is extended. Get aboard. Bring your horn. "He that tooteth not his own horn, the same shall not be tooted." If we get a square deal in the halls of the law makers and in the markets of the land, we must toot our own horn. This is the great game of life. Play your best hand. Clubs are trumps. If you haven't a trump, get one. Organize a school house Farm Club. If you need help, call for it. Don't sit back and howl at your fate. Do something! Do it now! You have it all to win and nothing to lose.

We will soon have at Centralia, Boone County, an example for you to pattern after. We have 12 local clubs federated into a Central Club. A business manager is to be employed to handle the co-operative business of all the local clubs. He is to have charge of co-operative grain and live stock shipments, the co-operative buying of supplies, and the co-operative plans for educational and social betterment.

Success will crown honest, earnest, intelligent efforts at co-operation. Are you in? Are you "ready to go," or are you to sit back and "Let George do it?" Too busy, are you? The peasant farmers of Europe and Asia are busy too. They work from dawn till after dark just for a mere existence. Does that problem please you? When the pages of history unfold their final story of our country, shall the story be told of a peasant farmer people who heeded not the fate that befell the farmers of the great nations of the past: or shall the story be told of a farmer folk who fought the good fight and won?

The call today is for leaders. Two thousand years ago, the Apostle Paul stood on the shore at Troas and heard the Macedonian call from across the waves. Today the Macedonian call comes up from every school district in the land. We want men—"men to match the mountains;" not men to slink along like whipped curs down the rut that leads to poverty and peasantry. "He who is not for us is against us." What are you going to do? B. P. Smoot.

HOW ONE FARMER BEAT THE PACKERS

With the time of butchering near at hand, let us prepare to keep some of this season's meat out of the packer's hand and save paying them an enormous profit, freight, both to and from the market, commissions and other middlemens profits.

Too many farmers practice feeding their hogs in the fall of the year and sacrifice them to the packers when they are harvesting their products to sell the following summer at a handsome profit. The same is done by the grain dealers every season, and especially did they do this in 1916. When at threshing time wheat was bought around the dollar mark, and now selling around the two dollar mark, with no visible reason, only, to accumulate millions of dollars at the expense of the farmer and consumer.

Why not esablish a little packing house and granary of your own?

I have been trying the packing house plan the past few years with very satisfactory results. The average farmer feeds from fifteen to twenty-five hogs in the fall, butchers about five or six, and turns the rest over to the packers. Some not butchering any, turning all of them to the packers, and buy them back the following summer at from fifty to one hundred per cent profit.

My plan is to butcher all the hogs I feed in the fall. I butchered twenty-seven hogs last season at three butcherings. I sold all my sausage, bones, livers, heads and feet at time of butchering at a good price. Bringing from forty to forty-five per cent of what the hogs were worth on foot. The jowls were taken off the heads, leaving the lower jaw bone on the head. The jowls I salted down the same as bacon, and sold early in the spring at a good price. The rest of the head being made into hog's head cheese which will sell almost as high as sausage.

My last butchering was done the 20th of February when hogs had advanced from about 6 cents per pound at home in December (when most of the farmers were turning hogs loose), to 8 cents per pound at this time. I butchered nine head weighing thirteen hundred and ninety-six pounds, worth $111.68 at current price. I sold the parts mentioned before for forty-five dollars and forty-seven cents on the local market. The rest being salted down and taken up about the first of April and smoked with green hickory wood five or six days, and sold on the 10th of April for $84.86. Making $130.23 for the nine hogs, or nine dollars and thirty-three cents per hundred at time of butchering. I made quite a good deal more profit off of the first two butcherings (one being made Dec. 20th when the hogs were selling at 6c at home, and the other Jan. 22nd when hogs were selling at 7c at home), from the fact the packers were forcing the retail dealers to sell their meat at the same price, or about the same, at these two times, that they were when the last butchering was done. Consequently I got same price for sausage, bones, etc., making the profit greater.

Four or Five men can easily butcher ten or twelve hogs in one day and finish everything—using the ordinary methods commonly used by farmers, and which could easily be improved upon. So one can see the cost of butchering would be small, and yet smaller by co-operating with his neighbors and not hire any help.

So let us organize these Farm Clubs all over the state, as THE MISSOURI FARMER is trying so hard to get us do, and solve this problem as well as many others.

The farmers of my school district organized about ten months ago with twenty members, and we now have eighty members from this and adjoining districts. We are saving ourselves a great deal of money on the buying proposition and the same in regard to selling. We have just bought 19,000 lbs. of flour at a saving of one dollar and forty cents per bbl. under the local retail price.

If we farmers don't paddle our own canoe, no one else is going to paddle it for us. So let us get together and get in and paddle. Ezra T. Palmer, Boone County.

BALANCING THE FEED FOR PROFIT

Mr. R. W. G., Garden City, Mo., makes inquiry as follows: "I have 3 litters of September pigs, 27 in all, which will be weaned about last of November. Now I would like to feed these shoats out, making medium weight hogs of them some time next spring. I will be obliged to buy every pound of feed they eat from weaning time on, outside of the red clover and blue grass I will have for them next spring. I would like for you to help me outline a ration and a plan for handling these shoats, always remembering it is profit I want. I have an excellent hog house, warm and dry, also a concrete feeding floor 12x30."

Owing to the general character of the inquiry it is rather hard to furnish definite advice regarding the matter. Assuming, however, that your

correspondent's pigs will average 35 to 40 pounds at weaning time and that he desires to market them in the spring at the weight of 200—225 pounds it would mean that they are to be fed 4 or 5 months.

In order to reach the desired weight in the time alloted it will be necessary to feed practically a full feed from weaning time on. Since the hogs are to be marketed in the spring this feed must necessarily be principally grain. Now the best grain ration to use would depend, among other things, upon the relative prices of the different feeds in the locality where they are to be purchased. Ordinarily, however, corn and tankage will make the most economical ration with perhaps some shorts added to the ration of young pigs. The Missouri Agricultural Experiment Station fed some pigs, averaging 49 pounds in weight for 60 days on a self feeder. The feeds used were corn, shorts and tankage; each of these feeds being placed in a separate feeder so that the pigs could eat as much of each feed as they wished. The ratio of feeds consumed when fed in this was:

Corn	9.2 pounds.
Shorts	3.5 pounds.
Tankage	1 pound.

The average daily feed per hog was 5.17 pounds which produced an average daily gain of 1.27 pounds so that at the end of the 60 day feeding period the pigs weighed 125.7 pounds, having gained on the average 76.7 pounds per head. With corn at 80c per bushel, shorts $1.40 per hundred weight and tankage $2.50 per hundred weight the cost per hundred pounds gain was $6.07.

After the pigs have been fed for 60 days or thereabouts, the shorts may be dropped from the ration if desired. At the Missouri Station hogs weighing 122.2 pounds self fed on corn and tankage in the manner already indicated gained an average of 1.61 pounds per day for 60 days, making their final weight 219.2 pounds. During this feeding period the average daily feed was 7.45 pounds in the proportion of 17.1 pounds of corn to 1 pound tankage. With the price of feeds the same as in the former trial the cost of the gain would still be less than $7.00 per hundred pounds.

With good, thrifty, well bred pigs your correspondent should be able to duplicate the above results.

L. A. Weaver,
Mo. Agricultural Expt. Station.

DEVELOPMENT OF THE HEREFORD BUSINESS IN ST. FRANCOIS COUNTY

By Bert L. France, County Agent

The St. Francois County Hereford Association was organized in the spring of 1915. The object of this association was to develop the Hereford industry in that county. At that time there were about 20 men breeding purebred Herefords. The first event of especial significance was a Hereford tour conducted in August of that same year. Mr. R. J. Kinzer secretary of the American Hereford Association was invited to the county to inspect the cattle there. All of the Hereford breeders and many of the business men of the county met on Friday morning in Farmington where automobiles were provided for a tour of the county. About 100 men made this trip. On the first day twelve herds were visited. A picnic dinner was held on the first day at one of the farms. On that same evening a banquet was held in the hotel in Farmington at which about 60 plates were laid. The trip was concluded the following day with lunch in one of the outlying towns.

There were several results of this trip. The farmers and business men of the county had never before realized that there were so many purebred Herefords in the county and especially had not known that there was so much exceptional quality to be found. The breeders themselves had not realized that there were so many good cattle. The herds visited that day represented about 500 pure-bred cattle.

On December 20 the association sold 41 head at public auction at Jackson, Tennessee. These cattle sold well but the great value of this sale is to be found in the splendid advertising which it gave to the St. Francois County product.

The second association sale was held at home this year in Farmington on the 28th day of October, 1916. There were about 45 head in this offering.

The most interesting feature in this connection indicating the reputation that those breeders have already made, was the sale this fall of 83 head of spring calves for November 1 delivery when they will average not over seven months of age, at an average of $80.00 per head.

The demand for breeding stock greatly exceeds the supply and incidentally there are about thirty breeders in the county now raising purebred Herefords. The big thing that has been accomplished there is the getting together on one breed and boosting for that breed.

WON HIGHEST AWARD AT SAN FRANCISCO EXPOSITION

International Harvester Wagons—Weber—Columbus

WHEN your old wagon is just about gone and you're thinking of buying a new one, sit down and do a little figuring. What kind of service has that wagon given you? How many delays have you had because of accident and breakdowns? Could you always get repairs easily? How long has it lasted? You have to add all unnecessary expense to the price you paid at first, to find out what your wagon really cost you.

When you have these figures you will see at once the advantage of buying a **Columbus** or **Weber** wagon. They give you steady service, with no delays. You can get repairs any day you need them. The folding endgate and link end rods make them easy to load and unload. The fifth wheel—an exclusive feature on these wagons—adds years to their life.

When you are ready to buy a new wagon and want the one that costs the least per year of service, drop us a line. We will direct you to the nearest **Columbus** or **Weber** wagon dealer and give you information that will make it easy for you to buy one of the best wagons you ever owned.

International Harvester Company of America
(Incorporated)
CHICAGO USA
Champion Deering McCormick Milwaukee Osborne Plano

THE FARM CLUB MOVEMENT

(Continued from page 2)

As I have said several times before, the "big farmers" are taking a hand in this Farm Club fight—the men who are big live stock producers and feeders and who heretofore have largely stood aloof from movements of this kind. As Mr. Earl Rea, a progressive Saline County farmer remarked to me the other day, "As long as our land kept on increasing in value we didn't feel things so keenly—but now its quit doing that and our backs are up against the wall along with the tenant farmer or the farmer who owns only a little 40." And this expresses the situation in a nut shell. Up in the Dakotas, in Minnesota, Iowa and everywhere farmers are "milling" as never before and all signs go to show that we are on the eve of the greatest farmer awakening the Country has ever known. But thus far the movement in Missouri is more practical and on a firmer foundation than in any of these states. We are in position to lead and set the pace for farmers throughout the Country—if only you and your neighbors will wake up and take your place in the procession.

What They Are Doing

The County Farmers Ass'n which was formed in Lafayette County some weeks ago is pushing the organization of Farm Clubs in every direction and I believe I am safe in saying that nearly 100 school house Clubs will have been formed by January 1st. In a few days the Township Committees will meet for a conference and at that time the project of building several Farmers Elevators will be taken in hand—and the idea of a big Co-Operative Creamery will also be discussed. At Centralia, Mo., more than a dozen new Farm Clubs have been organized during the last 30 days and a Live Stock Shippers Ass'n with a regular paid Manager is now in the process of completion—Centralia being one of the biggest live stock shipping points in Missouri. Up around Richmond in Ray County a dozen new Clubs have been formed during the last three weeks and soon a County Ass'n will be perfected. Down in Vernon County more than 20 Clubs have been formed and a County Ass'n will be organized soon. In Saline County the movement is growing daily and the big mass meeting which was planned several weeks ago and which was postponed because of the election will soon be held for the purpose of perfecting a County Ass'n. Up at Meadville a number of Clubs have formed a Live Stock Shippers Ass'n while at Triplett in Chariton County a Farmers Elevator is being organized. At Brunswick Messrs. Bachtel, Smutz, Heisel and other Farm Club leaders are planning a big "Love Feast" and supper for their Farm Club members and wives in the near future. They have been saving money on coal, salt and mill feed and report farmers as being greatly enthused. Down at Warrenton, Gust Polster, Pres't of the Warren Co. Farmers Ass'n is planning a big "round up" of the Farm Clubs of that County in the near future—and so it goes all over the state—and mind you, as I said a little while ago, we have hardly more than started. Even down at Branson in the heart of the Ozarks, Mr. Renshaw and a few courageous souls are trying to start the ball rolling among the crags where Harold Bell Wright found the characters and setting for his beautiful story, "The Shepherd of the Hills."

A New Opportunity

With the defeat of the Missouri Land Bank amendment, which means that the farmers of this state who desire to escape from heavy interest rates and long time loans will have to avail themselves of the new Federal Farm Loan Act—this suddenly has created a new reason for the formation of a Farm Club in every school district. In order for farmers to avail themselves of loans under this law, 10 or more farmers in the same general community must form a Nat'l Farm Loan Ass'n and these farmers must ask for loans aggregating not less than $20,000. Within 10 days our new pamphlet explaining the law fully will be ready for distribution to those who send us a 2c stamp to cover cost of mailing. But the point in a nut shell is this: If farmers will see to it that a dozen or so Farm Clubs are formed in their neighborhood, it will then be easy to discuss the new law so that every member fully understands it. Then those farmers who desire to make application for loans in each Club can get together and form a National Farm Loan Ass'n. In other words, through the discussions in the Farm Clubs farmers will be much more able to understand the working of the law—and more vital than all else, the Farm Clubs will become the clearing house through which those who desire to borrow can be brought together for the formation of a Nat'l Loan Ass'n and thus, another powerful incentive has been placed back of the crying necessity for farm organization.

In conclusion, let me say as I have often said before—that there is no phase of this great new movement which I value more highly than the fact that it is bringing farmers together for the discussion of their problems in the little school house. If the farmer is to become a really vital force in the Nation—which he is not at this time; if we are ever to shake loose the grip of the Packers Combine, the grain gamblers and others who levy tribute upon the farmers sweat and toil—then the farmer must get together with his neighbors and prepare for this fight as never before. We can't win this battle by sitting around the kitchen fire or by merely yelling "Howdy" to the neighbor across the fence—or chatting for a few moments on the street corner when we go to town to trade on Saturday. We must touch elbows and plan this great coming struggle in the little school house meetings—and furthermore, it will put a new zest and enthusiasm into farm life and relieve it of the monotony which makes it so dull and listless at this time. For a 2c stamp to cover cost of mailing we will be glad to send you literature, Constitution, By-Laws, etc., for a Club in your district.

William Hirth.

Farmer Boys Attention!

Never before have farmer boys had such a fine opportunity to make a lot of money out of polecat and other wild animal skins as this winter—and you ought to get out your steel traps and get busy. In the meantime, write to the fur companies whose advertisements you will find in this issue and ask them to send you their price lists and "Trappers Guide." Be sure to mention this paper when you write.

THE MISSOURI FARMER
Devoted to Better Farming, Better Farm Homes and Better Citizenship.

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William Hirth, - - - Publisher
Geo. B. Ellis, - - Managing Editor

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The date on the address label gives month and year to which subscription is paid.

Agents Wanted. We want some one to represent us in every community and make up clubs for which we will pay liberal commissions. Write us for terms and sample copies.

We solicit communications from farmers and members of the family on timely and practical subjects. Photographs illustrating farm life or plans for buildings, live stock, etc., are appreciated.

To render service is our aim and we will endeavor to answer all pertinent questions or have them answered by competent authority. When answer is desired direct always inclose stamp.

Entered at the postoffice at Columbia, Missouri, as second-class mail matter.

DESERVING SUCCESS

The different Record Associations of purebred live stock have done this country incalculable good and their work will not be finished when the last scrub is eliminated. One association which is winning success and which deserves it, is the National Duroc Jersey Record Association with headquarters at Peoria, Illinois.

The annual meeting of the stock holders will be held on December 2nd at which time one of the most magnificent buildings owned by any live stock association will be dedicated. The building has just been completed at a cost of $60,000 with a balance left in the treasury for other purposes.

We acknowledge the courtesy of an invitation to be present at the dedication and annual banquet and our toast delivered in advance is "Long live and prosper the National Duroc-Jersey Record Association."

CO-OPERATIVE EFFORT

There is so much that can be done in any community by earnest co-operative effort and so little that can be accomplished without it that it is beyond our understanding to explain why there is not more co-operation among farmers generally. The big farmer will find many things helpful in co-operation but with the small farmer it is absolutely impossible to do much without it. In pioneer days the farmers of a settlement found it necessary to co-operate pretty closely in house and barn raisings log rollings, wheat thrashing, etc., but with the advent of machinery farmers have drifted too much to individualism in doing their work and that has gradually had the effect of destroying the necessary co-operation in social, educational and other community projects.

The swamp lands of this state are being made into fertile fields by co-operation and this improvement could not have been done in a thousand years without a co-operative drainage law which empowered a majority to unite and compel the minority to pay their proportional part. The Farmer, a farm paper of St. Paul, suggests that land clearing associations should be formed by the farmers of the timbered sections of the Northern states so that capital can be secured to buy stump pullers, pilers, etc., and by 6 to 10 men working together each man will become expert in doing some part of the work and the land can be cleared without the outlay of very much money and without the back breaking work that is necessary to do clearing without the necessary machinery.

We offer this suggestion for the benefit of our readers who may yet have some timber lands to clear. We have much to learn about the different ways of helping our work along by co-operative effort and every successful enterprise of this kind will lead the way to something better.

DEFEAT OF THE LAND BANK

Our readers are all aware by this time of the defeat of the Land Bank amendment which was voted on at the general election. We are not in possession of the official figures but according to the published figures the amendment carried a very complimentary vote and it is no great surprise that a proposition so new and so little understood should be defeated the first time it was voted on.

Those who believe there is a real demand for a rural credits system need not be discouraged by this temporary defeat for we can now turn to the Federal Farm Loan Act which will soon be put into operation. It is not necessary to discuss the relative merits of the two plans now but every man who wants to get a loan on his land at a lower rate of interest than he is paying now or who wants to get a loan that he can pay off a little at a time will do well to investigate the Federal Farm Loan plan.

FARMERS SHOULD BE ON GUARD

This is a pretty good time for farmers to look after their interests that are likely to come up in the Legislature this winter. All other interests are busy now trying to organize their forces so as to get what they want in legislation and appropriations and unless the farmers get busy they are sure to find their own wants overshadowed by other things.

One important matter that concerns every farmer in the state which will come before the Legislature this winter is the acceptance of Federal aid for road building. A few people who believe in building national roads and state roads out of Federal and State appropriations are already well organized and it would seem from recent speeches of Secretary of Agriculture Houston, that they now have that gentleman converted to their way of thinking. A few months ago Mr. Houston was emphasizing the need of the farmer's market road, the road over which must go all the surplus grain and produce of the farm and taking a common sense view of the matter it would seem these are the roads of the greatest importance to the whole country but this idea is being ridiculed by the "silk stocking tourist" and unless farmers wake up the former plan will be adopted.

Another matter of importance to the state and to thousands of farmers is the enactment of an adequate sheep protection law. There are now more than 40,000 farmers interested in the sheep business and there is room for as many more but the greatest handicap to the business is the annual loss from the depredations of prowling dogs. It matters not whether any individual farmer wants to engage in the sheep business or not but he will readily understand that if $10,000,000 or $15,000,000 of new wealth were added to the present resources of the state he would be indirectly benefitted by it. We now have in Missouri about 1,000,000 sheep and an equal number of dogs and if we could get rid of half of the dogs and increase the sheep to double the present number it would be a fine thing for Missouri.

There are many other matters that will come before the Legislature that farmers are vitally interested in including questions of taxation and appropriations but it makes little difference what the questions are unless the farmers make their wishes known they are likely to come out with the short end of the deal.

There are already several hundred Farm Clubs organized in Missouri and still room for many times more and if these clubs will take up the discussion of these legislative questions and forward their protest or indorsement to the members of the Legislature they will find less cause to complain after the Legislature adjourns next March.

INTERNATIONAL LIVE STOCK EXPOSITION

We agree with Dean Curtis of the Iowa State College when he says, 'There has' been something of vital importance lacking in the live stock industry of the United States since 1913. Nothing can take the place of the International Live Stock Exposition. The end of a season without an International seems like a great drama with the principal character omitted. The International will be of unusual interest and of special service and value to the live stock interests this season. Never before in the history of American agriculture have the live stock interests occupied a position of such commanding importance and general interest as they do today. The International Live Stock Exposition is the culminating event of supreme importance in the animal husbandry affairs of North America."

The holding of the International for 1914 and 1915 was suspended because of the outbreak of foot and mouth disease and this great show ought to prove a greater success this year than ever before. It is the crowning event of all live stock expositions in America and a week spent at the International ought to be more profitable to any farmer interested in better live stock than any week during the year spent in productive work on the farm. The show will be held this year December 2 to 9, at Chicago, and a large attendance is anticipated by the management.

CALF AND PIG CLUBS

There is no better way to get a boy or girl permanently interested in some good work than to give them something to do that will bring them a profit. In fact profit has a whole lot to do in holding the interest of grown-ups in most undertakings. A very commendable effort for community betterment has been called to our attention by Mr. E. G. Bennett, State Dairy Commissioner of Missouri. The Union Trust Company of Carthage, has very generously offered to finance two boys and girls calf clubs and two pig clubs and to do this without interest for one year.

The plan, as we understand it is that 40 boys and girls must join the club to make it complete. After the club is formed the members together with the officials of the bank will select some one to go into the dairy districts to buy 40 pure bred Holstein heifer calves and one bull calf. The price of the male will be added to the price of the 40 heifers and each boy or girl who is a member takes one calf giving his or her note without interest for one year for the purchase price. At the end of the year the calves are to be sold at public auction and each member will get the profit over the amount of his or her note. In addition to the profit, prizes are offered to the three members who put the greatest gain on the calves. If 80 boys can be interested in the handling and breeding of better live stock in any community it is impossible to estimate the future benefits to that community

A SPLENDID FREE LIBRARY

We have thought out a Free Library plan which we feel sure will prove of keen interest to the thousands of readers of THE MISSOURI FARMER—and here it is: If you and eleven other friends in your neighborhood will put up a dollar each for two years subscription to the paper, we will make you a present of a dozen of the standard Classics. We will send you a list of 100 books and you and the other members of the Club can select any dozen which you like best. In the list will be such great books as Les Miserables, Quo Vadis, The Little Minister and dozens of others like them—books which every man and woman, boy and girl should read and without which their education is incomplete. Some of the later books of splendid fiction will also be included—but, in any case, you may depend upon it that every book in the list will be worth while. As soon as you have completed your first book you can exchange it with another Club member—and thus the books will keep moving around the circle until each member has read the entire dozen. After that, lots can be drawn and each member will become the permanent owner of whichever book falls to his or her lot. Therefore, your dollar will have provided you with a winters fine reading and you will have two years subscription to the paper and a good book—a book which would cost you 75c or one dollar at any book store.

Now isn't this a fine offer? Did you ever have so splendid an opportunity before? When the supper dishes have been cleared away, can't you see yourself tucked down in a chair where the light is good, getting keen enjoyment and value out of the long winter evenings which are ahead? Now the thing to do is to sit right down and plan who among your neighbors you want to have join this Club. As soon as the list is made up, call them up over the telephone and explain this fine proposal to them—and I'll venture to say that in 30 minutes your Club will be made up. Then send us the dozen subscriptions as soon as you can collect them up, when we will at once send you the list of 100 books to choose from. And here is another thing: The Club can be continually enlarged. Thus, if there are a half dozen other books you want, all you need to do is to get a half dozen new members. I am especially anxious for country boys and girls as well as the older folks to take advantage of this fine offer. Now lets not lose any time—for already winter is here. So get busy right away, make up your Club, write us—and we will do the rest.

WILLIAM HIRTH, Publisher.

and while this banking institution is pulling off a splendid advertising stunt it is at the same time rendering a great service to these boys and girls, to their parents and to the whole state.

What if every rural bank in the state should put on something of this kind? Don't you think it would make Missouri the greatest dairy and live stock state in the Union? That is just what we think about it and we hope to see this club work spread to every county in Missouri.

SAM JORDAN'S SENSE AND NONSENSE

What is your recommendation? I read some time ago where my very dear friend, A. N. Lindsey, of Clinton, said in a political speech that he was born in Kentucky, is a Campbellite, and a Democrat.

Now, I love every pound of Lindsey, and there are several pounds of him. But not because he was born in Kentucky, for no doubt, there have been several men hung who were born in that fine old state. It is not because he is a Campbellite, for there may have been some members of that fine old church that have proven themselves to be scallawags of the worst sort. Neither is my admiration of him based on the fact that he is a Democrat, for in that fine old party, without doubt, there have been some pretty nasty folks. But the reason that I love him is on account of the brand of citizenship he hands out by his daily deeds.

It is not always safe to depend on our breeding to give out the impression of our citizenship, as there are many well bred scrubs. Neither is the world hunting for ancestry in this tolerably free country of ours, but it is on the hunt of the citizen, measured by the service he renders as such. I saw an old man the other day, who may have had "illustrious" ancestry, but had that fine ancestry seen him in the plight in whichI I saw him, they would surely have turned over in their graves. In boasting of your "sturdy old stock" do you not know that you may be related to that fellow that the mob hanged for stealing horses? Are you sure you are not remotely, at least, related to all the thugs, highwaymen, murderers, bloats, slobs, sane and insane, crooks, vagabonds, and (Democrats,—and Republicans) since our first parents, in the Garden of Eden? If you are not, when and where did your ancestry begin? Just go back to that time and see what a mean trick Eve played on Adam, then remember how weak that old boy was. Then you may remember that it was not very far down that first family until there was a murderer,—one who did not consider himself his brother's keeper. Do not get blue, now, over what I have said, for while you are so badly related, you have other relatives, who are presidents, kings, princes, Democrats, and Republicans, Campbellites, yes,—mayhap a Methodist, or even a Baptist.

Yes, your ancestry is a jumbled up lot, some of whom you should be proud, and on account of the deeds of others you feel that you should hide your face in shame.

My dear friend, the world is taking your measure every day of your life, and it wants you, or does not want you, just as your citizenship measures up the standards of a man. Your recommendation is your daily life, and the world is taking you at your face value.

* * *

Have you ever thought of the fact that all the good, and bad characters of your ancestry were born in you? And that much depends on you which ones predominate? Environment, then, may make you an angel or a demon, just as you permit those characters to predominate.

* * *

The penalty for violated law must be paid, some day, by somebody, some where, some how, no matter where, when, or by whom the law was violated.

It is just as true of the soil as of the soul. I often see soil so bady used that it is, no longer productive, and the cause is bad methods, that should amount to a crime. It is a crime, but human law does not forbid it, but society in general is paying the penalty just the same. "The limiting factor of a nation is its agriculture." Yet our nation is permitting soil destruction at a rapid rate. When our soil is destroyed the human race is at the last end of the last "quarter."

* * *

Flies and Some Hotels

One morning not so long ago on going into the dining room of the "leading hotel," we seated ourselves at the table for the "ordeal" of eating breakfast. No other guests had been at the same table that morning I presume, for when we saw the pitcher presumed to hold the "cream" ? ? ? for our coffee only six flies were swimming in it, cool for a morning bath, too. We made up our minds that we did not like "cream" ? ? ? any way. A look at and around the back door and dooryard we saw the cause that attracted the flies, and cats. It was dirt of many sorts including "details" of many a murdered chicken that had been served up in the dinning room "a la gravy."

We at once "fell to," discussing the state hotel inspector, and we found his certificate on the wall, and we wondered what the duties of this person are. We made up our minds that his duty is but one, and that one is to see if the bed sheets are nine feet long, hems included. We have sometimes wondered whether or not any hotel "keeper" has ever been refused a certificate.

It does not seem fair nor right when men whose life is "on the road" must some times have to endure such filth, bred of ignorance, or laziness or both. In the main, the hotels are good and clean. The food wholesome and well prepared and served, but some times we cannot avoid the dirty ones.

"Life on the road" is tough at best 'and we are at the mercy of conditions as we find them and in a few instances we have had to ask for private entertainment, or we would leave the place.

A hotel is perhaps a town's greatest advertiser, and the advertising is "good reading" or bad as the case may be, but it advertises just the same. The good hotels are not always in the big towns by any means, nor are the bad ones confined to the small towns. Some that are first class in every way are found in small places, but it does not make much difference, the price is always asked.

At some places there will be tables for the local patrons and the price is 35 cents a meal, but a table for the "knight of the grip" that costs a half a dollar, all because there is a bowl with a bannana or two, a minted apple, or a little orange that a fellow would have to be desperately hungry to get away with.

We gladly pay the price when the service is renderd, but do kick on some deals we get.

THE WORLD AS WE SEE IT

We know a fellow who never will have "brain fag."

* * *

Speaking of the election—"and the next day it rained."

* * *

Fortunate the farmer who is filling granaries in America instead of graveyards in Europe.

* * *

A lot of folks with no real troubles can't be content without trumping up some imaginary ones.

* * *

The political straw vote was so valueless that it wasn't worth baling. Might as well burn it.

* * *

There are some folks in the world who are big enough to grow great without growing greedy.

* * *

And now they are testing tobacco by the use of machinery—just as if there was no better way.

* * *

A thief who entered a Kansas City home stole a pumpkin pie. Evidently he was a man of good taste.

* * *

Old iron is bringing a good price, but not enough to pay for new farming machinery. So why not a shelter?

* * *

Who says this is not the day of the farmer? Didn't Missouri have a Lamb and a Gardner running for governor?

* * *

If the price of Boston's favorite dish continues to advance there will be lots of folks who "don't know beans."

* * *

The Salt River of political tradition may have had its origin in a salt lick. At least, there was some licking somewhere.

* * *

Some theoretical reformers who would "uplift" the farmer and revolutionize country life still have a little to learn.

* * *

The weather is the auto crank of conversation yet, when it comes to talk, lots of folks are sure enough self-starters.

* * *

A newspaper, in telling of the high prices for potatoes, refers to African potatoes. Is this a new name for sweet potatoes, with 'possum as a side dish?

It isn't always the fellow with the biggest foot that boots the football the best—nor the man with the most muscle who is the best farmer.

* * *

Half of the candidates are now thoroughly convinced that it's impossible to "rope" the voters with campaign cigars—near ropes though they be.

* * *

We have no patience with that individual who refers to his father as "the old man," who speaks of his old home town as "that berg" and who talks of the country as "back in the sticks."

W. L. Nelson.

And also, does your inner life come up to the sample you hand out? If not, is not that moral cowardise?

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The Code of the Mountains

By CHARLES NEVILLE BUCK

A STORY OF A MOUNTAINEER WHO BECAME CIVILIZED

The youth, who had three days before been Number 813, permitted himself to be led through an uninviting doorway around which stood several gaunt men in mud-spattered clothes. But Red Newton did not suffer him to halt at any of those tables, covered with red oilcloth, where several taciturn pilgrims from the hills were feeding themselves from the blades of their knives. Instead he whispered something to Fult Cawsler himself, and was permitted to climb a narrow stairway at the back. At its head they traversed a narrow hall and came into a separate room where around a private table were seated a group of men whom the boy knew. Old Jason Dode was, as usual, tipsy and, even as the newcomers entered, was tilting the bottle of "red licker" which he unwillingly substituted for the white and sweetish moonshine of his native stills. But the important thing was that Black Peter Spooner stood gazing out of the open window, though he stood back far enough to escape the eyes of passers-by below. His hands were thrust deep in his pockets and on his face was the same expression that always sat there. Few people passed Black Pete by without turning to look again. He stood somewhat upward of six feet and his broad shoulders tapered to a gauntness of waist and leg which gave him the suggestion of a timber wedge. He was as tough as that lumberman's implement and wedgelike, too, in his power of disrupting the dividing elements which, but for him, might have hung together in harmony.

His dark head he carried high-flung with a swing of independence, and that head, even more than the physique, caught and challenged attention.

Black Pete's face was rather narrow and rather long, but its brow was high, its nose strong and regular, and its chin had that square-blocked declaration of resoluteness which commands respect. Under brows black and bushy gazed out eyes that were the dominating feature. They were clear and penetrating as crystal lenses, and in them dwelt a sober, almost sad contemplativeness as though the brain behind them were habitually gazing off beyond horizons that limited other visions. They were eyes that seemed able to pierce the opaque things of life. The hair curled crisply in glistening black, about the forehead and neck, and over the firm mouth a black mustache fell drooping in long ends. It was a face that hinted at no violence, though at great strength and determination. Rather was it suggestive of melancholy thought, and it had won for him the satiric title of the "Deacon."

As Red Newton and Newt Spooner came into the room, Black Pete turned his glance for a moment upon them, then wheeled again to the window with no apparent interest in their presence or existence. His face remained as wistfully distracted as though he were a minister preparing a discourse, on a text which lay very near his heart. But Newt, having seen him, continued to stare. His eyes narrowed. He knew that several years ago, before he had himself become a felon, the Deacon had gone West—where he did not know. But he did know that only so long as this man remained away from the county could there be hope of even comparative peace between the Spooners and the Falkinses. So dreaded was the quiet-visaged intriguer, so unalterably given to violence and the taking of lives, that his exile had been the condition precedent to all negotiations for truces and peace. Now Black Pete was back. Obviously, the meeting in Cawsler's "resteraw," seventy miles from home, held some portent beyond the casual.

They brought the newest prodigal food, and, while he devoured it, bolting it with wolfish hunger, he also picked up the loose ends of talk and began to understand the situation. There had been an election down in his section since Newt's conviction—an election and some other things, which Red Newton briefly summarized as "merry cane." The "penitentiarying" of Newt himself had been only the inaugural of more sweeping and hateful innovations. Three times the old blood-feud had broken into sporadic outbursts, and three men had been shot. But what most galled was the fact that the commonwealth's attorney had shown a hound-like nose for evidence and that all of the accused clansmen had been viciously prosecuted.

A truce had been patched, by the terms of which Jake Falerin, a cousin of McAllister Falkins and the leader of the militant Falkinses, had agreed to leave the hills and remove the menace of his disturbing influence. He had gone only as far as Winchester, and, from councils held there with visiting Falkinses, was as dangerous as though he had remained at home, even while his own life was safer. The Spooners had decided that this half-compliance was a practical breach of the truce, and in accordance with that theory the Deacon had come home. At least, he had come this far. In the meanwhile, the Honorable Cale Floyd, commonwealth's attorney, had reaped the gratitude of his constituency. Because he had waged relentless war on lawlessness and had begun to show incipient symptoms of victory he was defeated for re-election. Sick of the futility of such endeavor, he had closed the bare law-office before which his shingle had swung in Jackson, and had come to Winchester, where the field was larger and v men were more appreciative of the qualities and principles for which he stood. He was the man who had put stripes on Newt, and who, had he remained in office long enough, would have made the pattern a family apparel for other Spooners.

"That's how things stands, Newt," summarized Red, turning to the new arrival, "an' that's what I 'lowed ye'd better know about afore ye went back home."

"An' them fellers, Jake Falerin an' Cale Floyd, is a settin' over thar somewhars in this-hyar town right now, a-brewin' of more deviltry," enlightened old Jason Dode in a hiccupy voice, "an' because they hain't in the mountings, they 'lows they kin go right on with hit. We don't 'low they kin."

The "Deacon" turned from the window, and strolled toward the table. Newt, having appeased his hunger, was wiping his mouth on the spotted tablecloth. The dark giant fixed him with thoughtful eyes. When he spoke, his voice was in contrast with those of his fellows, for his life in the West had almost freed it from drawl and vernacular, and he spoke with a quiet graveness.

"Son, this Cale Floyd is the same lawyer that sent you to prison."

Newt's eyes flashed.

"I reckon I hain't fergot thet," he said shortly.

Black Pete nodded sympathetically and went on with the same grave intonation.

"I reckon you wouldn't mind much if he got his dues?"

"He's ergwine ter git his'n," asserted old Jason, his bloodshot eyes wickedl aflare. "He's ergwine ter git his'n this day afore sundown. An' Jake Falerin's ergwine ter git his'n, too. Them two fellers 'll be dead ternight."

"Shut the old fool up," suggested the Deacon passively; "he'll be shouting that out in the street after on more swig of liquor." Then he turned to Newt again.

"If Floyd isn't taken care of, son, the next commonwealth's attorney will follow right after him. We've got to give a lesson an' a warning. Do you understand?"

"I reckon I do," replied the ex-convict, but he spoke without ardor.

"This evenin' about half-past four o'clock," proceeded Black Pete, "Mister Lawyer Floyd is going to make speech in front of the court-house. There'll be a crowd, and we figure that Falerin will be there, too. Our boys will get up close. Some of them will start a fight amongst themselves, and I reckon they'll pull guns. Mr. Floyd an' Mr. Falerin are apt to get accidentally shot."

Newt Spooner rose, and stretched his arms. His food and rest had refreshed him, and the red spots had gone out of his cheeks.

"What for," he inquired cooly, "air ye a-tellin' me all this-hyar business?"

The Deacon's grave eyes clouded, but otherwise his expression did not change.

"We figured you'd be interested, son. You were the first Spooner they ever put behind penitentiary bars. They did it. We figured that when we came to punish these fellers—" He broke off with a shrug of his shoulders.

"Ye 'lowed ye mout git me ter kill 'em?" Newt spoke with absolutely no betrayal of interest.

"Jest the lawyer, Newt," interpolated Red Newton ingratiatingly. "He's your'n. Hit's your right ter punish him."

The late convict wheeled on the speaker, and his face blackened and lowered.

"No hit isn't!" he screamed. "I hain't a-holden nothin' 'g'inst ther lawyer. He didn't do nothin' but what he had a license ter do. I knows who I'm atter. You folks wants two men killed, an' you wants me ter be ther feller ter go ter the penitentiary fer doin' hit. What did any of ye do fer me last time? What do I owe any of ye, wuth goin' back thar fer?"

For a moment, a general silence of dazed astonishment followed the outburst. It was the Deacon who broke it at last.

"All right, son," he said almost gently. Every man accordin' to his lights. I reckon you ain't goin' to tell anybody what you've heard?"

Newt snorted contemptuously.

"I reckon ye knows thar hain't no danger of thet."

"Hit 'pears like," interposed Red Newton with an apologetic shrug to the others, "hit 'pears like the penitenshery hes done broke ther boy's sperit. Some folks is thet-away, but hit don't hardly seem like no Spooner."

Newt wheeled on him.

"Thet's a low-down lie," he stormed. "Nothin' hain't broke my sperit. I hain't scairt of them, ner of you. I knows what I'm atter. Thar's a feller I'm ergwine ter kill, but hit hain't this one. I'm tendin' ter my own business—not your'n. You-all got me inter one killin', an' not a blame one of ye stood by me atterwards.

He glared around the group for a moment and left the house, and no one made an effort to stop him. Newt meant to take up his journey within an hour or two. He, too, had a vengeance planned, but the man he sought was back there in the mountains, and there was no use in "foolin' away time an' money here."

Yet an hour later he walked past the court-house and the large hotel just beyond it, and abruptly, opposite the hotel door, he halted. He had seen a buggy drive up and stop, and in the buggy was the girl who had brought him to town. He had forgotten her, but now he paused across the street and stood gazing. He gazed simply because she was the first living soul who had ever been kind or gracious to him, and, precisely as the blind man may feel the sunlight and know that it is pleasant, he glowed dumbly under the remembrance of her smile.

Then as he stood looking, a young man came out of the hotel with his hat lifted and his face smiling. In his eyes was an expression easy to read, an eager, glad welcome as he crossed the pavement with extended hand and climbed into the buggy beside the girl. The young man was well dressed and bore himself like a gentleman, yet he was a mountaineer by parentage and birth.

Newt's posture stiffened into rigidity. The color left his face and his eyes began to burn balefully. * * * He had just recognized Henry Falkins.

For an instant, the erstwhile convict stood paralyzed with astonishment, then the blood in his arteries began pounding a fanfare of triumph. Wheeling, he went rapidly toward the restaurant of Mr. Cawsler. There he would find some of the clansmen, and one of them would lend him a pistal. If they refused, he would ravish a weapon from them with his bare hands. After that, if they let him have ten minutes for his own, he would join them in any schemes, conspiracies or crimes that interested them. For him, ten minutes would be sufficient. His walk broke into a trot at which the passers-by laughed. A yokel in a hurry is always amusing.

CHAPTER IV

A group of shabby men lounging in front of Fult Cawsler's restaurant paid scant attention to a wild-eyed youth who came down the street at a run and dashed into the door. Newt found the dining-room on the main floor empty save for a weary and untidy woman who was clearing away the china of the mid-day trade, and Fult Cawsler himself, whose bulky figure was just then disappearing up the stairs. The boy stood for a moment anxiously gazing about the place with its oil-cloth table-covers and its gaudy wall calendars, then dashed pell-mell after the climbing restauranteur. The woman called to him in high-pitched and raucous prohibition, but Newt Spooner went heedlessly on his way. At the head of the stairs in the murky hallway Cawsler turned, and without at once recognizing the on-rushing invader wheeled belligerently to face him.

The plans which had been hatched in his place that day were not such as would enhance his reputation as a law-abiding tradesman should they come to general knowledge. As the proprietor blocked the way, his voice carried the ring of asperity.

"What air ye makin' such a fuss about?"

"Hit's me, hit's Newt Spooner," volleyed the unarmed avenger. "Whar's Red? Whar's the Deacon? I hain't got no time ter fool round. I'm in a hurry!"

"They've done gone—all of 'em," responded Cawsler calmly, as he recognized the ex-convict. I don't know whar they're at." He paused, and then admonished coldly, 'Y'e'd better set down and calm yoreself. Ef ye runs around town so distracted-like, they'll put ye in the jail-house fer shore."

Newt only snarled. Here was a situation upon which he had not counted. He had unexpectedly found his quarry, and he was unarmed. By the time he remedied his deficiency his victim might have escaped. For an instant he stood in a futile and silent transport of rage, his entire body in a tremor of anger and excitement. Then with an oath he pushed Cawsler aside and entered the room where he had left his clansmen. It, too, was empty, except for a figure breathing with heavy and stentorous stupor in a chair at one corner.

The one man was old Jason Dode. Newt rushed across, and unceremoniously catching him by the shoulders, twisted his sagging figure until it lay chest upward. The old drunkard mumbled and raised balky hands against the indignity, but consciousness flitted only spasmodically across his face, and he sank back again with an incoherent murmur. Newt tore open his coat and vest, and ran his hand under the left armpit, but he found there only an empty holster. Old Jason was drunk and ineffective, and lest in his maudlin condition he might wander out and disturb the equilibrium of their plans, the clan had disarmed him. Newt rose and faced Cawsler.

"I've got ter have a gun," he exploded. "Git me a gun!"

But Cawsler, gazing into the wild face and burning eyes, judged that Newt, too, had been "hittin' up the red licker," and that a gun was just what he least needed. Accordingly he shrugged the fat shoulders under his dirty shirt, and shook his head in negation.

"I hain't got no gun," he lied; "I done loaned mine out." With another wild oath, the would-be assassin dashed down the steps and out into the street. He would search the town until he found a kinsman, and incidentally he would try to keep an eye of sufficient watchfulness on Henry Falkins to remain familiar with his

movements. It did not occur to him that Henry Falkins might be unsuspicious. To his mind Henry Falkins must know, if he had heard of the pardon, that, straight as a homing pigeon, Newt would come to him for reprisal. Such was the code of the Cumberlands. So his task was threefold: to arm himself; to find Henry Falkins; and to conceal himself from Henry Falkins.

The Spooner aggregation meant to make its appearance at the psychological moment, and until that moment to remain as invisible as a covey of quail in close brush. Newt, no longer excited of guise, but quiet, almost feline in his alert movements, slunk from saloon to saloon, and scanned the length of the streets with a purposeful glitter in his eye—and his search for a kinsman was vain.

The afternoon was well advanced when the boy, lurking in a side stre saw a buggy pass at a rapid trot, and recognized its occupants. The vehicle was going out on Main Street, and in it were a girl and a man. For the second time that day, he had sighted his quarry, and, turning into Main Street, he began to follow. It was merely reconnaissance, but, if he could hold the vehicle in sight long enough, he might know where later to take up his watch. A man on foot is poorly equipped to follow a standard-bred trotter between the shafts of a light buggy, but the streets of Winchester lie over gradual and rolling hills, and the girl who held the reins was a humane driver. A square ahead, she drew her horse to a walk for the climb, so the man could keep them in sight as far as the next ridge, an he strode along at a rapid distance-devouring walk, forgetting his weariness as a hunter forgets it when a covey rises whirring from the stubble

Then for a while he lost them, and so, losing and regaining his view, he followed them up and down hill till the town dwindled into outskirts and the street became a smooth turnpike between farms and woodlands. But at last, the difference in speed to and the boy reluctantly abandoned the chase. Not, however, until he had glimpsed through stretches of velvet woodland a thing which he did not understand, and which he paused in perplexity to study. Back in the patriarchal grove of oaks and walnuts and hickories was a frame platform, and men were working on their hands and knees, polishing its floors. About it were strung long lines of paper lanterns of bright and varied colors and fantastic shapes. Still farther back, but close of access to the platform, rose the front of an ancient and vine-covered mansion with its little village of barns and servants' quarters, peeping out between lilac bushes and cedars. But it was the platform that puzzled the mountain traveler, and he perched himself on the fence to "study" about it.

A negro boy, riding a colt and carrying an empty basket, came jogging down the avenue and into the pike, where he drew rein in response to Newt Spooner's signal.

"What mout thet contraption be over yon?" demanded the mountaineer in a surly voice, as he indicated with a jerk of his head the object of his curiosity.

The servant laughed long and loud. He was a young negro and mounted. By putting spurs to his steed he could escape any penalty of insolence, and if the mountaineer dislikes the negro it is with no greater scorn than that which the negro feels for the poor white. When he had finished laughing his white teeth continued to gleam in a wide grin.

"Thet-thar contraption," he mimicked with an excellent impersonation of the nasal drawl in which he had been questioned, "is a platfawm. It's shorely an' p'intedly a platfawm. Our folks is gwine ter have a platfawm dance ternight. Saxton's band's coming frum Lexin'ton ter play de music, and all de quality folks'll be hyar."

At the sneer of the servant's manner, Newt Spooner had slipped down from the place he had assumed on the fence, and stalked menacingly out into the road. The negro had moved his horse a little to the side and waited. But, at the information received, Newt forgot his wrath in the engrossment of a sudden idea. A dance! The young people would be there in force. Perhaps among them would be the one he sought. In his country where round dances are unknown, special invitations are not required. Word goes out that so-and-so is giving a dance at such-and-such a point, and the countryside troops thither for shuffle and jig and wassail.

"I reckon," said Newt slowly, "I reckon I'll be thar."

The black boy let out a loud guffaw He leaned back with one hand supporting his weight on the haunches of his mount, and whooped his mirthful derision to the open heavens. Newt gazed at him, first in astonishment; then in passion.

"What air ye a-laughin' at, nigger?" he inquired with low-pitched ferocity of voice.

The boy gathered up his reins, and, under the pressure of his spurred heel the colt was away in a gallop.

"I may be a nigger," he flung back over his shoulder, "but I ain't no po' white trash. The likes of you comin' to our dance!" A roar of ironical laughter followed in the wake of clattering hoofs, while Newt Spooner, his thin face working with a positive mania of fury, hurled rock after rock at the retreating figure.

Slowly the mountain boy walked back toward town, his black suit already whitened with a fine coating turnpike dust.

As he neared the court-house, he quickened his step, for a dense crow was gathered at its front, and he knew that the speaking must be in progres His people would be in the throng and they would be armed. If he were going to the dance to-night, he needed a gun, and yet his craftiness automatically set a restraint on his impatient haste. Should he rush headlong into that crowd just on the verge of trouble, he might rush also into arrest. The applause and laughter with which the crowd just now jostled shoulders told him that nothing had yet occurred to break the peace or equipoise of the occasion; but that something was to happen he knew, and the knowledge made him cautious. A distinguished-looking gentleman with white hair was speaking from an improvised stand, and, as the ex-convict drew near the outskirts of the crowd, he found himself standing near a man who wore a blue coat, and leaned on a stout hickory staff. The partial uniform of this individual proclaimed a town marshal, and the badge on the breast corroborated the proclamation. It occurred to Newt that to be talking with an officer of the law when the shooting began would constitute an excellent alibi. So he stopped, and touching the officer on the elbow, inquired:

"Stranger, who mout thet man be thet's a-talking?"

The policeman turned and regarded him out of a broad, good-humored face, in which shrewd, but merry eyes twinkled.

Newt wanted that officer to know him the next time they met, and to remember him definitely, so he returned the gaze with one frank and unblinking.

"That's General Braden, sonny," the town marshal amiably enlightened; "he's just introducin' the Honorable Cale Floyd. That's Floyd now."

"I hain't in yore way, am I, stranger?" questioned Newt humbly by way of further emphasizing his presence. "I 'low ef I hain't, I'll jest stay right hyar an' listen at his speak."

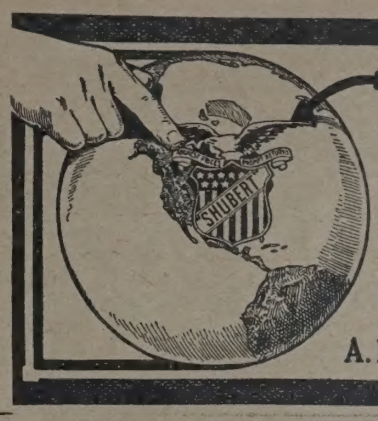
The officer laughed.

"Stay right where you are, sonny," he invited; "I expect it's as good a place as any." And then, to the boy's delight, the other laid a hand lightly on his shoulder.

The young man from the waters of Troublesome wore a blank face, although it was difficult. He had told himself that he felt no hostility for this prosecutor who had convicted him. Yet, now, as he saw the tall man step forward to take his place on the platform, remove his felt hat and shake back the black hair which fell, mane-like, over his forehead, Newt acknowledged a sense of gladness that he was to be killed.

The Honorable Cale Floyd had fought a bitter battle back there in the lawless hills for the vindication of law. He had walked in the shadow of death and had been deprived of office; ostracized like Aristides because he was "too just a man."

Now, he had come down here to the cultured blue-grass, and was being pointed out as something of a hero.



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Becker Bros. & Co. Dept. C5 416 N. Dearborn St., Chicago Dept. C5, 129 W. 29th St., New York

Clients with well-filled purses brought their litigation to his office. And it came to pass that in the glow of unwonted recognition, the simplicity with which he had faced peril back there in his own country was slipping from him. He felt the theatric quality of the moment, and struck something of a pose as the crowd took in his tall figure and broad shoulders and country lawyer's make-up of frock coat and black string tie. He had recognized that it was more effective to appear the backwoods lawyer than the well-groomed attorney. His mentality would flash more startlingly from six feet of rugged mountaineer, and his attainments would limn themselves forth in a more impressive forcefulness. In short, the Honorable Cale Floyd was not now averse to capitalizing his past vicissitudes.

So he shook back his hair, and stood smiling with the June sun touching them like a face cast in bronze. Then he began to talk. He warmed into his subject, gathering a wine-like thrill from the interested attention of the upturned faces; faces which long jury experience made as readable to him as clear type, and he threw more and more fire into his utterance, until he was borne out of himself and into a realm of eloquence. With a characteristic gesture, he leaned far outward and stretched his hand, index-like, toward the edge of the crowd. Thus had he turned often from the jury-box and scourged with figure and invective the man in the prisoner's dock. It chanced that all unconsciously the finger went like an aimed weapon to the face of Newt Spooner, and straightway the boy saw red. From his mind passed the white brick facade of the blue-grass court-house, the sea of hats and the field of shoulders, and in their stead there rose again before him the dingy interior in Jackson, where he sat beside his counsel, while this same man, with this same gesture, loosed on his head all the bolts of the law's castigation. And at that same moment, playing with hypnotic intensity on his audience, the Honorable Cale Floyd fell instantly and suddenly silent, holding his bronze-like pose of outstretched arm and hand. It was only for a momentary pause; an oratorical trick of contrast and emphasis, out of which his voice would presently ring again in compelling tones. But in that instant of quiet there rose from the center of the crowd a sudden shuffle and muffled outcry accompanied by a swaying of bodies. It was so close to the stand that the speaker, looking off more widely, was conscious of it only with annoyance for a marred effect. But, as he drew himself erect once more, to the undefined disturbance was added an outbreak of oaths, and, before they had died away, several close pistol reports came spitting sharply from the front, and little wisps of blue smoke twisted upward above the hats. At once there followed a general pandemonium, shoving, shouting, the shrill screams of women; an effort among the panic-stricken to get away by climbing over those who obstructed them. With an oath, and an eloquent sweep of the hand to his pistol-pocket, the town marshal left Newt, who stood with an enigmatical smile on his lips, and went ploughing through the scattering mob toward the center of the disturbance. For a breathing space, the speaker stood leaning on the rail of the platform and looking out with no expression on his face save one of chagrined interruption.

Newt Spooner suppressed a snarl of contempt.

"By God," he muttered to himself, "ef they didn't go an' plumb miss him!"

But, as he was still growling inwardly with disgust, the attorney started to step back, reeled and crumpled limply to the floor of the platform.

(To be continued.)

RAW FURS

I HAVE BEEN BUYING Raw Furs for 40 years, and have always paid the very highest cash prices. Write for my price list.

A. E. BURKHARDT CINCINNATI, OHIO.

HIDES $ FURS

Ship to the dealer who pays most. We sell on world's biggest market. You reap the benefit. You profit with us. Effron, Kushner & Co., 743 So. 2d St., Cedar Rapids, Iowa

NEW FREE BOOK explains our system. High prices in buying. LOW prices on tanning and manufacturing. Write

GROWING OLDER

"A little more tired at the close of day;
A little less anxious to have our way;
A little less ready to scold and blame;
A little more care for a brother's name;
And so we are nearing the journy's end,
Where time and eternity meet and blend.

"A little less care for bonds and gold;
A little more zest in the days of old;
A broader view and a saner mind
And a little more love for all mankind;
A little more careful of what we say;
And so we are faring a-down the way.

"A little more love for the friends of youth;
A little more zeal for established truth;
A little more charity in our views;
A little less thirst for the daily news;
And so we are folding our tents away
And passing in silence at close of day.

"A little more leisure to sit and dream;
A little more real the things unseen;
A little bit nearer to those ahead;
With visions of those long-loved and dead;
And so we are going where all must go,
To the place the living may never know.

"A little more laughter, a few more tears.
And we shall have told our increasing years;
The book is closed and the prayers are said,
And we are a part of the countless dead.
Thrice happy, then, if some soul can say:
'I live because he has passed my way.'"

—Selected.

TIME TO BE A FRIEND

When a feller's down an' out,
Then's the time he needs a friend;
When his heart ain't over stout
An' his nerve is at an end;
When he don't know where to turn;
When he don't know what to do,
Then's the time he'd like to learn
That he's got a friend in you.

When he's plumb fagged out an' worn,
An' his cheeks are pale an' white;
When his clothes are old an'torn
An' he's lost his grit to fight;
When he's lagging far behind,
An' he hasn't got a sou;
Then's the time he'll like to find
That he's got a friend in you.

—Detroit Free Press.

OUR BOYS AND GIRLS

During the summer the boys and girls were too busy with their work we imagine to keep up their letter writing to THE MISSOURI FARMER but now that the work is over and the schools are in session we will give them a chance to renew this department. The letters must be original and we prefer that you write about something you have done or are doing. If you had a good time during the summer either at work or pleasure tell us about it. If you have a better school than the surrounding districts we would like to know why it is better and how you come to have a better school. If you are doing something to make some money or to get started in the poultry business or the live stock business it might help some others if you would tell us how you are doing it. We do not want very long letters but if you have any thing of interest to write about we would like to hear from you.

Stands Up for the Farmer

In times past the farmer was called "Old Hayseed" by his city cousins but now the tables have turned and he is no longer looked upon in that disrespectful way. There are just as many ways of finding pleasure on the farm as in the city if the farmers will only find them. The farm clubs are a help for this purpose and many of them are being organized. Many farmers have automobiles and if a fair or other entertainment is going on within 50 or 75 miles the farmer can take his family in his car and after an hour or two pleasant driving arrives at his destination. The farmer and his sons look forward to fair time with a lot of pleasure if they have some good grain or live stock they are expecting to show for a premium.

Farmers are more independent than others because it is on the farm that most of our food is grown—fruits, vegetables, grain and meats. The horse is the pride of most farm boys and you will find from 4 to 20 horses or mules on the average farm.

Cattle is about the most profitable class of farm animals and the dairy cow is getting to be more popular every year. It is estimated that a farmer can make as much money from 10 or 12 good dairy cows as he can from raising grain on 80 or 100 acres of land. We have also found that hogs, sheep and poultry all make money for the farmer.

The principal crops in Henry County are corn, oats, hay and wheat.

Del Erhart.

Pleasures of Farm Life

I am going to tell you some of the interesting things that a little girl sees on the farm. In the spring time I love to go to the pasture and gather the early flowers when they come peeping through the grass. A ltitle later I sometimes go and gather wild strawberries and then mamma will make us a nice, big short-cake. So I think it a lot of fun to gather the berries and more to eat the cake.

I like to go to the field to take papa a drink of water and I sometimes stay a little while to watch him plow. In the summer time I get up early in the morning and ride my pony, Daisy, after the cows while mamma is getting breakfast.

Often I have a pleasant time when some of my little friends come to visit me. We make play-houses and play with our dolls.

I go to Sunday school every Sunday and I like to go too. In the fall we have many happy times. We go to the woods to gather nuts, grapes and persimmons and we can see the squirrels playing in the trees and hear all kinds of birds singing. I like to watch the birds because I see so many different kinds.

In the winter time I enjoy the snow because I can go coasting and I have a pair of skates and when the ice is thick I go skating and oh! what fun.

I help my mamma with the house work too and also help to care for the poultry. I like to raise chickens and I think the little downy chicks in the spring are pretty. Mamma sometimes gives me chickens to sell, then I put the money in the bank where I have a savings account. Georgia.

Our Farm

Let me tell you about our farm which is in Henry County, Missouri. There are 80 acres in the farm, with 30 acres in corn, 10 acres in clover and timothy, 15 acres in timber and the balance devoted to grazing. We have cattle, sheep, hogs, horses and chickens. I have a pony and his name is Midget and I think it a good name because the pony is so little.

We have a pond and in the summer we go there to bathe and in the winter we go to skate. We have many nice times when we go to the timber for a picnic or to gather wild flowers.

There are many things I like on our farm, but I like none better than my baby sister. Ruth Erhart.

By Old Jim Riley

Well, it was some hoss race. How did it happen? Search me. When th' fellers in Ohio and Kansas go hog wild fur Woodrow and Indianny and Illinoy think their souls salvation rests with Charley and Teddy, I ain't goin' t' give myself a headache by tryin' t' figger it out. I'd ruther play checkers and laugh at th' fellers in N' York gettin' landed plum outside th' breastworks. After all, it didn't make much difference t' me. It just means that old "Hez" Brown will read my postal cards for th' next four years instead of Old Jim Smith—so there ain't much local difference. But I've got a sneakin' idea that th' "kept us out of war" stuff is what saved Woodrow and I hope he'll remember this—and not get het up durin' th' next four years 'thout hes got a mighty good reason. And here's another hunch—by th' way th' fellers voted on that No. 3 thing I think we'll soon be in fur th' durndest drouth this Country ever saw.

BUCKSHOT BY THE PROFESSOR

Anyhow we can go back to the Mexican question and taking it all in all, I believe I like it the best anyway.

* * *

Old Jim Riley, had a bath the other day—that is, he fell in the pond. So you see the election did some good after all.

* * *

One trouble with the most of us is that we are inherently lazy. That's why we follow the "line of least resistance" on so many things.

* * *

I've been carrying a club ever since the election—and the first fellow who tries to tell me how and why it happened is going to get lammed over the head with it.

The freest and cheapest thing in this World outside of air and sunshine is information. It is also one of the most valuable—and yet many of us flee from it as from a pestilence.

* * *

Some people have so many of the characteristics of a polecat that you imagine almost you can see the white streak down their backs—but even at that maybe its better than a yellow one.

* * *

Beauty may be only skin deep but its a powerful sight easier for a fellow to love a woman who looks sweet and neat than one who goes around with her shoes unlaced and her hair looking like a last years birds nest.

* * *

Where is the self binder, the mower, the grain drill, the hay rake and the old plow tonight? Are they out there in the field where you used them last? You know there are few things more ornery in this World than a shiftless farmer.

* * *

I'd rather have a million fleas than to have a woman come to me and let out a long wail about women being "Disfranchised." I have no objection to their voting if they want to, but heaven deliver me from that word "disfranchised."

* * *

An American who lives in Mexico told me the other day that about the time of the Columbus raid he saw a mob of "greasers" hooting and driving a donkey through the streets of Mexico City with an American flag tied to his tail. Now you know I am about the most peaceable cuss that ever walked but speaking conservatively, I am in favor of licking the everlasting daylights out of them the next time they even crook their fingers at us.

* * *

It may not be what they call "Americanism," but if I had the power, do you know what I'd do? I'd pass a law instanter forbidding any passenger ship which carries powder and shells from carrying American citizens—thereby lessing the chance of the aforesaid American citizens from running amuck of a torpedo and therefore greatly reducing the chance of our becoming involved in that fool European war. Then I'd put a permanent embargo on selling American guns and ammunition to the "greasers." No doubt this would be a rank violation of "Americanism" but it strikes me nevertheless that it would be good horse sense.

LYON'S PRACTICAL FARM PAPERS

The other day a neighbor who had torn down the last old style rail fence on his farm, told me to bring up the wagon and get a load of old rails for wood.

I have known this farm since 1860, and excepting for perhaps two or three hundred rails made about 1875 no rails had been made on the farm in all that time, yet fully half of the stuff in that fence was sound enough to make good fire wood, and some was good enough to be used to make hog pens and the like.

These rails were of blue ash, oak, walnut and a few of poplar, the former owner who had known the farm since 1833, once having told me, that he had never known a poplar rail made there, so that these must have been 100 years old at least.

About twenty years ago, I tore away the last of our rail fence, finding a few perfectly sound wild cherry rails, which father said that an old man told him were made in 1804-06, and a few of these may be lying about the farm yet.

I have a mile or more of woven wire fencing on the farm, the first built in 1900, and it is all servicable yet, although some strands show more corrosion than others do, and I think that perhaps the first built is corroded less than any; due to the fact that the manufacturer's had not then learned how to put on a light coat of zinc.

Last year a neighbor took down thirty rods of a woven wire fence put up in 1875. It was light wire, woven in four inch mesh chicken fence style and while it had never been a first class fence it still served to turn cattle.

In 1882, people here began to build wire and paling fence and we thought that it would solve the fence problem by lasting at least twenty-five years, but the palings, even though made of the best oak, became brittle after ten or twelve years, and hogs soon found out that they could go right through it. The last of this was put up in the late 90s, and very little of this doing duty as a fence against all kind of stock, its term of usefulness not being more than twelve years on an average.

We had company from Cincinnati this week, the chief of the City Detective Bureau, one of his men, a U. S. Marine Inspector, and our county Prosecutor, the party bent on killing rabbits and having a good time.

Our gasoline engine balked just as they came with a big pile of wood to saw, and I do want to say, that being a criminal chaser does not keep a man from doing stunts with an engine, as that big fellow dug the insides out of the engine and put them to rights quickly.

The boys say they had a big time in the fields and took some 50 rabbits home, and they all said that they were ashamed to think of the dinner they ate, as harvest hands are no good alongside that crowd at the table.

I like to have such men come to see me once in awhile, as it is a pleasure to them, while it costs us nothing more than a few meals, and I think that it would be better, for both city and country dwellers if they mixed up more and got better acquainted.

The chief, a cultured Christian gentleman, told the boys to call on him at the city hall some morning at 9 o'clock and sit through a session of police court, as he thought that such a glimpse of city wickedness as they would get there would cure them of any yearning they might have for city life.

As for myself, I have seen all such sights, and I am like Chief Wimms, I think that if country boys could all see them, there would be fewer men walking the streets in search of work.

I am reading the first page articles in THE MISSOURI FARMER, and want to compliment the writer on them. Today the country offers greater opportunities to young men than any city in the world does, and if I do not err in my judgment the next ten years is going to show greater development than the last ten has done.

No matter who is elected President November 7, no matter what policy the new Congress pursues, the time has come when the farmer will take his rightful place among men.

Speak a good word for THE MISSOURI FARMER to your neighbors. It takes a lot of strong friends to build up a powerful farm paper.

Writing this, November 6th, A. M. Thermometer 70. In 1881, we had our first freeze November 14, and that year the leaves on the forest trees were green at this date. This year the leaves were frosted ten days ago, but our lawn and yard is bright with roses and other flowers.

We have green beans, and green and ripe tomatoes in the store house, enough to last until December.

Last week we shipped three small calves, a pair of twins from a heifer, and the other a Jersey calf, with two small coops of chickens, one of these coops being of very old and little brown Leghorns.

The shipment brought $59.50, and we did not get as good prices as better stuff would have brought.

I do not know what we will do about our concentrates for feeding dairy cows this winter, as bran is $33 per ton and oil meal out of sight.

Ten tons of clover hay will help us out some, and I suppose that after that we will use corn chop.

Still, with corn at 80 cents for 68 pounds in the ear, and bran at $33, perhaps it will pay to sell part of the corn and buy bran.

All over the country the boys—and men—are cutting bee trees and getting lots of honey too.

My boys have cut three, averaging about 50 pounds each, but as high as 200 pounds is reported from one tree.

Some years ago, my boys and a neighbor, cut a small bush on his farm, taking 175 pounds actual weight, of honey, as white as ever came from a hive.

I bought some mill end roofing, at a dollar for 108 square feet, and am lining the hen houses with it, as our houses were made of rough plank and are full of cracks. C. D. Lyon.

THE PUBLISHER'S CORNER

I want every reader to read carefully the "Free Library" offer which I have described elsewhere—for it presents a splendid opportunity for a fine winters reading.

* * *

The great Farm Club movement is here to stay and the sooner you folks get in the "band wagon" the better. It means the saving of a lot of money—and makes farm life more worth living.

* * *

We are in position to supply our Farm Club friends with fine Alfalfa seed direct from Kansas farmers—cheaper and better seed than you can obtain from the seed dealers. Those who are in the market should get in touch with us at once.

* * *

We have located 100 cars of fine No. 2 Alfalfa hay which can be bought at from $11.50 to $12 per ton f. o. b. Kansas shipping points. A great many people are under the impression that hay will increase sharply in price and there is therefore no time to lose. In a little while this hay will be in the hands of dealers.

* * *

In a few days we trust to have some good news for the Farm Clubs on Potatoes. If we succeed in driving that deal we now have in hand we will still be able to save you considerable money. The same is true of cotton seed meal and cake—the prices of which have been in such chaotic condition for the last 60 days.

* * *

Many Farm Clubs are saving $150 per car on mixed cars of bran, shorts and flour through THE MISSOURI FARMER—and why the farmers of every school district in which we have a single subscriber don't jump at this opportunity I can't understand. Hundreds of them are—but why should there not be thousands? The same is true of corn and oats.

* * *

Don't forget the social feature in your Farm Club. Once in a while invite the women folks and the children—for they too deserve all the sunshine we can put into their lives. And here's a live suggestion: Why not plan a little Christmas tree and have the time of your lives on Christmas Eve? Lets put a little more joy into farm life. We can if we will. All it needs is a few enthusiastic souls to lead out.

* * *

Our Managing Editor, Mr. Ellis welcomes interesting articles from any reader of the paper. Help us to make the paper more valuable by giving our readers the benefit of your farm experiences. There are hundreds of farmers who have a message of interest if only they would take time to write it up for us. THE MISSOURI FARMER is your paper. Help us to make it finer and better this winter than ever before.

* * *

We have just completed a pamphlet on the Federal Farm Loan Act which will be mailed to any reader who sends us 4c in stamps to cover cost of mailing. The reason we ask for 4c instead of 2c is because we wish to also send you our splendid pamphlet on Farm Club organization—for, with the defeat of the Missouri Land Bank Law the formation of Farm Clubs is more important than ever for, before you will be able to form a Nat'l Farm Loan Ass'n in your community you will need a half dozen Farm Clubs first. Surely never before were there so many reasons why farmers should get together.

* * *

Every Farm Club in the state should immediately take advantage of our great series of Farm Club Discussions. Just think of 20 pamphlets on 20 of the burning farm problems of the day—so plain and so minutely explained that a bunch of school children can understand them—intimate facts and information which not one farmer in 20 posses at this time. If your Club hasn't made arrangements for these Discussions yet it should do so without delay. Lets make this winter a great feast of reason in your Club. Lets make every meeting night a treat for every member. Lets have something to do—for we can't solve the great questions which confront the farmer by sitting around the kitchen stove.

* * *

Almost in every mail I open a letter from some farmer who incloses a dollar on subscription and asks for Farm Club literature. Invariably they speak words of cheer for the great fight the paper is making and often they say "I didn't subscribe for the paper in the first place but I am for you because you are really trying to help us." And both these kind words and the dollars are mighty welcome—for THE MISSOURI FARMER is a young paper and needs fighting friends. If it is to succeed in the great work it has undertaken it must have this support from every thinking farmer in the state. Still other of our friends are making up Clubs of subscriptions among their more and more convinced that the things for which we are fighting are going to win.

William Hirth, Publisher.

THE TREND OF BEEF CATTLE VALUES

The records show that public sales of beef cattle in the fall usually result in somewhat lower prices than in the spring and late winter season. Yet it would appear from the public sales held so far this season that Shorthorn values will hold to a higher level than during the spring sale season. The fact that the present season is an exception, so far as the breed is concerned, indicates an increasing demand.

The sale of imported Shorthorns, held at Chicago November 1 by Carpenter & Ross, of Ohio, resulted in an average of $911 on 72 head, all of the calves with two exceptions being sold separate from their dams. Had they been sold together, as is the prevailing custom, the average would have been considerably higher. The cattle were widely distributed, going into eleven Central states.

It was in the Anoka Farms sale in Wisconsin that the most positive evidence of demand for Shorthorn seed stock was manifested. The year's calf crop, 40 odd head in number, sold for an average of $1,016. At the opening of the sale, ten of the most desirable were displayed in the ring, and when sold the average on these ten stood at $1,900 per head. The Anoka Farms' exhibit in the get-of-sire class in the leading shows was included in this sale and the quartet sold for an average of approximately $2,400 each.

At the point McDermott, Weaver & Garden sale at Chicago an average of $677 was made.

It is a significant fact that in these sales, no efforts were made to create unusual enthusiasm. The bidding represented the sober judgment of the farmers and breeders and the settlements were practically all made in cash. The purchases were made for foundation breeding material and the discrimination in these selections clearly indicates the broad purpose of breeders in all sections to improve the standards of their herds in keeping with the general tendency toward higher achievement in American livestock husbandry. Frank D. Tomson.

Prize Winning Polands

Elsewhere we call attention to the advertisement of Boyd's Poland Chinas which merit the attention of any of our readers who are in the market for this great breed. Mr. Boyd won first at the State Fair in the aged class on The A Wonder. He also won first at St. Louis which speaks for itself. Mr. Boyd is one of the best hog men in Central Missouri and guarantees satisfaction to every buyer.

Want to Make Some Money?

Those who would like to earn some extra money during the coming winter months will do well to read carefully the advertisement of the Harrah Mfg. Co. which appears elsewhere in this issue and which presents a splendid opportunity. Anyway, it won't do any harm to investigate. Be sure to mention this paper when you write.

The farmer who raises his own live stock is playing a much safer game than that played by the fellow who raises the other sport's "ante."

Forget Everything Else Think of Money-Making for a Minute!

Here is a Secret

ARE you making money? No? What's the matter? You want to, don't you? But wait. I know. I've been discouraged a thousand times. I've walked around with my hands in my pockets, thinking and thinking and getting nowhere.

Now things are different with me. I'm making money and I'm organizing the greatest crowd of money-makers the world has ever known. Want to get in? Listen. One man without training, just my instructions, made $45.00 in one day—another $1000 in one month.

You and Your Family Can Have the GOOD Things of Life

I am not sentimental. I like to make money. I am running this ad to make money. But when I slam down my desk at night and ride home under the maple trees of my Indiana town I like to think that I have helped a dozen or more fellows to make more money that day. Helped them to a happier life and to the good things we all want. Don't you want to write and find out what I mean and how I do it?

Did You See My Big Ad? It appeared in farm papers a little while ago. Probably you did. If you didn't read it—all right—but don't pass this up. Read it—read every word—think about it and first of all write and get the facts.

My Automatic Combination Tool is a Mechanical Marvel

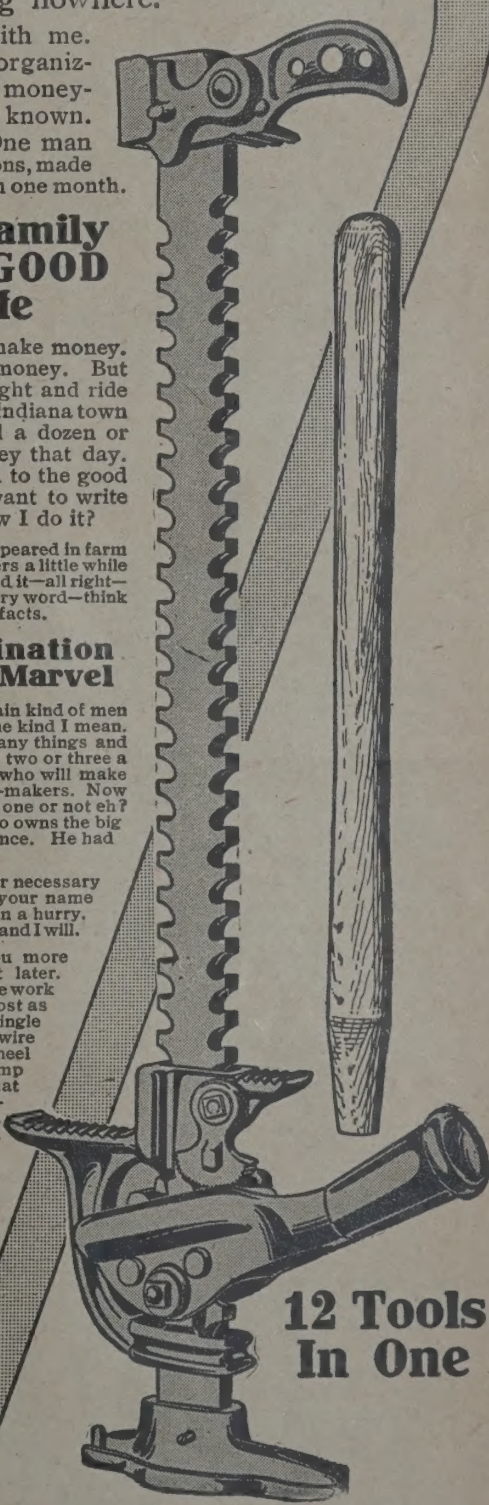
I could get a hundred thousand of a certain kind of men to work for me tomorrow. You know the kind I mean. The tool is such a wonder, it does so many things and does them so well that any man can sell two or three a day and make $5 or $10. I want fellows who will make $100 to $200 a week. I want the big money-makers. Now think. You don't know whether you are one or not eh? Of course you don't. That rich fellow who owns the big house and the touring car didn't know, once. He had to find it out. I want to show you.

First of All—Write No long letter necessary at all. Just your name and address on a postal card if you are in a hurry. That puts it up to me. I've got to show you and I will.

What the Tool Does I'll tell you more about that later. But just to give you an idea—it does all the work of the old-fashioned jack, that costs almost as much, and eleven other tools besides—single wire stretcher, woven wire stretcher, wire mender, post puller, rail fence repairer, wheel repairer, press, hoist, vice and clamp, stump rooter and alligator wrench. It's a tool that farmers, teamsters, auto owners, contractors and builders have simply got to have. Once they know its merits they want it.

Let's Get Together I'll tell you the whole story in all its details as soon as I get your name. That's what I want now. I want you to put it up to me. Just address me or the company. I'll get the letter or the card. And please don't put it off.

Address P. J. HARRAH, Pres.
The Harrah Mfg. Company
122 Main Street
Bloomfield, Ind.



12 Tools In One

Look over the advertisements and write for their catalogues. None but reliable advertising is permitted in The Missouri Farmer.

Live Stock Notes

On the St. Louis market, a few days ago, a carload of hogs sold for $2,576.21.

* * *

W. P. Wells, who owns a Missouri farm, has a herd of 79 Shorthorn cows. These cows have saved 80 calves this season.

* * *

A Cass County, Mo., farmer recently sold yearling steers, of his own raising and feeding, on the Kansas City market at $110.22 per head.

* * *

In the Escher & Ryan sale of Angus held at Harlan, Iowa, 51 head averaged $593. One heifer sold for $1,575, and six head brought $1,000 or more.

* * *

John P. Lynn, of Tarkio, Mo., recently sold 406 head of Herefords, listed as 281 lots, in a two days' sale, for $89,690, an average of $319.18 per head.

* * *

Just as a matter of history it is interesting to note that on General Election day, 1916, cattle, hogs and sheep on the St. Louis market all sold at $10 per hundredweight or better.

* * *

When we remember that 1,617 cars of cattle were received on the Kansas City market one day we appreciate somewhat the importance of the live stock industry here in the center of the Corn Belt.

* * *

In Callaway County good roads enthusiasm has reached such a high pitch that one district has found it necessary to keep its road grader locked up at night in order to prevent another district from borrowing it.

* * *

C. D. & E. F. Caldwell, of Burlington Junction, Mo., held a sale of Angus the first week in November. Forty-six head brought $19,750, an average of $429.34 per head. The 38 females averaged $410, and the eight bulls, $521.25.

* * *

Shorthorns to the number of 37 head averaged $509 in the American Royal sale at Kansas City. Twenty-eight females averaged $500, and nine bulls $539. The top price of the sale was $1,075, paid for the 2-year-old bull, Sultan Mine 2d, sold by Carpenter & Carpenter, of Wisconsin.

* * *

In the American Royal sale held in Kansas City 50 Herefords averaged $854. The 17 females averaged $901, and 33 bulls $830. The top price of the sale was $3,000, paid by Bowman & Co., of Kansas, for the imported 2-year-old bull, Shucknall Monarch. The top cow of the sale sold for $2,500.

W. L. Nelson.

Clover and Alfalfa Best in Lamb Feeding

"When the same grain ration was fed, no matter whether the grain consisted of corn alone or of corn and linseed meal, the lambs fed clover or alfalfa made larger gains, required less feed per pound of gain and produced gains at a lower cost for feed than did those given either oat straw or corn stover," said J. W. Hammond of the Ohio Experiment Station in discussing the results secured in his lamb-feeding tests with various roughages.

"The' value of leguminous roughages is generally appreciated by lamb feeders; and most of them know that so far as efficiency is concerned clover and alfalfa hay are unsurpassed for finishing lambs. On most farms, however, there are always such roughages as oat straw or corn stover that it is desirable to utilize in the feeding operations. There are years when legumes are a partial or total failure, or not enough legumes may be raised to feed as many lambs as desired. In such cases timothy hay, oat straw or corn stover are fed.

"These non-leguminous feeds, however, did not prove satisfactory as sole roughages for fattening lambs in the feeding tests conducted at the Experiment Station. They may be used in the earlier part of a long feeding period, provided the lambs are finished on a more efficient roughage like clover or alfalfa, or they may be used as a part of the rougage.

"Such feeds as timothy hay, oat straw and corn stover are low in protein, and should be supplemented with a high-protein feed like linseed meal. In the feeding trials mentioned above the addition of linseed meal to corn and either oat straw or corn stover resulted in larger and cheaper gains and higher finish on the lambs. Still, the gains made by these lambs were more costly than those produced by clover or alfalfa."

When both roughages were of equal quality, clover and alfalfa had about equal values for fattening lambs. Alfalfa usually is harvested in better condition than clover, and commands a higher price on the market. The results of these feeding tests justify a warning to feeders not to overvalue alfalfa to the extent of feeding an inferior grade of this hay when good clover may be had at a lower price.

Dairy Cows Suffer From Lack of Shelter

The dairy cow often suffers the most from exposure to the weather before real winter has begun. After steady cold comes the cow is generally stabled. Exposure to cold rains in November is often more injurious to the animal than the colder but dry weather later in the winter.

The dairy cow is not the fat steer, protected from cold by a layer of fat. As a result bad weather causes a big drop in milk production. So long as the weather is dry it is just as well to leave the cow outside nights for some time yet but every cold rain should find her protected.

It is not necessary in the climate of Missouri to go to any great expense on most farms in order that the barn may be warm. The main thing is to have tight walls so there is no draft or wind and a good roof. Care should be taken in arranging the walls in the form of a platform of the right length and a gutter of sufficient depth to hold the manure. The cleanliness of milk depends to a considerable extent upon having the barn built so the cow will keep herself clean.—C. H. Eckles Missouri College of Agriculture.

Country is Unloading Cattle

The country is striving desparately to get rid of all surplus cattle before cold weather forces feeding. This fact is clearly emphasized by the magnitude of October receipts at St. Louis and other markets as well. The October cattle run at St. Louis showed an increase of 47,600 head or 35 per cent over receipts the same period last year.

Five principal western markets combined (St. Louis, Chicago, Kansas City, Omaha and St. Joseph) rolled up a total of 1,166,000 cattle during the month just closed. This is an increase of 335,000 head, or 29 per cent over the October run in 1915.

Even granting the fact of some increase in cattle production throughout the west the enormous gain in receipts over last October is clear evidence that the scarcity and high price of feed are forcing everything to market that can well be spared; in ordinary years a certain percentage of farmers and stockmen hold back their cattle during breaks in October but this year there has been a general and continuous unloading. Dollar corn and other feeds in proportion constitute a barrier that few cattlemen have the nerve to go up against.—Live Stock Reporter.

A Wonderful Sale Record

From Sept. 1, 1916, to and including Oct. 25, 1916, 18 public sales of Herefords were held in the United States in which 1,431 head of registered Herefords were sold for an aggregate of $510,157, or an average of $356 per head. Between Sept. 1 and the American Royal sale, Oct. 7, not including the latter, seven sales were held in which 385 head brought $92,917, an average of $241. Beginning with the American Royal sale and ending with the Bowman & Co. sale, Oct. 25, 11 sales were held in which 1,046 head sold for $417,240, an average of $399. From this it appears that as the season advances the demand increases

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We have a number of extra good spring boars sired by Big Look that we are offering worth the money. Need the room and must sell.
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I have a choice lot of extra good fall gilts sired by outstanding boars. Customers in 26 states. GIANT MAMMOTH 68375 and CHIEF BIG BONE 75856 in service. Priced for farm trade.
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My fine herd boar, Spotted Lad, No. 74030 for sale. He's a fine one. Write for full particulars. Also some fine spring gilts bred or open, for sale.
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I raise hogs to sell and must sell. March pigs either sex $25 each, May pigs $20, July $15. Older sows open, bred or with litters relatively low. You must be satisfied or your money back.
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Shady Glen Herd, - Rush Hill, Mo.

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Am offering you an opportunity to buy boars and gilts of outstanding individual merit and most popular blood lines. Sired by Big Bone Leader, Big Bob, Bridges' Bob Wonder, Crow's Extra, Big Black Orange, etc. Prices reasonable. Everything immune. Satisfaction guaranteed.
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Am offering choice boars and gilts, same breeding that won 6 champions, 26 Firsts, and a total of 63 prizes at Mo. State Fair and St. Louis Agricultural Show, at reasonable prices. Write for prices and descriptions.
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Young stock for sale. Young bulls sired by LOGAN 13500; Calves sired by KNOCKER 28791. Bred for milk and beef. Also offer spotted Poland China hogs and Rieds Yellow Dent seed corn.
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I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.
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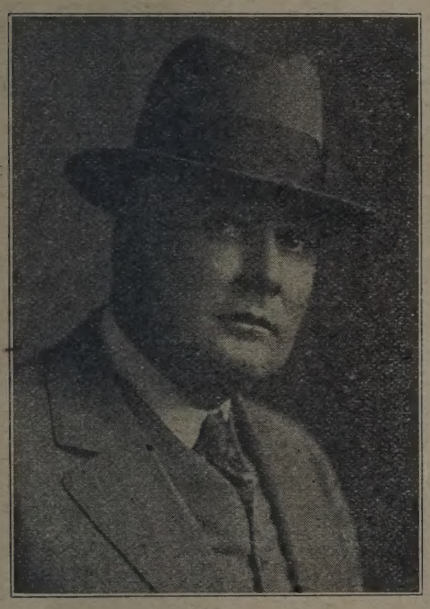
and prices advance. There is a moral in this for those who are waiting to buy Hereford breeding stock. Several more sales will be held before the Christmas holidays, and the wise buyer will take advantage of them, for the indications are that the spring sales will see a still greater demand and a still higher level of prices—American Hereford Journal.

Relative Value of Cotton Seed Meal

In discussing the value of cotton seed meal on the basis of present corn prices Mr. Lehman Johnson, of Memphis, Tenn., who is considered good authority on the subject is quoted as saying, "The real value of cotton seed meal as compared with corn, oats, wheat, bran and the like is not $45.00 to $50.00 a ton, but $70.00 to $75.00 a ton. Corn at $30.00 a ton and containing about 12 per cent protein makes the protein cost $2.50 per unit. This unit value of protein makes 38½ per cent cotton seed meal figure $96.25. Allowing $21.25 for the excess carbohydrates and all other feeding value in corn over cotton seed meal and we stil have $75.00 as the feeding value of cotton seed meal."

A GREAT COMMISSION FIRM



The above likeness of W. R. Hensley, Presdident of the National Live Stock Commission Co., at the National Stock Yards, Ill., is familiar to thousands of shippers to that great Live Stock market. Among the different commission firms at the National Stock Yards, the National Live Stock Commission Co. has, for several years, been easily in the lead in the annual volume of business—and this volume is constantly increasing and in no slight degree is this fact due to the fighting personality of "Rock" Hensley as he is familiarly known to his hundreds of shipper friends for whom, time after time, he has succeeded in getting the "high dollar."

Undoubtedly the National Live Stock Commission Co. has built up one of the most powerful forces of salesmen that can be found at any Live Stock Market in the Country—if indeed it is not the strongest of them all—men like Geo. P. Coy, head of the Hog Dept. and H. H. Huschle, able assistant to Mr. Hensley in the Cattle Dept.—men who know the value of a hog or steer as well as any men living and who recognize no interest except that of the shipper whose welfare has been placed in their hands. Besides these men there are more than 20 others of the highest ability that money can hire and that they "keep on making good" is evidenced by the fact that once a shipper or feeder has consigned to them, he becomes a steady customer.

Mr. Hensley was born and raised in Montgomery County, Missouri, and today owns a splendid farm in that county upon which he annually feeds many hogs and cattle—and thus he is on "both sides of the fence" and has a deep sympathy with the man who entrusts the sale of live stock into his hands. THE MISSOURI FARMER has no hesitancy in commending the services of this powerful firm to those of its friends who are in the habit of shipping to the National Stock Yards. And this we do without questioning the integrity or sincerity of any other firm. We simply believe that Mr. Hensley has built up the most powerful selling organization in this great market—and this is what the shipper is looking for. Furthermore, the ever growing volume of business of the National Live Stock Commission Co. bears out our view. If you expect to ship to the National Stock Yards in the near future and desire any particular information, write W. R. Hensley in care of the above firm freely and frankly. He will gladly give you his best counsel and advice.

Silage Recommended for Lambs by Successful Missouri Sheep Feeder

Mr. Frank McRoberts, one of the most successful lamb feeders in Missouri, in speaking of his feeding operations during the Sheep Feeders' meeting at the University of Missouri said: "For the past four years I have fed silage in connection with corn, cottonseed meal, and a little hay, and found it a great benefit. Lambs do not commence to eat silage quickly unless very hungry. I have found it much easier to start them by giving a small amount when they first arrive at the feed lot, and gradually increase it until they have all they will clean up in an hour and a half after turning them to the troughs.

"Occasionally you will find a spot of mold in the middle of your silo or it might be at the door. This should be thrown away. Usually the bad results of feeding silage to lambs is due to moldy or sour silage.

"I have had good results from the following ration: corn, 1¼ pounds; silage, 2 pounds; cottonseed meal, ¼ pound; and all the hay they would clean up. This will be from ¼ to ½ pound.

"I do not wish to leave the impression that silage is the only good feed for lambs for the largest gain I ever made was with corn, oats, wheat, and alfalfa hay, but the expense of feeding was too great. Therefore, I would recommend silage as the most economical feed."

The Department of Animal Husbandry would like to hear from more Missouri lamb feedrs.—Howard Hackedorn, Missouri College of Agriculture.

Grain Saved by Feeding-Floors

Those who have used feeding-floors for their hogs have found them to be good grain-savers, and concrete feeding-floors are coming into favor.

Such a floor should be 6 inches thick, and, if not laid against the barnyard pavement, should have a curb extending from 12 to 18 inches below the surface of the ground. This will prevent the hogs from rooting under the floor. The floor should slope slightly toward one corner in order to carry off rain, or water used in washing. A rim around the outside edge will prevent grain from being pushed off into the mud.

For feeding-floors concrete should be mixed in the proportion of 1 sack of Portland cement, 2 cubic feet of clean coarse sand, graded up to one-fourth of an inch, and 3 cubic feet of hard durable gravel or broken stone from one-fourth of an inch to one inch in diameter. Eleven sacks of cement will make enough concrete for 100 square feet of feeding-floor. The concrete should be thoroughly mixed and should contain enough water to make the mass quaky so that the concrete will flatten out of its own weight. It should be lightly tamped, however, then leveled off with a straight edge, and finished off with a wooden float. The floor may be laid in slabs each 6 feet square, 2 inch lumber being used for forms. Feeding-floors should be large enough to give each hog 18 square feet of space.—Minnesota Experiment Station.

Why not scrape around and send us a dollar and have us mark you up for a couple of years? It will make both of us feel better.

Classified Advertising

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Monday, Dec. 11, 1916
This is one of the best herds of real high class dairy cows to be sold in the Southwest and will be a great opportunity for those desiring carload lots. Popular blood lines are represented and some of the greatest cows of the breed will be sold. Don't fail to write at once for catalogue to
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Due to poor crops and to reduce my herd to winter accommodations I will sell about 20 cows; 20 heifers from 10 months to two years old; and 15 bulls from calves to yearlings. The famous Blue Belle-Golden Rosebay breeding. Send for circular. No reasonable offer will be refused for this stock. All registered.
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HEREFORD BULLS
Two registerd bulls, long yearlings, best of breeding and high class individuals. Not the cheap kind.
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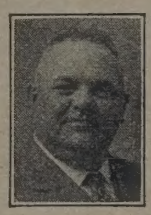
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Bulls ready for service. They are sired by the Owl's Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.
Wm. H. Bruns & Son, Concordia, Mo.

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The great crop for soil fertility and animal feed. Exceptionally rich in nitrogen and humus. Higher protein content than alfalfa. Sow in spring, summer or winter. Write for prices.
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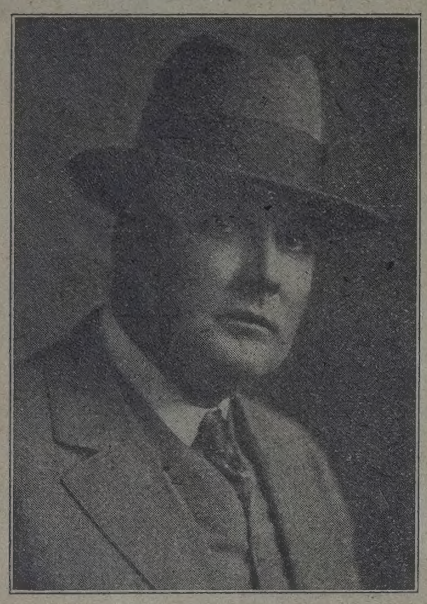


W. R. Hensley, President National Live Stock Commission Co.

THE REASON the National Live Stock Commission Co. does an ever increasing business is because of the **Personality** back of this great organization—because it has built up the most powerful force of salesmen that can be found at any Live Stock market in the Country—men who know the value of a hog, steer or sheep as well as any men living and who fight for the "high dollar" from the minute the gong sounds in the morning until the curtain is rung down in the afternoon.

These men realize that they must "get the limit" for you if they are going to be able to hold your business. They know they **can** get the "high dollar" for you because they have been getting it for hundreds of other shippers who never think of consigning to any other firm. So give them a chance at your next shipment. Let them show you what they can do for you. They will realize that "its up to them" to "make good"—for there is no love lost in the stock yards and **results are the only things that count!** All they ask is a trial. If you expect to ship to the Nat'l Stock Yards soon, write us for any information you may want. **We are at your service.**

The National Live Stock Commission Co.

NATIONAL STOCK YARDS, - - ILLINOIS

THE BORROWING HABIT

Editor Missouri Farmer:

At the risk of being called narrow and selfish I am taking up the cudgel in defense of banker Lynch, in his statement that "Borrowing is already too easy for the farmer." I say the borrowing habit is a curse to the country. Personal, Municipal and National. Understand I do not condemn borrowing under all conditions, but it is carried to such deplorable extremes. I think Mr. Lynch did not mean that it was too easy for farmers to borrow to buy a home, or for improvements for the comfort of his family or stock, or that gives a reasonable assurance of a profit on the investment.

The main trouble is people live too fast. Crank? Yes, I do not deny it, but why should we be a nation of dependents? Bound by the shackles of debt, how many men I have heard say, "If I were only out of debt." The easiest way to get out of debt is to keep out. I was taught to avoid debt as a pestilence, never gave my note but once, for a small amount for 30 days, and never signed a note for any one else. Have been a director in a small bank for a number of years. There one has a good chance to observe the business methods used by farmers, as well as men in business, and it is surprising, to say the least how many men and some women that have their noses kept on the grind stone (to use a homely expression) by the borrowing habit. If a man is honest pay day is bound to come. Cash is always the best buyer, why not keep a little ahead, save that interest and the worry and vexation of having to think of that note or that interest that must be paid? I know dozens of farmers that would be better off if they had not been able to borrow at all. A natural inference would be that when prices are high and money plenty bank loans would be at the minimum but the reverse is true.

Go back to the early seventies when this state was recovering from the devastation of war. My father came here and bought the farm on which I now live (or rather a part of it), for thirty dollars per acre,—a boom price. He bought just as good land ten years later for ten. War prices still prevailed. A large issue of bonds had been voted to build a railroad across the country. The railroad was not built, but the debt was. The innocent purchasers law fastened it on us and we are still paying on that old debt at the rate of 1½% on our assessed valuation. It is costing me at least twenty-five dollars a year, because it was easy for people to borrow. Will be several years yet before we are rid of that old debt but a bond issue of a million dollars is being agitated to build rock roads. If a much needed bridge is asked for, we must wait for three to five years. A bridge near where I live was damaged so that it was condemned, and stood that way for over a year, then was patched up. How many fine steel bridges could be built with just the interest on that old debt, and how many miles of rock roads with the principal? A leading attorney told me a few days ago that 89 out of the 114 counties of the state were in the same fix as this one.

But to go back to 72 to 74 nearly every farm in the county had a plaster on it. Prices were declining, but people were saving their money and paying out. In those days every school boy at fifteen did not have his horse and buggy, a gold watch, and three or four suits. Everybody rode in the big wagon or on horse back. My first saddle was a blanket with rope stirrups, and many a time have I taken my best girl to church behind me on horse back. About 1877 father bought a spring wagon. The first spring vehicle in this part of the county, and farmers came for miles to borrow it on funeral occassions. But farmers were getting along and paying on their mortgages, with interest rates at ten, fifteen and as high as twenty per cent, with cattle, two to three cents. Hogs two and a half to three and a half. Corn fifteen to twenty cents, wheat forty to fifty cents. In 1875 came the worst drouth ever known in the state. What corn was raised was cut for fodder. In feeding out if we found an ear, we would pick it up look it all over and almost stop to count the grains, and some stock starved to death before grass came the next spring which was naer the last of June as the grasshoppers kept everything eaten off till about the 8th. Talk about hard times, but farmers were paying out. Now with such prices as we have, with time loans at 5½ to 6% farmers must have state or national aid to get cheaper money. WHY? Perhaps you will say, Yes: He is another retired farmer that sends his money to Arkansaw to escape the assessor and get 10% on it, lets see: I am a farmer and put in about 14 hours a day for 300 days out of the year at farm work. Not much retirement about that. I try to farm my land for what there is in it, but it will raise better crops than it would forty years ago. Have tried to be frugal and saving. Have a well improved farm with two good houses and two large barns, all the stock that can be kept on 300 acres, a good silo that has been used for 14 years, and other necessary out buildings. I stayed at home till of age and was given $500 out of the earnings of the farm. Then was given one-fourth of net earnings and two or three years later bought a piece of land, paid the cash. Have given two daughters a college education, with music and painting. The third an adopted one, is in high school. Have taken several trips with the family east and west. Visited with them two worlds fairs, helped to pay off a mortgage on my father-in-law's farm so they could spend their last days without the worry of trying to meet the everlasting interest. A sister-in-law neeeded a few hundred to pay off some debts (made by her husband before his death). So she could save the homestead, not at 10% but without interest. Am helping a very worthy preacher's son through medical college. Who beside helping the folks at home and putting a sister through school, is waiting table in a boarding house to pay his board. A bright young girl that helped to care for my mother-in-law in her last years, was helped through high school, and is now a successful teacher. Two brothers who have the borrowing habit have been helped several hundred each. Both had more of a cash start than I. Now I am not writing this in a boastful way, but to show that a pay as you go plan can be made to win out, to a reasonable degree at least.

Of course it took close grubbing for the first few years, but it was worth all it cost to me.

Now just a word about the Missouri Land Bank. It seems to me the state of Missouri is hardly in shape to go into the banking business when we do not have revenue enough to build a much needed normal school building, and our state university has to borrow money to keep from closing its doors. Issue bonds and tax all the people of the state to help the farmers? If that is not class legislation where will you find it? Are we so helpless? When farmers will give a mortgage on the farm or on their team, and I have known some to even sell their home to buy an automobile. It looks as if something should be done to make it easier for them to borrow money. Don't spend your dollars till you get them, say I. Uncle Rube.

LIME NOT TO BE USED DURING THE WINTER

While it is better to use lime on acid soils at any time of the year than not to apply any, soil specialists at the Ohio Experiment Station recommend that this material be used after plowing for some cultivated spring crop. The lime can then perform its full function in promoting the growth of the bacteria that grow on clover roots.

These countless bacteria, so helpful to clover crops, work only in the dark and require both water and air for their existence. Also, they can live only in soils either naturally or artificially supplied with lime.

Lime spread on the surface and not stirred into the soil can help the bacteria but little. They would die there for lack of moisture, and the lime would be dissolved and carried into the soil only after a long time. Lime plowed under is also out of reach of the bacteria, which live chiefly in the upper three or four inches of soil where air is plentiful. Hence, applying lime after plowing in the spring and mixing it by cultivation into the soil during the summer make conditions most favorable for the clover crops later.

Boyd's Poland Chinas!

A few choice spring boars sired by the A Wonder and Boyd's Big Orange. Both of these boars are state fair winners. Also some good fall pigs, both sexes. Can furnish pairs and trios not related. In addition to this I am offering a few choice bred sows, all of which have had litters and raised them.

A. O. BOYD, Rfd. 6, COLUMBIA, MO.

Why Not Look Into It?

Elsewhere in this issue you will find the advertisement of the American Radiator Co. which is putting out an ideal furnace for farm homes—a furnace which does away forever with the unsanitary and dangerous heating stove and which will keep your farm home snug and warm, day and night. Why not drop the company a card today and have them explain what it will cost to install one in your home? Remember you don't have to have a basement. It can be put in a "lean to" or an adjoining room. Be sure to mention THE MISSOURI FARMER when you write.

A Great Reading Lamp

Elsewhere in this issue the reader will find the advertisement of the Mantle Lamp Co. who send out a splendid lamp on ten days free trial. The old coal oil lamps which are used in many farm homes are responsible for much poor eyesight—saying nothing about the torture of trying to read by them. If you want to enjoy a good light during the long winter evenings which are ahead, investigate this offer.

BETTER FARMING BETTER FARM HOMES BETTER CITIZENSHIP

THE
MISSOURI FARMER
COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE
AND THE MISSOURI EXPERIMENTAL STATION

Selfishness

Once more the day of Thanksgiving has come and gone and once more it found the most of us willing to acknowledge that with all of its trials and tribulations life is, after all, worth while. And don't you know my good friend that the view point from which we gaze out upon the sea of life has everything to do with what we get out of it? If during the last year you have striven for dollars alone and failed to gain them, then no doubt the Thanksgiving dinner didn't taste very appetizing. But, after all, was it to chase dollars alone that we came into the world? Should we not, in the last analysis, covet them chiefly as a means to an end—as the means which provide a cheerful home, free from debt and all the good and wholesome things that go with it? And if in this respect hope has been deferred, if we are well and strong, may we not live to strive another day? May not the "good ship" even now be in the offing—shrouded by thin mists which the morrows sun will chase away?

The thought I want to drive home to your heart is that the most of us take this task of dollar chasing too seriously. Well enough I know that we must have our share of them and even so I know that when the hunt for them is clean it is not without splendid and wholesome exhileration—but too often it becomes a frenzy which chills the more kindly instincts of our souls and makes love a stranger in our daily lives and acts. If I were asked to name what, in my humble judgment, is the greatest menace which confronts our great Republic at this hour I would say without hesitation—Selfishness! We measure success almost altogether by the dollar—and the man who has a million of them wants two millions. If, in acquiring the second million they sought to better the condition of scores or hundreds of their fellow men, I would have aught but praise for their aspiration—but too often this is not true. In the mad scramble the man who loses becomes soured while those who win become inflamed with a lust for more—and even as the hands of the drunkard forever clutch after the wine glass so these others, drunk with the lust for gold, cry for more and more—until at last death mocks and laughs at both of them.

"What care I so long as I am getting rich?" This is the exultant thought in the breasts of too many men in this great Country of ours today—and mind you, I am not now referring to the man who is playing the game square, for it is by no means a crime to be rich. I am striking merely at those who would climb up over the backs of others to pluck the golden apples—and their name is legion. To these, the man with the hoe is merely an unlucky fool—the woman at the wash tub a part of the scheme of life. That the little street gamins who plaintively ask, "Buy a paper mister?" may have no place to sleep or nothing to eat—this is of little concern to these smug and "successful" ones. And yet what arrant fools they are—for, in the years to come, their children are apt to reap the whirlwind which they are sowing at this very hour. As Louis XV of France remarked when the final storm clouds were gathering, "After us—the deluge." Of all the pitiful fools in the Universe there is none so pitiful as he who laughs at the holy mandate that we are "our brothers keeper."

It is when I think of these things which are grinding out the hearts of thousands of men and women in our great cities that my love for the Country is enhanced a thousand fold and as my eyes try to penetrate the dark night of the future I am convinced more than ever that the hope of our blessed Republic lies in our myriad farm homes—for here God still reigns and here today as in the past abides a manhood and womanhood which will stand the test in this hour when the whole World seems bathed in tears and hate. And if the good wife who sits across the table from you and the little ones are well and happy—why then my good brother get down on your knees and say a little prayer, for greater heritage than these no man possesses.

—By the Author of After-Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VIII DECEMBER 1, 1916 NO. 23

WILLIAM HIRTH
PUBLISHER

LYON'S PRACTICAL FARM PAPERS

This is 6 a. m., November 12, and today wife got a basket of ripe tomatoes out of the truck patch. These tomatoes came from a dry hillside, and had had no protection whatever from the frost.

The young folks went to a big dinner today, and wife and I dined alone, the main dishes being field mushrooms, bread, butter and wild honey out of a sixty pound lot the boys got from a bee tree. The mushrooms were of the variety known as the Oyster mushroom, the big white kind so often found at this season, growing in large clusters on decaying trees, usually elm, maple and hickory.

I went a mile this morning, to teach a neighbor who had found some, how to prepare them, and his wife telephoned us an hour ago, saying that they never at anything more delicious.

My fathers mother was a Virginian, born 1799, and she always objected to us using tomatoes, as she had been taught, when young, that they were poisonous. When I was a boy, few people knew anything about celery, okra, or half a dozen other vegetables now in common use. I tasted my first banana the year I was 21 years old, my first pineaple when I was 18, and my first grape fruit at 55. This fruit has only come into general use in past few years, and up to about 1905, was not used much, even where it grew wild.

Writing of mushrooms, reminds me, that some years ago I was riding on a train, and pointed out some mushrooms of the variety mentioned to a big foreign looking man who shared my seat. He wanted to shake hands with me three or four times, and he said, "You got good heart. Most times Merican man say not good eat, but poor man from way off know much better."

This man, a Lithuarian coal miner, who had only been in this country five years said that in the course of a year his little family made many a meal from the mushrooms he gathered.

Because there are four or five varieties of these strange plants which are poisonous, all of them are in disrepute among most of our people who do not try to learn the good from the bad, and my coal miner friend said, that in the schools in his country, this very thing was taught the children.

Between October 20 and November 20, tons of this very mushroom will rot away, within sight of homes in which no meat is on the table more than two or three times a week, and while some mushroom enthusiasts have set up the false claim that they are equal, pound for pound, in food value, with steak or any other meat, the real fact is that they have more than half their value, and that they come as a free gift from a beneficient Creator.

Twenty minutes time, one day in the week, would suffice for the teacher of any school to instruct the pupils as to which mushroom was edible, and which was poisonous, thus adding thousands of tons annually to the food supply of the country.

I spent three days in Cincinnati last week and I talked to lots of people of all classes. Perhaps I have mentioned in these papers, that I have friends in the city Police Department, and I walked with one of these for several hours along the streets of the tenement districts. We saw them buying food supplies and we talked with them about food and the cost of living

These people as a rule are poor buyers, and do not seem to realize that when a man is only getting $10 to $14 a week, his family cannot afford to have potatoes, at 30 cents a half peck, on the table two or three times a day.

I told one woman that I noticed that sweet potatoes were one half this price, and that rice and corn meal was still cheaper food, but she said, "Yes, I know, but our folks won't eat 'em," and she said that their family of six were living on her husbands wage of $12 per week.

Our farm work is well in hand, but we are late with our corn gathering, owing to the wet fall. Corn is selling at 85-90 cents per bushel, and we will get rid of a few hogs soon, as they are selling at near $9 per cwt., and we look to see corn $1.25 per bushel before the 1917 crop is ready to feed.

The dairy cows are paying us well now, as we have good pasture, are feeding but little grain, and $8 to $10 per week for cream looks like clear gain. We are putting in some up-to-date swing stanchions in our barn, having always used tie ropes, and find that stanchions have gone up 50 cents each in the past month "owing to the war." I put up a pair of barn doors, the pair being 12x16 feet, lumber, nails, track and hangers costing me nearly $15, $4 being "owing to the war."

It is very probable that over in Belgium, and about Verdun in France, there is a great shortage in stanchions and barn doors, also in cows to put in the stanchions, and barns to hang the doors on, so that makes the price high here?

Some of this "owing to the war" talk, reminds me of the man who shipped some corn to a commission merchant, and the charges took nearly all the corn to pay them. The returns itemized, "wharfage, drayage, storage, rathage" and two or three other "ages," and the man wrote back, "why the devil did you not put in stealage, and take it all?"

It is a fact, brother farmers, that we are getting good prices for all we have to sell, and it is also a fact that the commercial world knows this, so this commercial world is not going to allow us to retain any more, from the returns of our labor, than we have been doing.

Ponder this well, for it is of more importance to us, than who is to draw $75,000 a year as President, or which party will organize the lower house of Congress. C. D. Lyon.

TO THE FARMERS OF MISSOURI

Brother Farmers:

I wish to say that THE MISSOURI FARMER, in my opinion, is responsible for the great Farm Club movement which is taking such a firm hold on the farmers of Missouri today.

Brother farmers, I wish to impress on your minds that THE MISSOURI FARMER has set out to organize us farmers and it is up to us to organize as we owe it to ourselves and to the world. Why just think: Suppose the farmers had organized even ten years ago, today you would see better farms and more money in the hands of the farmers.

You hear the people complaining about the Land Bank. If we will organize, we won't need a land bank as there won't be so many middle men who are today making more money out of what we farmers are producing than we farmers are out of our own products.

Now, gentlemen, just think of the enormous amount of money we are piling up in the wrong place, that is, with the packers and middle men? For example, suppose the twenty-five dollars which the packer makes on every steer you or I produce was piled up in one pile, don't you think this would make a handsome sum of money? This money we are piling up with Mr. Packer doesn't do us farmers any good, neither is that we are piling up with the corn, wheat and potato kings. Farmers, let us wake up! Not one of you in this or any other state believes that we are working on the right basis.

Why are we not doing this? It is because we are not organized and so long as we are not, we are traveling on the wrong road, and are continuing to make millionaires out of the packers and grain and produce kings.

Now, fellow farmers, lets get together and organize. This is the first step to take. If we were organized do you not think we could accomplish and bring about satisfactory results? The best example of the good effects of organizing are the Orange growers of California. The world knows what they have done.

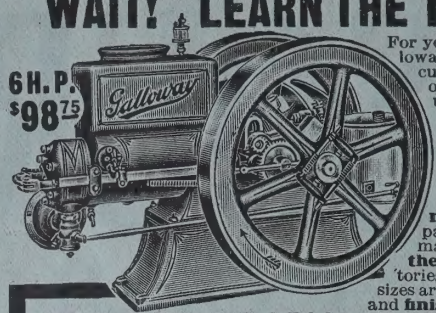
Since it takes a leader to make anything a success, I wish to say it is my opinion that THE MISSOURI FARMER is closer to the hearts of the real thinking farmers of Missouri than any other farm paper. Its editor is always willing to give his assistance and if we will all put our shoulders to the wheel we will win the fight. I believe this excellent farm paper should and soon will be in the hands of every farmer in the state. It is, undoubtedly, the only paper that has taken up this great fight for the farmers.

Lets get together without further delay. Ask your neighbors to meet at the school house and set the ball to rolling. We owe it to the future generations of farmers. If we will organize, we can place some farmers in Congress to represent us. This would certainly be a great thing—to have the farmers represented and to have a few real, brainy farmer Congressmen to look after the farmers' interests. We, the producers, who feed the world are the only unorganized class in the Nation today. Is it any wonder we keep coming out of the small end of the horn. I hope you and your neighbors will get busy at once.—John R. Dryer, President of Lafayette County Farmers' Association.

More than 500 neighborhood Farm Clubs have been organized the past year through the influence of THE MISSOURI FARMER and they are all saving their members a lot of money.

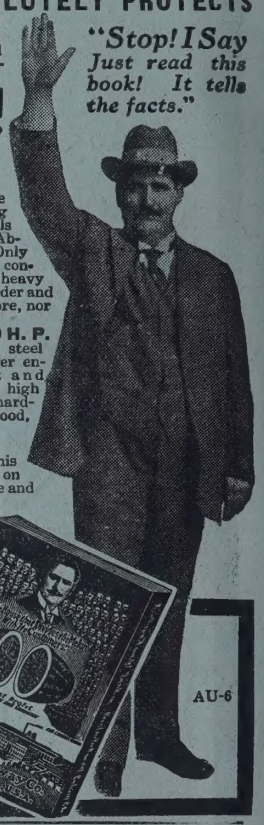
COMPARE FOR YOURSELF! HERE ARE THE FACTS!

WAIT! LEARN THE TRUTH ABOUT ENGINES



For years and years I have told you to compare the Galloway engine with any other engine! That's what my customers have done and that's why the annual sales of Galloway engines run up into the **thousands** upon **thousands!** I have told you to **compare the design** of the Galloway Masterpiece engine, the **material,** the **workmanship, finish** and the SIX 1917 SELLING PLANS—CASH OR TIME on which I sell them with **any engine on earth,** whether it costs more or less. If you pay less for an engine than for a Galloway Masterpiece you could **not possibly** be getting as good an engine. If you pay more it would only be **paying too much.** No matter what size or style engine you want **I build them** here in Waterloo in my own great chain of factories to fill every **want.** My 1¾, 2¼, 4 h. p. and other sizes are just as **scientifically designed, built, machined** and **finished** as my mogul engines from 12 to 16 h. p.

$25,000.00 LEGAL BANK BOND ABSOLUTELY PROTECTS every one of my customers and proves my willingness to have **every claim** and statement I make **fully investigated.** I want you to **try** a Galloway engine on your farm—in your own shop! That's why I prepared my new 1917 special proposition. I want a Galloway Masterpiece 1917 Model gas, kerosene or distillate engine in **every township** between **now** and **March 1st.**



GALLOWAY'S ENGINE TALK NO. 1

These monthly engine talks are to show you **why you should not buy an engine of any make** or kind until you have thoroughly investigated my new 1917 model Galloway Masterpiece engines—portable and stationary—from 1¾ to 16 h.p.

One-Piece Cylinder and Base--Note Wide Bearings

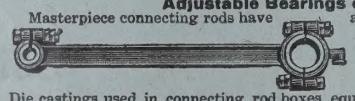
Cylinder and base of all Galloway engines from 4 to 16 h. p. cast in one piece. Cylinder, piston, connecting rod, crank shaft and flywheels always in perfect alignment. Absolute uniformity of wear. Only scientific successful method of construction for large, heavy duty, heavy weight engines. Two-piece cylinder and frame castings cannot be kept in line. Galloway engine cylinders will not score, nor will pistons become worn in short time.

Steel Drop Forged Cranks on All Masterpiece Engines up to 9 H. P.

This drop forged crank-shaft in all Galloway engines up to 9 H. P.

Highest carbon drop forged steel crank shafts up to 9 h. p. Larger engines have crank shafts cut and turned from solid steam hammered billets of high carbon steel. Every crank tested in excess of hardest power strain. Will give a lifetime of good, honest service.

Adjustable Bearings on Connecting Rods



Masterpiece connecting rods have adjustable bearings. Note this steel I-beam connecting rod on engines up to 9 h. p. Twelve and 16 h.p. connecting rods made from steam hammered billets of high carbon steel. Die castings used in connecting rod boxes equal in quality to those on high priced automobiles. Note the length of connecting rods (see catalog). A short connecting rod causes piston to cramp in cylinder and score sides of same. High speeded small bore, short stroke engines most always have short connecting rods. Crank pin bearings on connecting rods lubricated by automatic hard oil cup.

GET THIS FREE BOOK

It Tells All About Engines

I want you to have this new book about Galloway Masterpiece engines. It tells you how to pick out, size up and judge an engine. Gives you engine secrets and facts. Tells why to insist on heavy weight, large bore, long stroke and low speed. Tells why we sell direct to farm or shop at wholesale. How to install an engine and hook up machinery. How Galloway engines are built. How to lay out and build a cheap, efficient, power house. Why our prices on high-class portable and stationary engines and saw rigs are so low considering quality. Ask today. A postal gets it. Address me as below.

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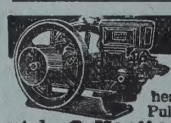

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10 Days FREE—Send No Money

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common kerosene (coal oil), no odor, smoke or noise, simple, clean, won't explode. Three million people already enjoying this powerful, white, steady light, nearest to sunlight. **Won Gold Medal** at Panama Exposition. Greatest invention of the age. Guaranteed.

$1000 Reward will be given to the person who shows us an oil lamp equal to the new **Aladdin** in every way (details of offer given in our circular). We want **one user in each locality** to whom we can refer customers. To that person we have a special introductory offer to make, under which one lamp is **given free.** Write quick for our 10-Day Absolutely Free Trial Proposition and learn how to get **one free.** Yours FREE

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The Missouri Farmer

VOLUME VIII DECEMBER 1, 1916 NUMBER 23

Farmers' Week for the Farmer and his Wife

By W. L. Nelson, Assistant Secretary Board of Agriculture.

Every one is anxious to start the New Year right. Of all men, the farmer probably best realizes the value of a good beginning. He has learned what this means in preparing the ground for his crops, getting the seed into the soil, and in harvesting in proper season.

The opening of the year 1917 brings to Missouri farmers a rare opportunity to make a profitable start in the great business of farming, a business greater and more far reaching in its effects and in its possibilities than at any other time in the history of the world. This opportunity comes not alone to the man in the field, but it is for the farm woman and for other members of the rural household.

What is this opportunity of which we speak? It is the annual Missouri Farmers' Week. The dates are January 1 to 5, 1917. Preparations, always extensive, have this year been made on a still larger scale. A feast of good things, comparing favorably with the turkey, cranberry, Christmas cakes and puddings of the holiday season, is being made ready for Missouri farmers. For weeks the State Board of Agriculture and the College of Agriculture, together with more than a dozen associations, have been planning programs and making ready for this, the most successful armers' Week in America.

As has been the custom for a number of years, the forenoons will be devoted to a short course for the men and women of the farm, those who are not yet too old to learn nor to take interest in the bigger, broader and better things of life. This forenoon school—for such it is—will embrace practically every subject in which the farm man and woman is interested. There will be practical instruction in the care and feeding of animals, the growing and harvesting of field crops, orcharding and gardening, beekeeping, poultry husbandry and other branches of farm industry. At this time, with the high cost of feed a paramount problem, considerable attention will be given to this subject and to the most economical methods of making cattle and other stock ready for market. The great market problem, itself of unusual importance just now, will have a prominent place in the Week's program.

In women's work there will be lectures, demonstrations and laboratory periods which are sure to prove profitable to every farm woman. Everyday problems of the rural household will be discussed by those who know whereof they speak. For the young folks, the boys and girls of the farm, a special program has been planned, with periods of work and play. Contests of various kinds will add interest to the work

Each afternoon, following the conclusion of the short course work, the various state agricultural associations will hold meetings. At these sessions corn growers, live stock breeders and feeders, and the various others will meet in their respective associations to discuss problems in which they are most vitally interested.

As usual, the Missouri State Corn Show, now generally conceded to be one of the best put on in any of the Corn Belt states, will be one of the big features of Farmers' Week. Entries in the Corn Show close well in advance, and for this reason interested parties should not delay making entries. The Farmers' Ham and Bacon Show, which represents a Missouri idea, will again prove how palatable may be made Missouri pork products as finished on the farm. In the meat show, prices aggregating $150 are given, and entries may be made up to the opening day of the show, or until 5 o'clock on Monday afternoon, January 1. This enables farmers who may care to do so to bring choice hams and bacon or other pork products with them on Monday morning and enter same in the show.

The visitor who attends Missouri Farmers' Week as a student and each morning selects lectures, demonstrations or discussions in which he is most interested, who carefully follows these, will receive a direct benefit such as could come to him in no other week's work. And this is the way that Farmers' Week should be followed. Daily programs are provided, and with the aid of these it is possible for each visitor to make an intelligent choice as to his course. To wander aimlessly about from place to place, spending a few minutes in one room, then going to another, getting only a smattering, is largely to lose the good of the visit. It is the wise, thoughtful visitor who plans an intelligent course and who carefully and conscientously follows it. From this it must not be understood that all of the benefit comes from class room or from demonstrations or even from association meetings. The personal contact is important. It is worth a great deal to a farmer to meet other progressive, up-to-date farmers, to talk to them of their methods and their problems, and to gain inspiration as well as instruction from such meetings.

Judging Hams at the Missouri Farmers' Ham and Bacon Show. Fifth Annual Show, January 1 to 5, 1917. Premiums of $150 in cash. No Entrance Fees.

In fact, Farmers' Week is one great clearing house for agricultural ideas. Here practice and theory meet. The men and women on the farm come in contact, not only ith others whose problems are the same as their own, but they meet with men and women whose lives are largely spent in class room and laboratory. As a result, both classes are benefited. It is a contact which brings real co-operation. The college men and women, if they are in sympathy with country folk and with the farm, get quite as much benefit from Farmers' Week as does the farmer. It is worth a great deal to get the viewpoint of the other fellow. It is important that while we may have our heads in the air, our feet should be on the ground. Science and practice must fit together like the parts of a broken saucer. If not, there is some error, the correction of which is important.

Best of all, Missouri Farmers' Week is a real country life conference, and just here it may be said that one of the helpful association meetings is the Missouri Rural Life Conference, but it is of that larger rural life conference that we would speak. No one can truthfully say that the success and welfare of the farmers rests upon the solution of any one problem, or that to bring about improvement in any one field would end all our difficulties. One man may see only the need of making more money; another thinks first of all of schools, another of roads, another concerning soil fertility. So it goes, almost without end. All these are big problems; all are farm problems; all concern the country's best crop, the men and women, the boys and girls, whose lives are lived out in the open country. It is for these that Farmers' Week is planned. It is to these that a special invitation is extended to come to Columbia on New Year' Day, 1917.

"New Methods," it has been said, "demand new measures." May not the same be said of the New Year? Farming is each year increasing in importance, and each year the problems demanding solution become more diffi-

cult. The farmer's fight is all-important. It demands fitness and preparation. Preparedness must be a part of the agricultural program. Missouri Farmers' Week, January 1 to 5, 1917, is a real preparedness program. The call is for volunteers—for men, not to fill graveyards but granaries, for those who would bring more of joy and less of sorrow into the world, for those who would build rather than destroy.

W. L. Nelson.

BEEF CATTLE PRODUCTION

This article is not written for the purpose of helping any farmer to decide whether he shoud grow beef or dairy cattle. I am conscious of the fact that all men will not, on account of their individual tastes, circumstances, or ability to secure suitable help, engage in dairying, one of the most profitable branches of all animal industries. There has been, is now, and will continue to be men in Missouri who will grow and produce beef cattle and it is of the utmost importance that they use and employ those methods that will give the largest returns for the time and money invested in this industry.

The farmer keeps beef cows and feeds and pastures their offspring to sell to the butcher and packer. The packer buys them to sell and he is interested in the killing percentage; that is, the number of pounds of edible beef the fat steer or heifer will kill out. Beef cattle must have the right breeding and feeding. The breeding will give them the correct type, or conformation, the big heart girth, the proper spring of rib, the wide back and plenty of room to lay on flesh in the region of the high priced cuts, and let me emphasize that this is the reason and the only reason the steers described below brought ten and eleven cents, and the inferior bred, but just as well fed, sold from five to seven cents. Good illustrations are always more helpful in presenting an argument, or reaching the understanding than abstract or academic presentations; therefore I will set ut what I conceive to be the marvelous advantages of a well bred animal for beef purposes over the scrub.

I wish it to be remembered that I am speaking of the raising of beef cattle. There are times when the feeder can go on the open market and buy an inferior grade of cattle, feed them out, and make more net profit than had he bought the high grade feeders. When it comes to producing them on his own farm, however, the proposition changes and he must have the very best that blood and feed will produce. They need not necessarily be pure breds, but such as come from the use of pure bred sires of individual excellence.

Now for the illustrations — Two young men start farming on adjoining farms, each containing one hundred and sixty acres, the one with low grade nondescript heifers, the other one with well bred heifers, not necessarily high priced, but of strong individual merit and possessing the good points of the ideal feeder. In an incredibly short time each will have all the cattle their quarter section will support, and in the course of time will have a carload of steers ready for the feed lot. These are put in and fed out with hogs to follow them. When the steers are fed up to weigh about 1200 pounds each, the two lots are loaded on the cars and shipped to market. They are consigned to some reputable commission firm and the young men go with them for their individual education. The freight is the same with the scrubs as with the choice steers. The yardage, inspection, commission, and all expenses are identically the same, and in the name of common sense, Mr. beef cattle man, don't lose sight of these material facts. The prime bullocks are landed in a conspicuous place and the nondescripts hustled off to some obscure corner of the yards, the good conveniently located for the inspection of the packing house buyers who are looking for that class of stuff, and the scrubs where the scalpers frequent. In the stock yards parlance the good steers are labled "Prime Bullocks," and the others "Penholders" or "Quinine" steers. The good ones will sell twenty times where the others have no chance for disposal, the former bringing ten or eleven cents per pound to the latters six or seven.

The young man who believes in breeding and feeding the market toppers, comes home with a draft for $2,000 or $2,500 in his pocket, while the breeder and feeder of the low grades has a draft for $1,200 or $1,500. The one is filled with dignity for his calling, the other is chagrined. One has the record of Twentieth Century methods of farming, the other pays the penalty for neglecting to live up to his opportunity. The inferior steers and their dams eat as much grass and corn, occupy as much room in the sheds in stormy weather, and require as much time and attention, as do the choice steers. Why will farmers spend time and money with inferior stock, when the same amount of energy expended with the better grades will give him a just recompence for his toil? There is no mystery or need of great capital in connection with the breeding of the good kinds. Only the very wealthy farmers with fat bank accounts can afford to produce the scrubs.

You must realize and believe that you can breed the type or conformation that you desire. You must have a fixed purpose, then select your breed and stay with them. There is no best breed, but select the one that you like best and you will give them better care, and they will do better for you. Exercise good judgment in the selection of your sires and use nothing but the best individuals of the breed that you are handling. It is not good policy to cross breed indiscriminately, for you can not use your cross bred heifers for breeding purposes. The cross bred steer is all right for the feed lot, but you will lose out on your heifers. When you get a sire that has strong prepotency, it is a good idea to hold on to him as long as possible without inbreeding too much. There is much to be learned by visiting the herds of reputable breeders, and attending the live stock shows, studying types, methods of breeding, and the essentials of care and management.

Men like Cruikshank, Booth and Bates, among the improvers of Short Horns, Price, Tompkins, and others among the White-faces, as well as the improvers of the Polled breeds, consecrated their entire lives to their work, and were not changing from one breed to another. There are hundreds of men that have begun with common native cows, and by using upon these cows and their heifers, sires of some of the prononuced beef breeds, pure in blood, and strong in pedigree, have in four or five crosses produced steers that for all practical purposes are as good in the feed lot as those eligible to registry. The breeder need not make hot house plants out of his cattle but should give them good shelter during storms. He should not and need not pamper his cattle, but good feed has been and is yet one of the potent factors in the improvement of cattle, hence he should see that his cattle get feed in such quantities, and of such quality as to keep them growing throughout the year.

Making Baby Beef

I never like to write an article, or make a talk without offering a remedy or suggesting what I have found to be sound in practice. I have found it to be a very satisfactory method in producing beef cattle, for profit, to allow the calves to take all of their mothers milk until the calf reaches the age of seven or eight months before weaning. Before you take the calf away from it's mother, be sure and have it eating well, if not on full feed. Now feed it liberally on clover, alfalfa hay and plenty of good sound corn and let it eat good old Kentucky blue grass and by all means never let it lose it's baby flesh or form. Good strong beef calves handled thus, should weigh by June or July fist, 1,000 pounds, and bring $100 to $120 on the market. When you consider that you have fed them your own feed, and at the same time built up your land, this is not a mean price and can not help but make you money.

Having shown the manifest advantages of breeding an dfeeding better live stock from a money standpoint, tages of breeding and feeding better tion to be considered, which is perhaps the most important. There has gone up in recent years, in this country, the slogan "Back to the land." Presidents, governors, senators, doctors, ministers, and all classes have all joined in the cry until the air is resonant, and the sound reverberates from hut to palace. This hue and cry has enlisted a multitude of earnest workers, all striving to discover the key to the situation. Some have suggested the consolidation of schools, others good roads, still others making the rural school house the center of social activity, while many advocate the resuscitation of the country church. To all these remedies we utter a hearty amen. But in my humble judgment there is no factor, or agency, that will be more effectual, in solving this problem than the propagation of good live stock on the farm, and the prosecution of all your farming operation in keeping with this high and noble standard.

W. D. McKee.

WHERE THE TROUBLE IS

When feed is scarce and high in price, and money is also hard to get and hard to hold, and the weather is adverse to good cropping and drouths are prevalent, many people find it necessary to cut down the expenses of their business. Such a course is seldom either pleasant or easy. Probably in the great majority of cases it is both disagreeable and difficult. In numerous cases it may appear to threaten heavy loss, if not absolute ruin, as the profitable management of the business seems to call for larger outlay rather than for diminished expenditure. But "necessity knows no law" and a great many farmers, as well as men in other lines of business, find themselves in circumstances which compel them to reduce business expenses.

The theory of getting business upon a better basis by cutting down the cost of conducting it is easily understood. It is plain to see that if expenses are materially reduced there will be a considerable increase in the profits, provided, however, the decrease in expense does not diminish the efficiency with which the business is conducted. Just here is where the difficulty begins and it often proves very serious. A great deal of the work of the farm is far-reaching in its effects. It cannot safely be considered by itself alone.

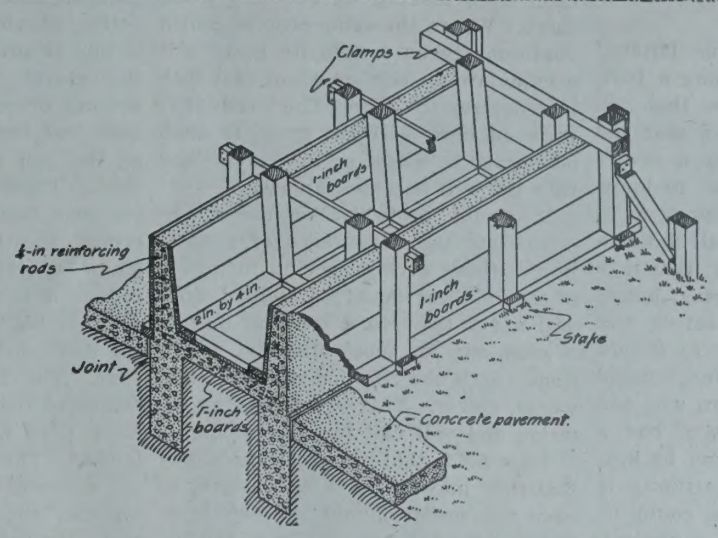
Nothing should be said, either in bad times or good ones, against an economical system of management. But it should be remembered that there are cases in which retrenchment is not true economy. Saving at the spigot and losing at the bung can never be made profitable. The man who stops his farm paper, or his ordinary newspaper, is very certain to lose vastly more than he saves. The same may be said of the man who feeds his animals scantily, or uses worn out tools or machines in order to save the expense of new ones. There are many other ways in which the farmer will find it possible to avoid paying the money, but which are not in the line of true economy. At one time I was employed by a firm dealing in pure-bred live stock, advertising their stock extensively in the farm papers of the corn belt, and carrying on a very good pure-bred business for new breeders. A severe drouth one summer handicapped crop production and they decided to cut down expenses, and the first item to get the knife was to discharge the stenographer. There were two members of this firm and neither of them knew how to operate a machine with any degree of rapidity, accuracy or neatness, and when the inquiries came in for their pure-bred live stock, the letters were left to accumulate on account of lack of ability to properly answer them on the typewriter, and the real mainstay of the business, the funds coming in for the pure-bred stock sales, was left to dwindle and fall off to nothing. This was decidedly poor management, and the firm later gave up the pure-bred business entirely and in the end gave up the farm.

It is easy to go to an extreme in the direction of reducing the cost of carrying on business. It is not the hoarding of capital, but its active employment that enables men to get wealth. It is not the farmer who cuts off the greatest proportion of cost, but the one who turns his expenditures into the most profitable channels, who will have the highest degree of success. If there are any who are so unfortunate as to be absolutely unable to meet the expenses which sound judgment shows are necessary to the profitable management of affairs, their best course would seem to be an immediate reduction of their business to proportions which will correspond with the amount of capital which they are able to command. If it is properly directed, perseverance is an excellent quality. It has been one of the great factors of success in many great undertakings as well as in numerous smaller ones. But it is possible to allow this trait to degenerate into mere obstinacy, and so direct it that it shall lead to failure instead of success.

The returns from any business will depend largely upon the degree of skill with which that business is managed. This fact has been demonstrated by the experience of numerous men, not a few of whom have found that hard work and close attention to details will not, of themselves alone, secure success. Many a man has

toiled early and late, denied himself and his family most of the luxuries and many of the conveniences of life, and yet, from a financial point of view, has had very little success. Multitudes of others are now doing the same way and in due time will reach the same unfortunate conclusion of their labors. Manufacturers, merchants, mechanics, farmers and men who are directing business affairs along various other lines, are freely represented in this losing struggle for competence or wealth. It is true that in many instances in which the desired reward is not secured there are other impediments than the one that has been named. But it is no less true that in countless cases the one great barrier to success is a want of skillful management. The men who are sowing much and reaping none either do not understand or else they fail to apply the principles upon which success depends. This, at least, is the general rule. There are exceptional cases in which failure results from causes which can neither be foreseen nor prevented. There are misfortunes against which no human skill can avail. But in the majority of cases the men who do not get along fairly well are not managing their business to the best advantage. What has been said involves no harsh criticism of those who do not succeed. Competition is exceedingly sharp, and it requires both skill and energy in an eminent degree to enable one to keep anywhere near the front ranks of the crowd that with feverish haste is pressing toward its goal. Even the man who is best equipped for his work may be surpassed by one whose natural abilities are less, but who makes a better use of the few talents he has received. It hardly needs to be said that the business of farming is one that requires very careful management, or to add that this is one of the weaker points in the farm economy of the present day. Our farmers work hard. Many of them work a great deal harder than they should. If they would do less in the way of manual labor and spend the time thus saved in devising better methods of managing their business, it would be a great improvement. They would save much comparatively useless toil, and would obtain better financial returns. I have taken it for granted that each and all of the farmers who will read this desire to improve. Even those who have been most successful in the past wish to do still better in the coming years, while those whose rewards have been meagre in the past are anxious to make the future more prolific of good.

Bob Hill.



A Concrete Watering Trough for Your Stock

DAIRY profits depend upon the health of your cows, and the health of your cows depends very largely upon a clean water supply. For drinking water a concrete trough should be found on every farm.

A concrete trough is easily cleaned; it does not rot nor leak. It is so simply constructed, your labor isn't worth mentioning, and as for materials, you can usually find the sand and pebbles or broken stone close at hand. The only thing you need buy is the Portland cement. A few sacks will do.

Take This Hint

When building a concrete watering trough, be sure to extend the concrete floor a few feet from the tank. This will prevent the formation of mud when water splashes over the sides, will keep the barnyard clean and the foundation from softening by stock trampling in the mud.

Let us send you a free copy of our booklet No. 142 entitled "Concrete Troughs, Tanks, Hog Wallows, Manure Pits, and Cisterns." It tells you how to build them.

PORTLAND CEMENT ASSOCIATION

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ATLANTA
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CONCRETE FOR PERMANENCE

SALINE COUNTY FARMERS ORGANIZING

The first school house Farm Club was organized October 2nd and every man in the district a member. They named it—Farmer's Business Club of District No. 53. They meet the first and third Monday of each month. Through THE MISSOURI FARMER, a car of best grade Illinois coal was bought at a saving of $100, and at the last meeting an order for a car of flour, shorts, and bran was made. Large quantites of salt and seed will be purchased in car lots later. Selling has been planned in the same business way. Talks and exchange of ideas on subjects pertaining to the w lfare of the farmers has proven interesting and profitable.

At a meeting on November 6th a committee of three men were appointed to assist in organizing other school house clubs, and at this writing (November 22nd) there are about ten clubs organized in different sections of the county. These clubs are carrying the good work on in forming clubs in their adjoining districts, and by this chain method the whole county will be organized in the near future.

This great educational and financial movement is the only salvation for the farmer of all classes, and it is of vital importance that every farmer regardless of his standing financially should join the organization and assist in raising the standard of living, as he owes this to his county, state, and nation. We must wake up, as we can no longer handle the biggest business in the world single handed. Times have changed and we must change with them.

Farmers are the only class of men that have not a voice as to the financial part of their business, either in buying or selling. Why? Lack of organization.

I do not condemn the man that can put a price on what he has to sell, whatever it may be, I only admire him, as he could see long ago the results of organization, nor do I believe in crushing the towns.. But we are forced to a condition whereby we must procure better prices both in selling and buying, and car lots of such as is named above would not affect any town materially. Let the home town bid first on car lots, give them a chance with outside firms.

Organization will improve market conditions. The producer will receive more and the consumer pay less. Farmer's near a certain city in this state sold their potatoes including sacks for 60c a bushel this fall and yet these potatoes a few weeks later retailed at $2.00 a bushel in that same city. Who ate the pie in that deal? This is only a sample of the kind of business we carry on unorganized.

There are many reasons in favor of organization, while I have failed to learn one reason why we should not organize. It can be accomplished, and will before we have reached the crisis.

Some farmers have done well on the advancement in the price of their land, but if we don't beat 2% which is the average of the state, it looks like watered stock, and when the water is rung out, who is going to get wet? A better system of all kinds of farming in all its phases must be adopted as soon as possible; if not, what are our children, and their children going to do with the farm mortgages increasing, and fertility of the soil decreasing? Is it not a serious state of affairs?

Less moss, gold bricks, and hog cholera cures,
More intelligent thinking, and results, it procures,
Less envy, and suspicion of neighbors, who are yours,
More school house Farm Clubs, and the goal, it secures.

L. H. Brownfield, Saline Co.

Let the Hogs Feed Themselves

The Missouri Agricultural Experiment Station has demonstrated the fact that gains may be put on fattening hogs rapidly and economically by the use of self feeders.

Shoats weighing 121.0 pounds at the beginning of a sixty-day feeding period gained 1.79 pounds a head daily, weighing 228.9 pounds at the close of the feeding trial. During this time they were supplied corn, shorts, and tankage, each of these feeds being placed in a separate self feeder and the shoats allowed to eat as much of each as they wished. When so fed they seemed to balance their ration about as well as could be done by hand feeding. The proportion in which the feeds were eaten are: Corn, 20.66 pounds; shorts, 3.93 pounds; and tankage, 1 pound. The average daily feed consumed per hog was 8.185 pounds. The amount of feed required for each pound of gain produced was 4.55 pounds.

With corn worth 65 cents a bushel, shorts $1.35 per hundred and tankage $2.50 per hundred it cost $5.68 to produce one hundred pounds of pork.—L. A. Weaver, Missouri College of Agriculture.

TOM AT THE UNIVERSITY

By "Tom"

Dear Dad: In a previous letter I told you that I was becoming a football enthusiast and I know that you are wondering why. I know that you think of college football as a rather rough game and would like to know why I should take such a fancy to it. But really, collegiate football is not a knock-down, drag-out affair, that it is often given the name of being, but is as clean a game as baseball or any other standard sport. But why should we as students become so enthusiastic about the game? Every man who has a drop of red blood in him, has a spark of enthusiasm that can be kindled when the proper opportunity is afforded. No better means could be presented than by having a contest, mental or physical, between chosen representatives of schools. It would be a rather stupid person who could not stir up enthusiasm enough to urge his team on to victory; cheering them when they made a victorious play, or urge them on when they were being outplayed by their opponents. Many has been the time when you have urged on your team at a "log rolling" or a rope pulling contest. This "rooting" which you do in a contest is a means of giving vent to your stored up enthusiasm, and is proof to your team that you are behind them.

Did you ever notice how much happier you were after a lively contest, even when you were defeated? The excitement and interest you had in the contest, made you forget all about the serious things of life and allowed your mind to be refreshed. The student, after spending many hours over his hard studies, goes to a football game and joins in with his classmates in spending an hour in watching his team struggling for a victory over their opponents. Having his mind refreshed he is better in a better mood to resume his studies again.

To change the subject rather abruptly, I will attempt to answer a question you asked in your last letter in regard to crop rotations. I will try to tell you what advantages I have found out there are in rotating our crops.

To begin with a rotation in growing our crops in a logical order so as to increase the yields without increasing the cost of production. These ends are brought about by adding more humus to the soil to build up its fertility, the better control of weeds, insect pests and plant diseases. Where a crop rotation is followed the same acreage of each crop is grown each year. For a live stock man this means much for it affords approximately the same amount of feed each year and he can keep the same number of live stock on hand all of the time, and not many one year and a few the next, to make his feed come out even. Some years there is a failure of one crop, while there may be none among the other crops. If the farmer has one crop on which he is depending for his years income and there is a failure of that crop, he will have little for his years work. On the other hand where he has other crops of the same acreage he will have them to fall back upon to make money.

The insects that affect one crop will not always affect another and where the crops are changed each year on the field the insects will not accumulate so readily. The same is true of the plant diseases. The time that elapses between the growing of the crop on the field will be long enough to keep any particular pest of that crop from making its breeding place there. Where the same crop is grown continuously on a field its pests will accumulate to such an extent that they may destroy the crop. The weeds that grow in corn will not grow to such advantage in wheat or the clover, and they too will be handicapped.

It would probably be useless to enumerate the advantages of a rotation without giving specific instances of where these could be applied, so I will apply them to a rotation that is a good one for most Missouri conditions. It is the rotation of corn, oats, wheat, clover. This is a four year rotation and will call for four fields, or at least fields that may be so arranged that they may be operated together to have the same amount of each crop. If there are 160 acres of land in cultivation on the farm it would make 40 acres of each of the above crops each year.

Starting with the clover field, we would plow it up in the fall. The fall plowing will come at a time when there is not such a rush of work on hand as is the case in the spring. It also allows the sod to lay over winter and crumble well by spring and will settle so as to form a better seed bed. The plowed ground will also absorb more water and store it up for the crop to use than will the unplowed ground. The following spring the oats well be seeded. For the oats the ground will not need to be plowed as it is following the corn and the ground has been well worked up the year before. Experiments have shown that it is not a paying proposition to plow for oaths and that a good double disking is all that is necessary. In following the corn it saves a plowing, and there is no time lost for a growing crop on the ground. Wheat is a good crop to have following the oats. Early plowed ground has proven the best for growing good wheat. By experiment, it has been found that the yield may be increased by a third where the ground has been plowed early over the late plowing. If the plowing is allowed to go until late in the season it s hard to get a good well packed seed bed by seeding time. Also weeds will grow up and produce many seed. The oats will come off soon enough to permit the earliest time necessary for early plowing. The July plowing will permit the ground to get well packed, keep down weeds, and gather more of the water from the rains.

The clover in this rotation follows the wheat. The clover is seeded in the early spring in the wheat. The clover will get a good start in the wheat as a nurse crop and be well on its way by fall and ready for a full crop the following year, without having any time lost for the soil in getting it started. In many cases it forms a good pasture after the wheat is taken off.

The clover is to be used according to the desire of the farmer, for pasture, feeding, for seed, or probably turning a crop under to add humus to the soil and increasing the fertility of it. The following year the corn will again be on this field.

Now what are some of the advantages that are to be gained? First, the clover is a crop that will take the nitrogen from the air and put it in the soil in such a form as to build up the fertility. The roots of the clover go deeper in the soil than the small grains and the corn, and makes it more porous. It also brings up plant food from depths greater than the roots of our other crops are able to go. It also puts the ground in a looser and much better physical condition. The corn is our greatest crop and in following the clover will reap the greatest amount of good from it. There is no time lost between any of these crops as the soil is being used all of the time. There are only two plowings for each field in four years for these crops. Plowing is the most expensive single operation in cropping and to reduce it is to be saving an expense. Another big factor to keep in mind is the distribution of the work over the year. The harvesting of these crops comes so that the labor is spread out more than where a one crop system is used. The only conflict being where the oats and wheat may come so close together and the later plowings of the corn; but this cannot be avoided under any system. Where the labor is more evenly distributed through the year for the planting, tending and harvesting of the crops, it will keep the men and teams busy more of the time and will not cause periods of too much work and none at others. It will also make it unnecessary to hire extra help at such times.

Now a rotation is a good thing and as you can plainly see it is making the ground produce all that it is able to. If all of these crops are removed and none of the manure returned it would be making the soil itself poorer faster than where no rotation would be followed, although it would be increasing the crop returns for the time being. In other words I mean that these crops must be fed to live stock and all manure and straw returned to the soil to help maintain the fertility. Now I cannot go further in detail about this matter in this letter, but in a later one I will tell more about other things that may be done to keep up the fertility of the soil. These things that I have mentioned are only brief and you may be able to see other advantages to a rotation if you only think about it, as if it were in actual operation on the farm. I will close for this time hoping to hear from you soon. Love to all. Tom.

PUTTING BUSINESS INTO MARKETING

By Geo. K. Andrews, Agricultural Commissioner, Missouri Pacific Railway.

Mr. J. R. Leighty is a very busy business man. He is a civil engineer in charge of maintenance of way of all Missouri Pacific Railway Lines west of Kansas City. But years ago he began planting trees on his father's farm in Northern Indiana so that now, when it has come to him, he has an eighty acre orchard, 60% in bearing, of well selected varieties. Every year since it started this orchard has had the very best of care. The ground has been tilled, the trees sprayed and pruned, and this year, when apples are a failure thereabouts, his trees are loaded with perfect fruit. He made up his mind to supply his home market. It is a very good one, there being a population of 750,000 within 100 miles of the farm outside of larger cities. So the other day he toured nearby towns and called on the storekeepers, using the round barrel-labels of his orchard as his business card. Having so introduced himself, he told the story of the orchard and ended by saying that his purpose in calling was not to ask the man to buy apples, but to invite him to visit the orchard.

At each town he put a display advertisement in the local papers, of which there were twenty, and which have an aggregate circulation of 25,000 copies. Here again the message told about the orchard, disclaimed any present expectation that visitors would be purchasers, but invited people to come and see it; saying that the orchard was a nice place for a picnic dinner; and concluding with the suggestion that those with automobiles might bring with them a less fortunate friend. The papers went to press mostly on Thursday and Friday, but on the following Sunday over half the storekeepers and five hundred other people came there, and were met by a man who is a good talker, who ran a lot of apples through the sorter, explaining its operation and purpose. There were rings to test the apples as they came out, and the sorter had been adjusted so as to run them out in sizes to within an eighth of an inch, so that they looked as if they had been made in a mould. When a party were through here, they were taken through the orchard to inspect the ripening fruit. There are a few Ben Davis trees in this orchard and, of course, they had to be fairly crowded with beautiful (looking) apples; and one branch in particular was borne down to the ground by about a hundred perfect apples, each trying to crowd the other off the tree. Inevitably it became the cynosure of all eyes. People tried to spy around them to count them, and made little whispering sounds with their lips.

A desk was provided at which the visitors were invited to register; the cards being as follows:

BEAR CREEK FARM
Leighty Orchard
Register Card

Name .....
Town .....
Street No. or Rural Route No.....
Shall we notify you when picking and packing commences so you can s it done? .....
Are you prepared to put away and keep some apples for winter use?.....
What varieties do you prefer?.....
How many bushels can you use?.....
Shall we save them for you?.....

The price will be One Dollar per bushel at the farm without package, any variety, same quality as is packed for shipment.

By night there were orders for seven hundred bushels and the visitors expresesd themselves as being pleased, and showed a keen interest in the marvel of a fruitful orchard in the otherwheres fruitless year. Having seen it and having become interested, it is quite natural that they felt a sort of proprietary interest in its welfare and that they became partisans of the Leighty Orchard. Even the editors of the newspapers were interested. "See here," one of them said to the owner. "You say you think you are a philanthropist because you are supplying us with apples and the money we pay for them is going to stay here instead of going to some distant state; and I don't know but that you are. Anyway, it is good work, and I want you to sit right down and write an editorial about it and I'll print it." And he did so, calling attention to the $1,250,000 that will be paid out for apples by the people living within a hundred miles of this orchard, and that this money will be sent away for something that could have been produced at home of better quality and at no greater cost.

Mr. Leighty had planned to put advertisements in the women's page of the Sunday's papers published in the neighboring cities, such as Ft. Wayne, but inasmuch as they would be coming so far he postponed this invitation until picking time, as they would

not be likely to make a second trip. But on last Sunday the Orchard had a little more than one thousand visitors, with total advance sales to date of thirteen hundred bushels, and orders coming in at the rate of two hundred bushels a day. He writes as follows:

"Have sold all the remaining apples to one buyer, so will have to shut off on local sales. Scheme worked O. K. though, as far as it was permitted to go."

The moral of this story is that a lot of people raise a lot of stuff and send it off to a distant and oversupplied market, when all the time there is a good market at their very doors.

But to get this home market, to create the demand for the near-by thing instead of the far-away thing, tact, business ability and psychology are required. These three words have not appeared, spelled out in letters, until now, but they are found everywhere in Mr. Leighty's method. Thus, it will be noticed that the whole work was carried out in the belief that if the people are curious enough about a thing to visit it, they will buy it if it is a good thing to have, for they will feel that the virtue of possession is due to their own enterprise in discovering it. The same as people buy from the Venetian glassblower at the fair, because they "saw him make it."

Another inducement not allowed to be lost sight of was that this Orchard produced nothing but high grade apples that really belong in fancy packages to the city trade, but that they could be had for the home trade if spoken for in advance.

And, lastly, it pays to advertise.

THE TENANT'S CROPS

Tenant farmers crop their land harder than do owners. A study made by the Missouri College of Agriculture shows that about one-fifth of the owner's farm was in corn, while one-third of the tenant's farm grew corn. One-twelfth of the owner's farm was in wheat, while nearly one-seventh of the tenant's farm was in wheat. Three-eighths of the owner's farm was in grass, while a little more than one-fourth of the tenant's farm was in grass.

The tenant not only grows more crops on his land, but he sells twice as much of the crops he grows as does the owner. Twenty-six per cent of the owner's receipts come from crop sales, while fifty-one per cent of the tenant's receipts come from the sale of crops. Sixty-three and four-tenths per cent of the tenants get crop yields below the average for the region, while only forty-four and nine-tenths per cent of the owners get yields below the average. Tenants get five bushels less corn per acre than do owners, and ten bushels less oats. The hay yield is practically the same. The wheat yield on the tenant farm is only one bushel less per acre than on the owner's farm.

The fact that the tenant farms his land harder than does the owner is a fault of the system and not a fault of the individual. Because his arrangement with the owner of the land is purely temporary, the tenant can hardly afford to keep much live stock. He must live in addition to paying rent on his land, consequently, he grows all the cash crops he can. As he cannot afford to keep live stock, he must, of course, depend largely on the sale of crops for his income. If a tenant has any assurance that he can stay on a farm for more than one year or perhaps two, it is believed that his farming methods would be changed to quite an extent. In England tenants do some of the best farming.—O. R. Johnson, Missouri College of Agriculture.

HAWKS, SKUNKS, SNAKES AND MICE

Two years ago, our state legislature passed a law providing a bounty of one dollar each, on every hen hawk, Coopers hawk or sharp skinned hawk killed. This is paid, by a warrant on the treasurer, issued by the township clerk, upon presentation of the hawk head. While the law specified the varieties of hawks the bounty was to be paid on every kind of hawk found in Ohio, even down to the little sparrow hawk, every pair of which is worth more than $10 per year to the owner of the farm they live on.

The great fur houses flood the country with circulars, telling how farm boys can make good money trapping skunks, incidentally buying traps, and fish oil at $20 per gallon of the fur houses, and also incidentally, shipping their fur to be paid for at prices less than the market.

Every farmer, or nearly every farmer, his sons and his hired man, kill every snake they see, from the little green corn snake to the big bull snake and the black snake, and they are much more energetic at killing snakes then they are at killing weeds in the corn.

As the hawks, the skunks and the snakes disappear, or at least become much scarcer than usual, mice, moles, gophers and chipmunks increase, all due to the decrease in the number of their natural enemies.

I know every word that can be used in condemnation of the hawk tribe, and I also know that 90 per cent of what is said, is not based upon careful observation, for excepting the three varieties named by our law, our hawks do a dollars worth of good in killing farm pests, for every dimes worth of harm they do in killing an occasional chicken.

Even with this said, it is not every individual of the vicious species mentioned that are habitual frequenters of the poultry yard, only resorting there in the absence of their natural prey.

Yes, the skunk does suck eggs, but what per cent of the readers of THE MISSOURI FARMER is it that allows the hens to lay out in fence corners, and the eggs to remain in the nests two or three days and nights?

In sixty years of farm life, and all that time with skunk dens 100 yards from the hen house, yes, right under the barn, I have never known two dozen eggs eaten by skunks, nor have I ever known of a chicken being killed by them.

At my upper barn last summer, a skunk and her litter of young lived under the barn floor, and twenty feet away a hen laid her eggs and hatched her brood of chickens, unmolested.

I have known snakes to enter coops and kill young chicks, three or four times in sixty years, and I have also known of scores of rats leaving a corn crib, within a days time after a five foot blacksnake took up its abode there.

The plain house cat, the weasel and the mink, do a large part of the damage to farm poultry that is usually credited to hawks and skunks, yet we hear nothing about a bounty on these animals, however desirable such a thing might be.

Our fields are over run with the common short tailed field mouse, rats are more plentiful than in years, while scores of chipmunks will be ready to dig up corn next spring, because the hawks, skunks and snakes are gone.

C. D. Lyon.

Hogs Fed Less Grain When Out On Pasture

When corn is high priced and pasture plentiful, it will pay to feed less than a full feed of grain to hogs, says W. L. Robison in the July Monthly Bulletin of the Ohio Experiment Station. When corn alone is fed, a limited ration is much cheaper because green feed takes the place of much of the high-priced grain.

Hogs fed all the grain they will eat make more rapid but less economical gains. They can be marketed sooner, which often is an advantage to farmers.

For hog pasture alfalfa, clover, rape and soybeans are recommended. Corn is usually fed alone to hogs on such pasture. Pigs weighing less than 100 pounds should receive a small amount of protein feed, such as tankage, in addition to the corn. About one part to 15 parts of corn is reconmended. With larger hogs pork production is usually too expensive when tankage is fed.

There are so many ways you can get a dollar's worth out of THE MISSOURI FARMER we wonder why you do not send in your dollar for a two years subscription. Better send it now.

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They Uphold Each Other's Hands

The public *must* be served. This is the dominating thought of the entire Bell organization from the president down. Every employe feels the sense of responsibility that this working principle implies. The public must be served—efficiently, uninterruptedly.

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This book, which costs you nothing, may be the means of making you independent for life. Complete in description and profusely illustrated, it tells the Fact about new farm lands in a region where there is no severe winter cold, droughts are unknown, and the growth of vegetation continues the year 'round—the sunny, healthful

Highlands of Louisiana

These lands are high, gently rolling, well drained, adapted to general farming, ideal for stock raising and dairying. They are being sold by a thoroughly reliable company at extremely low prices, on remarkably easy terms—**One Small Down Payment, Then Nothing but Interest for Three Years!**

Send for this book. Read it. Remember this is absolutely **FREE**; no obligation in sending for it. With it comes a map of Louisiana in full colors. Learn the details of this rare opportunity to become a prosperous, contented farm owner in the happy land "Where Soil and Climate Are Never Idle." A postal brings the book.

Long-Bell FARM LAND CORPORATION
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Kansas City, - Missouri.

THE MISSOURI FARMER
Devoted to Better Farming, Better Farm Homes and Better Citizenship.

Vol. VIII December 1, 1916 No. 23

William Hirth, - - - Publisher
Geo. B. Ellis, - - Managing Editor

Published twice a month, on the 1st and 15th, at Columbia, Mo.

Subscription Price 75c Cents a Year in Advance or two years for One Dollar.

The date on the address label gives month and year to which subscription is paid.

Agents Wanted. We want some one to represent us in every community and make up clubs for which we will pay liberal commissions. Write us for terms and sample copies.

We solicit communications from farmers and members of the family on timely and practical subjects. Photographs illustrating farm life or plans for buildings, live stock, etc., are appreciated.

To render service is our aim and we will endeavor to answer all pertinent questions or have them answered by competent authority. When answer is desired direct always inclose stamp.

Entered at the postoffice at Columbia, Missouri, as second-class mail matter.

FACING A HARD PROBLEM

The incoming administration of Missouri is facing a hard problem. The Legislature of 1915 appropriated more money by some four or five million dollars than the total revenues for 1915 and 1916. The governor vetoed a part of the excess but allowed somewhere from one million to three million more of appropriations than the income and the next Legislature will not only have to provide for the years 1917 and 1918 but it will have to make up this deficiency. We can lay the blame on the Legislature of 1915 if we like, for over appropriations or we can blame Governor Major for approving sums above the state auditor's estimates, but blaming some one does not pay our obligations. No state can afford to repudiate the regularly authorized debts contracted by its agents and the different state institutions have already spent most of the money authorized by borrowing money on the strength of the appropriations. What are we going to do about it?

In the first place the new administration ought to give assurance that it will practice the most rigid economy consistent with the state's welfare.

We do not believe there is a state department, board or institution but what could find leaks and useless expenditures that ought to be stopped. But in most departments and institutions these savings will be small in comparison to the necessary growth and expansion of the state and the consequent growth of the state's business.

We have often said in these columns that it is not necessarily the state which spends the least money which serves its people most efficiently but it is the state which gives the people the most service for the money expended. We can see no difference in the theory between public expenditures and private expenditures. In both cases the aim should be to get the worth of the money used.

Besides having to make up for the debts of the present administration the new one will have to find some way to make up the deficiency caused by the abolishment of contract labor in the state penitentiary and this will amount to several hundred thousands of dollars for the two years. Then the Legislature will be called upon to provide the money to duplicate National aid for roads, several thousands of dollars of which will be available for the next two years.

From the newspapers we learn that the Governor-elect suggests a general inheritance tax as one means for making up the deficiency in revenues. We now have a law providing a 5 per cent tax on what are known as collateral inheritances but this money amounting to probably a half million dollars a year goes exclusively to the State University. This law ought to be repealed and a general inheritance tax law enacted in its place. With reasonable exemptions for small inheritances from one million to two million dollars a year could be added to the state's revenues without working a hardship on any one. Most of the states have some form of the inheritance tax and some of them raise large amounts of money from this source. We believe the two most equitable forms of revenue for either the state or the national governments are the inheritance and the income taxes and if we must raise more money for the state's work we would like to see the Legislature make the start in that direction at this session.

If our readers believe that a general inheritance tax, with reasonable exemptions, is a fair and equitable system for raising some of the money that will have to be provided by the next Legislature we would like to have them write us their views on the subject.

USING BORROWED CAPITAL

In our last issue of November 15th there appeared an article under the caption "The Borrowing Habit" that contained many valuable suggestions on extravagance, living above ones means, and running in debt for other than productive purposes. The author of the article is a well-to-do farmer of Cass County who writes over the pen name of "Uncle Rube." While we endorse everything Uncle Rube says against the "habit" of going in debt we do not agree with his faulty argument against the need in this country for a better system of getting farm loans. While now and then a farm loan is secured by one who is grasping for more land or by another for speculative purposes, most farm loans are made to men who are trying to build homes for their families and to secure a competency for educating their children and provide enough to care for themselves and dependent ones in old age.

We understand Uncle Rube to advise everybody to keep out of debt. Why then does he continue in a business that depends entirely on debt for its profits. (Uncle Rube is a banker as well as a farmer.) There are credit practices in this country we believe to be disastrous, both to the one who extends the credit and to the debtor. We believe that the credit system in retail trade as it is generally practiced in most every town in this country has been a very bad thing for both the financial and the moral welfare of the people. In this line of credit we would agree with Uncle Rube that the borrowing habit is a curse. This habit has enabled the landlord to hold his tenants in a state of peonage. It has enabled the wealthy mine owner or merchant to grow rich off the misfortunes and the borrowing habit of common laborers. Other merchants have been bankrupted by extending credit where they were not able to collect their bills. And so for all this kind of credit and the profligacy and extravagance which leads to it we can not find language strong enough to condemn.

Credit is a part of the natural economic law of business. The young man starts out with energy, ambition and hope but usually without capital. The old man with the accumulation of years of industry and frugality lacks the energy and ambition necessary for a strenuous business and so it is but taking the natural course for the older man to hire his capital to the younger man that it may bring them both a profit.

Uncle Rube says that when he became of age he was given $500 capital. Hundreds of boys are started in this way but what about the thousands of boys whose parents are not able to give them even a dollar to start with? What would Uncle Rube have them do? But that was not the extent of Uncle Rubes capital if we understand his statement. What is the difference in principle of renting a farm as Uncle Rue did and paying a share of the crop for its use or of buying a farm on credit and paying a stipulated amount for interest and liquidation? Whether a man should rent a farm on shares, for a cash payment or should buy it on time and pay interest instead of rent must as a matter of course be decided upon the man's opportunity and the relative terms in each transaction but no matter which plan he chooses or is compelled to take he is a debtor just the same.

If our eyes are not closed to everything except our own preconceived notions we can learn from the experiences of other people. I think it is generally agreed by those who have studied the question of land tenancy and land credits in different countries that conditions are better where the land is well distributed and is owned by the men who till it rather than where a few own the land and operate it either by leasing or by hired labor. Unless the young men of each succeeding generation inherit their farms there is but two alternatives, either farm them as tenants or buy them on credit.

To any young man who may read this discussion we would say, consider every act of debt making as a financial transaction. If you choose farming for your occupation and do not own a farm there is not one whits difference in principle whether you rent for shares, for a cash payment or whether you buy the land on time and pay interest—the land must meet the payment. The larger the share of the crop you give or the bigger the cash rent payment or the higher the interest, in that proportion will it be harder on you to meet your payments. Believing this to be true we have favored a better and more economical system of making farm loans so that the load will be a little lighter on the thousands of hard working tillers of the soil who have a wholesome desire to own their homes.

FOOT AND MOUTH DISEASE

The country was declared free of the 1915 outbreak of foot and mouth disease only a few months ago and just as the cattle, sheep and swine owners were feeling pretty secure from any further danger we are threatened with another spread of that destructive disease of live stock.

From reliable sources we learn that a shipment of about 130 head of cattle which were received in the Kansas City stockyards on Friday, November 24, developed symptoms of foot and mouth disease. These cattle had been shipped from a place in Western Nebraska and were unloaded enroute in the St. Joseph Stock Yards for feed and water. Before the ailment was discovered a number of loads of feeder cattle had been shipped from the Kansas City Yards to different points in Missouri and several dairy cows had been driven out of the yards to farms in Jackson County. The authorities of both Missouri and Kansas, co-operating with the Federal inspectors have not decided positively whether the ailment is the European foot and mouth disease but as a precautionary measure the yards at Kansas City and St. Joseph have been quarantined and no cattle will be permitted to leave the yards except those for immediate slaughter until it is definitely ascertained what the disease is.

The state veterinarian of Missouri, Dr. D. F. Lucky, informed this office that he had by Monday, November 27, located every bunch of cattle that had been shipped from Kansas City Yards since the diseased cattle were received and they were all being held for observation by a deputy veterinarian. Every precaution possible, Dr. Lucky states, has been taken to prevent the spread of the contagion if it should develop in any of these herds. The local stock yards have been disinfected and also the cars in which these cattle were shipped.

The Stock Yards at East St. Louis, and Chicago and other places have now been closed to shipments from Kansas, Nebraska and Missouri. While these stringent measures may work a heardship on some shippers or feeders it is the imperative duty of every live stock owner to co-operate to the fullest extent with the State and Federal officers in complying with all rules that may be laid down. If foot and mouth disease should get a permanent hold in this country as it has in Europe it would cause an annual loss of millions of dollars and like hog cholera this loss would continue indefinitely. It is the opinion of some of the ablest veterinarians who are familiar with the conditions that if foot and mouth disease should ever get a foot hold on our Western ranges that it never could be eradicated. Since the above went to press we learn from Dr. Lucky that seemingly the danger is past and that the disease is not contagious foot and mouth disease.

FARMERS' NATIONAL CONGRESS

At the recent Farmers' National Congress held in Indianapolis, Indiana, Oct. 17-20, Missouri was represented by three delegates, Messrs J. A. Myers, West Plains, C. D. Nelson, Freeman, and Robert S. McIlvain, Kearney. Mr. Myers was Assistant Secretary of the Congress, Mr. Nelson, a member of the resolutions committee and author of a resolution recommending the inauguration of the Torren's system of registering land titles which was unanimously adopted. Mr. McIlvain is the author of the following resolution on Rural Education which was also adopted without opposition: That the Farmers' National Congress recommends that the National Government and the governments of the several states make necessary provision for a high school education in rural communities where parents can not afford to send their children to city high schools, after completing grade school work.

That the Congress recommends Federal and State aid to rural high schools where districts have the required number of pupils and square miles.

That this aid also be used for safe transportation of children to and from school in the rural districts.

The committee extended an urgent

invitation to the Congress to hold the next annual meeting in the Queen City of the Ozarks, Springfield, Missouri. This invitation was supported by the Governor of the State, Elliott W. Major and by W. L. Nelson of the State Board of Agriculture.

The Congress could not find a more appropriate place for its next meeting nor a city where the members would receive a more hearty welcome.

SAM JORDAN'S SENSE AND NONSENSE

Shoes to Go Up—Causes. Of course, it is blamed on to the war, the same as are many other bad things, but will it not at least, modify our conclusions some when we remember that in the last 17 years the number of beef cattle from which shoe leather comes, have decreased 13,000,000 head? The big drop began fifteen years before the war began.

To get at the "high cost of shoes" we will have to start long before the war started. To begin with, farmers b gan going out of the business of beef production for the only reason that it was becoming unprofitable to them. To indicate why it was not paying the farmer, one item of interest might be that, four of the big packing companies in 1915 declared dividends on their capital stock of an average of more than 40 per cent, and at a time when scores of farmers were losing money on their cattle.

The farmer has not only been dirven out of business, but the folks that eat cattle have been taught not to eat cattle, and the method of teaching the lesson has been to make meat so high in price that they could not afford to buy it. At this time the whole country is coming up in arms to try to put a stop to the "ravages" of the packers. "Reuben is waking up" and is going to do something to the packers, or to his Congressman at the next election.

If cattle profits could be reasonably certain, the farmer would again "embark" in cattle growing, but he fears that the fancy prices at this time is only a "sop" to let him down again. The high prices for cattle at this time should not deceive us, but we should keep up the fight for fairness. If we will not fight our own battles it is very doubtful if others will fight them for us. A square deal is all the farmer has ever asked, and we believe that much is due him.

What Is the Matter With the "Business" Men?

Reports tell us that only a short time ago there were hundreds of car loads of potatoes on the tracks in Kansas City, and that many cars had been lost on account of being allowed to freeze. Other reports indicate that the price is so high that the poor folks in Kansas City (and there seems to be a big lot of that kind) cannot afford to buy potatoes. People are also asking that an embargo be placed on food products so that the hungry thousands of Europe, cannot get them from this country. What is the matter with the business (?) men of Kansas City? Are they only sharks, or are they bone heads, or just pirates? Or is it that the people of Kansas City merely stand for it?

As usual the Kansas City papers will be begging the country at large to be a "Good Fellow" that the poor children may be made happy at the Christmas time. This is all very fine, but if the food products that are allowed to go to waste by the business men of Kansas City, were cared for, these would feed thousands of hungry poor, and it is hard to be very happy with a hungry stomach. Another fine feature of using sense enough to prevent this loss would at the same time save for the grower the loss of his year's toil.

We have in every possible way been urging greater production of farm crops, but there is little comfort in our efforts when those who by reason of their business position, should do the most to give us a fair market, are not only robbing us of our toil, but are starving the hungry at the same time. In other words, so controlling foods that great waste and loss is occasioned, and the reason of course is that the dealer makes the most out of it by the method he employs.

We believe that we grow enough if it were rightly cared for and distributed, and this should be the duty of the business man, that we could eventually pay off our mortgages, and own more of our homes, but we lose heart when we hear of such methods as are employed by what we designate as "business men."

Somebody is to blame, and those who grow and those who buy are the ones to suffer from such practices. As far as the writer has been able to investigate this country has the most inefficient system of distribution of food products of any civilized nation. Is this condition not a reflection on the business men of the country, whose business it should be to get the farmer at least a fair price for what he grows, and allow the consumer to live? It seems as though the handlers of food products care little what happens, if they can get the profits, even though great waste is the result of their methods. In the face of the facts, it appears that we will not get relief till food products are distributed through other channels, and this will not be done until the farmer demands it as he can by the impelling power if he will only arise to the emergency.

* * *

A few days ago a person asked me the price of wood in Columbia. I gave an opinion, but said that on my farm I was simply setting fire to it, as the easiest way to get rid of it. My questioner then asked me if I did not think I was committing a crime by doing as I was, to which I replied that it was surely a crime, but that I had to get the ground cleared, and that I could not even give the wood away. My farm is one hundred and fifty miles from St. Louis, yet the freight rates and the cost of hauling it one and one half miles to the railway station, would cost me more than the wood could be sold for in St. Louis.

There are, no doubt, thousands in St. Louis that will suffer this winter as usual, but I presume that if the roads would grant a concession on wood to St. Louis, that they would be subject to arrest and punishment by the Public Utilities Commission. If I could just break even on this wood, or just get out of it what it costs to put in St. Louis, I would be glad to do so, without one cent's profit. I would like to do this as my part in being a "Good Fellow" at Christmas time, yet all this must go to waste, and what would keep thousands warm must go up in smoke down on my farm. As it stands I feel convicted of this "crime" that is no fault of mine, yet no less a crime. Society, or law, or no law, or something somewhere, somehow, is radically wrong. It will at any rate have to come under the same head as the distribution of foods, Namely, BAD BUSINESS, by an inefficient people.

More for Your Money

WON HIGHEST AWARD PANAMA-PACIFIC INTERNATIONAL EXPOSITION SAN FRANCISCO 1915

International Harvester Wagons—Weber and Columbus

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Look between the front axle and bolster, where the king bolt goes through. There you will find the fifth wheel (an exclusive feature). Note the wide circular wearing surface of the two substantial fifth wheel plates. Those plates relieve the owner of a lot of trouble. They prevent breaking or bending of circle irons. They prevent the pitching of the bolster that breaks or bends king bolts. They take strain off the reach and keep the lower part of the front axle from sagging.

This one feature adds years to the life of the wagon, but, better even than that, it indicates the care and thought that have been given to every **Columbus** and **Weber** feature, and they are many.

Look over the **Weber** or **Columbus** wagon carefully, either at the local dealer's place or in the illustrated wagon folders we will send you on request. Then you will see why, if you want more for your money, your next wagon should be a **Weber** or **Columbus.**

International Harvester Company of America
(Incorporated)
CHICAGO USA
Champion Deering McCormick Milwaukee Osborne Plano

Raise High Priced Wheat on Fertile Canadian Soil

Canada extends to you a hearty invitation to settle on her **FREE Homestead lands of 160 acres each** or secure some of the low priced lands in **Manitoba, Saskatchewan and Alberta.** This year **wheat is higher** but **Canadian land just as cheap,** so the opportunity is more attractive than ever. Canada wants you to help **feed the world** by tilling some of her fertile soil **—land similar to that** which during many years **has averaged 20 to 45 bushels of wheat to the acre.** Think of the **money you can make** with wheat around **$2 a bushel** and land so easy to get. Wonderful yields also of **Oats, Barley and Flax. Mixed farming** in Western Canada is as **profitable an industry as grain growing.**

The Government this year is asking farmers to put increased acreage into grain. Military service is not compulsory in Canada but there is a great demand for farm labor to replace the many young men who have volunteered for service. The climate is healthful and agreeable, railway facilities excellent, good schools and churches convenient. Write for literature as to reduced railway rates to Supt. of Immigration, Ottawa, Can., or to

GEO. A. COOK, - KANSAS CITY, MO.
2012 Main Street.

Canadian Government Agent.

Packing Business Control

Is government control of the meat packing business coming? Packers have surely been playing the part of the parasite, that destroy its own like, by killing its host. The packers for the last twenty years have been steadily, but surely, driving farmers out of the cattle raising industry, to the extent of a decrease of most twenty million head in the last twenty years. This is beef cattle that I refer to. The farmer has gone out of the raising of cattle for the only reason that it has not been profitable for him. This same combination that has driven and is driving thousands of farmers out of growing beef cattle, has made the price of meat so high that the consumer has been doing all he can to learn to live without meat. Thus has the parasite operated at both ends of the line, yet the same are in the meat industry. The packers now have such a hold on this industry that to get relief seems very remote, except through either strict government regu-

(Continued on page 12)

Ditching and Terracing

Made Easy—$35 to $50 buys this wonderful

THE Martin GRADER **Ditcher Terracer**

Will prevent crop failures. Cuts V-shaped ditch, cleans old ditches, remarkable dirt mover. Does work of 50 to 100 men. All-steel. Reversible—throws dirt either side. Adjustable for narrow or wide cut.

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Owensboro Ditcher and Grader Co., Inc.
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Cuts 1200 Yards 2-Foot Ditch in One Day—Goes Down 4 Feet

FREE 1917 PLANTING GUIDE AND PURE SEED BOOK

Ask now! This beautiful 96-page four-color book describes 1917 varieties vegetables and flowers; handsomely illustrated; beautiful home grounds, flower and vegetable gardens, landscaping, shrubbery, orchards, farms. A dictionary on gardening! Flower lover's delight! Berry grower's book! An orchardist's manual! Most wonderful gardening guide catalog ever published. Better than our famous 1916 book. Don't miss it. Ask today. A postal gets it.

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Perfection
Smokeless
Oil Heater
si a regular little furnace of heating energy

The Perfection Smokeless Heater is indispensable in the home, no matter what heating facilities you have—the bathroom is too cold for baby's bath, the sewing room is chilly, the living room is not comfortable, the laundry, the basement, the attic, all have cold corners.

Get a Perfection Smokeless Heater today. It burns kerosene. Cheap and always available. Any good kerosene will give satisfaction, but for best results use Perfection Oil.

No smoke—no dust—no odor—no ashes. Just plenty of sweet, warm air that makes home, home.

Weighs 12 pounds, is only 25 inches high and 12 inches in diameter. Finished in highly polished steel or blue enamel. Trimmings are black Japan or nickel.

Easy to light—lift the drum and touch a match. Regulate flame as desired. No need to worry about flame getting too high. Automatic lock flame spreader prevents that.

Can be carried about the house easily—handle never gets hot.

Perfection Smokeless Heater varies in price from $4.00 to $7.25 according to finish. Look for triangle trade mark.

Sold by all reliable dealers.

Rayo Lamps give that soft, mellow light which enables you to read without eye strain. Get one.

Standard Oil Company
(Indiana)
72 W. Adams St., Chicago, U.S.A. 71

FARMER BOYS ATTENTION!

Never before have farmer boys had such a fine opportunity to make a lot of money out of polecat and other wild animal skins as this winter—and you ought to get out your steel traps and get busy. In the meantime, write to the fur companies whose advertisements you will find in this issue and ask them to send you their price lists and "Trappers Guide." Be sure to mention this paper when you write.

The Code of the Mountains

By CHARLES NEVILLE BUCK

A STORY OF A MOUNTAINEER WHO BECAME CIVILIZED

CHAPTER V

After the momentary shock of sudden panic the scattered auditors began shamefacedly drifting back for inquiry and solution.

Newt Spooner saw General Braden and a companion carrying the limp figure of the mountain lawyer down the stairway of the platform and heard them cursing the lawlessness of the mountaineers who, "having made an excursion from their own shambles were waging their damnable war on the streets of a civilized town."

He saw the crowd opening to let out several men who bore another prostrate figure, and, as they passed, one glance at the face, which had fallen back, loose-jawed, between the supporting arms, told him that some one had "gotten" Jake Falerin. Then he saw the town marshal, supported by half-dozen volunteer deputies, fighting for a passage through the throng with the prisoners, whose bodies they shielded with their own. This group made its way up the stairs, and flattened itself against the court-house wall.

Behind the drawn revolvers of the guard, the late convict recognized the faces of Red Newton and his accomplice. Already the crowd, which had a moment before been in panic-stricken flight, was pressing menacingly forward, and talk of lynching ran like wildfire from mouth to mouth. The officer was brandishing his pistol, and two of the volunteers were holding aloft, in show of force, the revolvers they had taken from the captives, whom they were waiting to slip through the court-house halls to the jail. Someone had gone around to unlock the doors.

The prisoners themselves stood stoically enough with mask-like faces, and if the roar of bluegrass wrath intimidated them, their eyes and lips showed no trace.

The countenance of Red Newton even wore a satirical smile as he commented to the other Spooner, loudly enough to be heard around a wide radius:

"These-here furriners air shore hell-bent on law an' order, hain't they? They're bounden fer ter have hit, even if they has ter lynch folks ter git hit."

Then the door opened, and the officer with his prisoners backed swiftly through it and slammed it in the faces of the crowd. Newt calmly walked down the stairs, and strolled along the street. At a corner, he saw Black Pete leaning nonchalantly against the wall in conversation with a farmer, who was roundly berating the violence of the mountaineers. The Deacon was chewing a wooden toothpick and regarding his chance companion with grave and respectful attention, nodding his head in approval of the sentiments expressed, but, as Newt passed him, he fell into step, and the two walked together toward Mr. Cawsler's restaurant.

"Son," suggested the quiet giant who had arranged the little tragedy of the afternoon, "this town's going to be a right-bad place for us mountain men for a time. If I was you, I'd dig out."

"Thet's my business," retorted the other sullenly. "I've got a matter ter settle up, fust—beside I reckon I kin prove I didn't have no hand in these doin's. I was havin' speech with the policeman when hit busted loose."

The Deacon came as near smiling as he ever came. One side of his long mustache tilted up, but his eyes remained sadly grave.

"I reckon I can prove that I didn't have no part in it, either," he said easily. "But some of these Falerins have seen me around town, and I reckon they'll try to get me implicated. That Falkins crowd suspects everybody. Come in here with me a minute, son."

The Deacon turned and led the way into the inside, already noisy with excited men having recourse to drink and discussion.

They passed through the place and into the yard at the rear, where, after a look around to assure himself that they were alone, the older man drew a heavy revolver from under his coat.

"If they try to get me into it," he said calmly, "I'm going to make them search me. Keep my gun for me a while, if you don't mind. You were with the policeman, and they won't suspicion you."

For a moment Newt hesitated, then came the thought of his own affairs. A weapon was what above all other things, he needed. Accordingly, he took it silently, and slipped it inside his coat, and without a word or a nod turned and walked back through the saloon, to disappear beyond its swinging screens.

When night came a two-thirds moon rode high and paled the summer stars into pin-points. Newt Spooner knew from talk on the streets that the lawyer would recover to reap greater reputation from the affair in which, even after leaving the storm of his own country, he had fallen under a mountain hand. But Jake Falerin would reap nothing from the afternoon's doings beyond an obituary in the newspapers; an obituary which would recount a sanguinary career closed with a sanguinary climax.

These matters, however, gave Newt only minor concern. He was not to be shaken from a fixed resolve by other men's hopes or disappointments. Nightfall found him trudging out the moon-bathed turnpike between the blue and silver mists of the fields; because, though uninvited, he was going to a party. He was not going as a guest, nor yet wholly as an onlooker. If one man was not among the guests, he would turn back from the fringe of the festivity, touching it no further. If that one man was there, Newt Spooner meant to break up the party, and add a sequel to the shocking transpirings of the afternoon.

Many buggies passed him, driving slowly, for the night was gracious with the sweet fragrance of the young summer, and the occupants of the vehicles were young, too, and no part of a summer dance is better than the going thither and coming home. From this caravan came the music of much laughter, and now and then the lilting of a song; sounds as unaccustomed to Newt Spooner as grand opera. But the only impression made on him was the realization that he was too early; so, when he found a thick grove flanking the road, he climbed the fence and lay down under a hedge and rested. While he was stretched there in the dewy grass, he cocked and uncocked the revolver to make sure that, when he needed it, it would not fail him.

It was a night for lovers and lovers were availing themselves of it, but to Newt Spooner the seductive whispers through the upper branches of the oaks carried no message of peace or minstrelsy. Yet, even to him, there was a dumb sense that life here in the great "down below" was a different thing, and, as he lay there fingering the mechanism of his revolver, he could not escape a large and disturbing wonderment. The breadth of the sky made him feel small and alone in the center of vastness. At home, mountain walls rose confiningly on all sides and one looked up at at a narrowed patch of stars as if from the depth of a great well. But here one could gaze away on the level of the eyes and watch the wonderful phenomenon of a heaven coming down with its stars to meet the edge of the flattened earth. At home, one would ride the dirt roads on muleback and in silence, save where the hoofs splashed along the creek-beds. But here the horses beat a sharp rat-tat with metal shoes on a metaled road, and the rubber-tired wheels ran noiselessly. These people, too, reversed the order of things even as their country reversed them. At home, almost every one was poor; here every one seemed rich, and the women, whom every mountaineer knows should be treated as inferiors, suited only to the tasks of housework and child-rearing, were treated by the men as equals. That he knew from the chatter and laughter of those who passed in earshot, driving two and two. And what fools they all were, for surely no people who were not fools could chatter and laugh and sing!

After an hour, the buggies passed less frequently, leaving the road free of travel, except for town-faring negroes on foot and singing. Then Newt Spooner came out from behind his hedge and made his way once more along the turnpike. What his eyes had once seen his memory retained with photographic ditinctness, and as soon as he reached the beginning of the low stone fence, which he had noted that afternoon, he knew that he was drawing near the dance.

But Newt would have known that he was near his destination without the fence, for already, though blurred by the distance into an indistinct and formless spot of brightness and color, he could make out the illumination of the Chinese lanterns and there came to his ears across the softness of the night the merry strains of a band playing a two-step.

The mountain boy made a rapid survey. The house sat deeply back in the woodland, some five mundred yards from the road, but the platform, though almost directly at its front, lay nearer the farther side. The lateral fences of the woodland were lined with locust groves, giving a band of shadow along the edges. He might have crossed the fence at the nearest corner and worked his way back, but time was not an object, and so, before selecting his route, he went along the turnpike to the other side of the place for fuller reconnaissance, and found there even better and more continuous cover. Also, by taking that side, he was further from the driveway and would arrive closer to the platform without leaving the shadow. As Newt crossed into the woodland, he became invisible, thanks to the inky shade of the locusts, just now heavy with fragrance of bloom. The thickets of his own rhododendron and laurel could not have availed him more serviceably. At his left were acres of undulating bluegrass, broken generously with forest trees, and between the trees lay a silver lake of open moonlight, dotted with an island of shadow. But, by following the fence line back, he could invisibly draw near to the platform, and creep still closer under the shelter of a heavy growth of lilac bushes.

Suddenly, the mountain boy's heart began to pound in a strange way. He had never been afraid of anything and he was not afraid now, but as he crept, like a woodland animal, close enough to take in details, he felt as a man might feel who finds himself pursuing an enemy on Mars. He was in a new world and one so strange to him that its very difference brought a sense of misgiving. He had been born and reared in a windowless mountain cabin of one room. His light at night had been that of crackling logs on a stone hearth and a single lamp without a chimney. He had heard hatred of enemies preached before he could talk himself. That his present purpose was righteous, he passionately believed; that one should pay his blood-debt seemed axiomatic. Yet, as he looked out, he could not shake off that sense of strange uneasiness. Something was wrong. Perhaps it was simply the inarticulate realization that the scene was set for merry-making and not for tragedy. At home, it was different. The mountains were sterner and bred sterner emotions. The darkness there seemed grimmer, too. This was not the night or place for a murder.

Criss crossed about the platform and between the trees swayed the vivid color splashes of the lanterns, like magnified and luminous confetti. Sifting and eddying on the swaying floor went the rhythmic whirlpool of dancers. The soft colors of evening gowns, the ivory flashes of girlish shoulders and the floating of filmy scarfs dizzied the boy, who by the iron dictate of heredity and upbringing was a human rattle-snake. The strange sight of men in evening dress, their shirt-fronts gleaming like conspicuous targets, added to his bewilderment.

Between the trees passed strolling

couples whose laughter lilted musically, and, as he crept nearer in the shadow of the lilac bushes, he saw a queer little affair which was also new to him, only a few yards away. It was a rustic summer-house, over the timbers of which trailed masses of honeysuckle, and into it, as he lay there peering sharply ahead, went a man and a girl. The man was dutifully wielding a fan after the flush of the dance and talking earnestly in a low tone, and the girl was laughing up into his face with a silvery softness so unlike the nasal voices of his own kind that Newt could make nothing of it. Nowhere was the hint of hardship; the hardship which was in his country life's dominant note. Back at the rear in the moonlight, the whitewashed barns and fences gleamed like structures of ivory.

He lay there on his stomach, his elbows on the ground and his chin in his hands, trying to search the faces of the dancers. But the dancers shifted and sifted in so bewildering a maze that even had they been nearer at hand he could hardly have identified familiar features. Then the music stopped, and he drew a breath of relief, for the platform partly emptied itelf, and, as the couples came down and strolled under the lanterns, it was easier to search for the face he wanted to see.

Newt Spooner had been there perhaps an hour while waltz and two-step alternated to set the human mass he was trying to sift into fresh and maddening puzzles of rapid movement and vagueness. At the distance he had decided it was hopeless, and though the summer-house under the honeysuckle seemed a favorite retreat to which couple after couple came for a moment of rest and innocent flirtation, it had not proved a Mecca for his victim, if indeed his victim were there at all. Of this possibility he now felt a diminishing credulity. He would, nevertheless try to slip closer for a final scrutiny and then go back to town, admitting temporary defeat. Then, as with snake-like movements he was hitching himself closer to the ground and held his intaken breath in his throbbing throat.

A new couple came out of the shadow and strolled across the path of open moonlight toward the summer-house. The girl was she who had picked him up on the road, and the man was Henry Falkins. Even in evening dress, there was no mistaking the features, and that shirt-front was a target to even an amateur's taste.

The girl wore a filmy gown and about her bare shoulders was thrown some silky thing as iridescent as gossamer. But, unlike those others who had come there, she was not laughing.

Instead, she was looking up with a very direct gaze into the man's face, and her eyes and lips bore a somewhat wistful seriousness.

At the front of the summer-house, her companion stopped and broke a spray of bloom from the vine.

"It always reminds me of you," he told her in a soft voice. "There may be sweeter fragrances, but I doubt it. I guess that's why."

He lifted a drooping branch of leaf and bloom, and she passed under his arm.

Newt Spooner was lying only a few yards away, but he must be closer. The mass of vine obscured his line of vision, and he had no wish to kill the girl. Behind his ambuscade of trellised supports, he could come near enough to reach his hand through and touch his victim if he chose. It was almost too simple—too easy. Yet, after all, it was a bad arrangement, though that he could not remedy. He must announce himself to the man he meant to kill, or defeat the satisfaction of revenge. To let him die without realizing why would rob the punishment of its sting. Then the woman would doubtless make an outcry, and his chance of escape would end. Besides that there was a second objection: the girl had befriended him. He was to some extent "beholden to her." He wished now that he had refused to drive with her; but, when he had accepted her invitation, he had had no idea that his purpose could concern her, and his purpose came first.

Newt Spooner drew very near. He cautiously pulled back a branch of the honey-suckle, and looked through. The girl was sitting with her eyes downcast, and the man standing with one knee on the rough bench. He was leaning forward and his voice, though tense with earnestness, was almost a whisper. Newt might at that moment have been noisy instead of noiseless without danger of distracting the attention of that man and woman.

At home in the mountains, Henry Falkins would have been more wary, but here in the bluegrass he had laid aside all thoughts of danger, as he had laid aside his high-laced boots and corduroys. He was standing at the other side of life's gamut. Enmity, for him, did not exist. The universe was filled, he believed at that moment, to the boundary of the last sentinel star with love. The night breathed it. He was breathing it, the girl's eyes were just then raised to meet his, brimming with a light that set his pulses bounding.

"Back there in the hills," he said, "there is a place high up the mountainside that looks down on such a night as this over an ocean of silver mists in the valley. I have often gone there alone and listened to the nightingale talking about you. After this," he added joyously, "all nights will be moonlight and starlight for me, dear, if—" But there he broke off and became silent.

Newt Spooner advanced one knee a few inches, and steadied his position. He drew the vine back a little further with his left hand, and slowly thrust his right into his coat pocket. When it came back, it held the pistol, and this Newt placed at his back, that the soft click of its cocking might be muffled by his intervening body.

* * * * * * *

The stars were as bright and the moon as serene that night back in the broken ramparts of the mountains as here in the lowlands. No hint of brewing tragedy disturbed the majesty of the summits that raised their crests into the cobalt, or marred the silvery flood that bathed the valleys.

Where the college buildings nestled in a tidy village near the waters of Fist-fight Creek, the picture was a nocturne that must have brought joy to the heart of a painter whose soul responds to the beautiful.

Already, in the dormitories, most of the children were asleep, but one girl, who was half child and half woman, crept noiselessly down the stairs of the building where she had her room, and made her way to the creek-bank.

She had spent a longer time over her studies than had her fellow pupils, because in her serious little breast burned a hunger for that education which might open new ways and make for her a life beyond the imprisonment of her environment.

In years, Minerva Rawlins was a child, but the life of her people brings early maturity and into her little brain had recently been creeping the restlessness of new things—and of womanhood. To-night, the plaintive call of the whippoorwills from the deep shadows of the timber was a call to be under open skies, where the thoughts that assailed her might not feel cramped within walls. There were many things of which she must think—and it happened that the subject uppermost in her mind was Henry Falkins.

She went with lithe tread and pliant carriage down beyond the saw-mill to a spot where the sycamores hung low by the waters that swirled in a cascade over a litter of huge rocks. On the steep mountainside beyond, the flowering laurel and rhododendron were thick, and the forests hardly showed a scar from the axes that had claimed the timber for the buildings. She had discovered that here through a gap between two summits she could see the same pale star to which the single pine had pointed back there from the front door of the cabin, which, wretched as it was, had been her only idea of home. In the silvers and grays and cobalts of the picture, and in the night song of the whippoorwills and booming frogs, there was solace, and to-night she wanted solace.

She told herself that this restlessness which would not let her sleep was loneliness; but beyond that single feeling were others more complex for which she had no analysis.

There was the starving eagerness for something very different from what wares life had ever spread to her gaze, some yearning that had crept down through lapsed generations from an ancestor or ancestress who had known the courtly life of Old Virginia before the pioneer tide swept them westward to their stranding. This hunger was a fiery thing, which made the eagerness to learn blaze hotly because its attainment meant struggle.

Then there was the conflict between that loyalty which the code of the Cumberlands impresses as a cardinal duty upon its children, and an insurgent hatred for the squalid family into which her father's second marriage had thrown her.

The law of feudalism and of the clan writes at the head of its decalogue, "Kith and kin above all." Minerva would have resented an implication of wanted stanchness, and yet as she sat with her small and well-chiseled chin cradled in the hands, which drudgery must soon make hard and shapeless, her eyes filled with tears and her slender body trembled with instinctive repulsion at the thought of return to the cabin where the razor-back hogs would scratch their backs under the gaping floor timbers, and where darkness hung day-long between smoke-blackened rafters.

And though she did not admit that either, a part of the restlessness was the awakening of womanhood, and the woman's hunger for love. She thought of all the young men she know back there; of the boorish creatures whose breath reeked with moonshine whiskey, and whose thoughts were as coarse as their brogans, and once more a shiver ran through her.

It all made her feel very wicked. She had come to the college and learned a little, and she had learned above all a fastidious discontent, which was poisoning her thoughts.

She told herself she ought to be very happy. Then a smile stole across her face as she sat there in the moonlight, and she drew from the collar of her calico dress a small medal on a string. It was a medal that had a few days before been awarded her for proficiency, but to her it stood for the nearest glimpse she had ever had of romance, though of romance passing by like a caravan which she had viewed from the way-side.

There had been spelling matches and recitations and the award of small prizes at the college, and the rough folk had trooped in from the countryside, riding mules or walking from many miles about. Women had come in bright-hued calicoes and sun-bonnets, and bearded, gaunt men in hodden-gray. Through that gathering and above it, since one who is very young and very inexperienced may be pardoned for a finger-touch from the gods of romance, a figure had stood out for Minerva Rawlins, endowed with every superiority.

The guests of honor on that occasion had been Old Mack Falkin and his son Henry. Old Mack had made a speech and, in awarding the prizes, his son had followed him. The people of the countryside had listened, and their applause had rocked the rafters, with that sincerity of admiration which they accorded to his native-born eloquence. But it was the younger man who had brought to Minerva Rawlins her first stir of hero-worship; the adulation of the inexperienced young girl for the first man she had seen who seemed an exemplar and a revelation.

Comparison is the one yard-stick of life, and by comparison this young man, who had lived the life of the outer world as well as that at home, might well have loomed large to such impressionable eyes.

Minerva was seeing that scene again; the school-room with its shuffling audience, and the young speaker whose words carried no taint of dialect or inelegance, as he spoke of the torch which was being lighted here to dispel the murk of illiteracy.

What Henry Falkins had said became in a fashion Minerva's standards. She found herself hating the lawlessness of the feud and the squalor of backwoods ignorance. She found herself wishing to be a recruit in the little army that sought to raise other ideals—but most of all she found herself longing rebelliously for the chance to have in her own life the companionship of some man like that. To herself she put it that way. She did not say that man, but, when she said, "some man like that," the features and bearing and voice of young Falkins portrayed themselves, and as she sat with the medal in her fingers, listening to the whippoorwills, her fancy conjured up his image.

(To be continued.)

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Engine Booze

Ontario went dry recently, but this did not spell disaster to all the distilleries in the province. One distiller made a few alterations in his plant and is now turning out fuel alcohol on a successful commercial basis.

At a convention of chemists in New York it was vigorously proclaimed that alcohol would soon be used as a supplemental fuel to gasoline in all manner of internal combustion engine. A big munitions concern has learned to make grain alcohol from sawdust at low cost. There are vast sources of wood waste from which to make it.

As prohibition continues its march and puts the whisky and gin factories out of the business of making rum, they need not close their shutters and allow their plants to fall in ruin. They can keep their equipment almost intact and make motor fuel, or, as one chemist called it, "engine booze."

The readjustment will work out automatically. Rum has ceased to be and "engine booze" is. Of course it will be a wise and necessary precaution to denature "engine booze" into a chemical something that is potently unfit for human consumption. Else appalling developments might ensue.—Country Gentleman.

SAM JORDAN'S SENSE AND NONSENSE

(Continued from page 9)

lation and control, or direct government ownership. This will be hard to accomplish when we remember the fate of the Borland Resolution. We wonder how much of Congress the packers control. Our only relief will be found in getting together with the little white ballot and electing men that we at least believe the packers do not own.

Back to "Earth".

Where, when and how will we ever get back to a reasonable level on the high cost of living? At this time this country is all out of balance.

I wonder if it will not happen about this way? The war will close, peace will be declared, but thousands will seek the "land of the free" and they must have work, and the price of work will come down. Europe will grow all they can, enough to feed what they have not killed, and what did not come to America, hence will not need our exports. Europe will manufacture all they can, sell all they can, and buy as little as they can, then we will have a surplus at home, and unless our business (?) men can be able to destroy it even more successfully than they do now, the price must inevitably come down.

This crash will make fine political argument, and may cause the present administration to go down to defeat, as it will take many of us a long time to see, or admit rather that such will be a blessing in disguise, since we are all out of reason at this time. It should, however, be kept in mind that our business world must be reformed, or we never will get back to a reasonable level, for the same waste, and destruction of food products will continue, unless business is reformed, and curbed in its "reckless riot" in bad business.

MANAGING SOILS FOR PROFIT

The great world war that has torn Europe for the past two years has inaugurated changes in modes of living and methods of thinking that is destined to usher in a new life for men and industries. The farm in common with all other industries is showing the effect of the upheaval. So many and such strange economic influences have been brought to bear upon farming during the past few years that to indicate the whole path of most successful farm management at this moment would tax even the foresight of a prophet. One thing is true:—More attention must be given to all contributory factors if farming is going to survive the test.

Opinions differ as to the efficiency of the average American farm. Some say American Farming is already efficient. They point to the rapid rise in land values, the signs of accumulated buildings, livestock and farm accessories that usually find place on the farms of successful business men who operate farms as a sideline, or invest their money in same because the farm investment is generally looked upon as safe. Yet in spite of the educational work of farmers' organizations, state colleges, the agricultural press and other agencies, the tendency of quality in corn is downward, as shown by the records in the Chicago market.

I wish to add to these two facts the record of American livestock production. Statistics show a decrease of over 10,000,000 head of meat animals in America between the years 1910 and 1913. There have been many reasons advanced for this alarming decrease, not the least of which has been the claim that the farmer could not make sufficient interest on money invested in land by growing crops and feeding livestock. One of the important reasons why he cannot make money on livestock is the fact that the American acre under present methods of farm management is capable of maintaining less than one-half as much livestock as is maintained by the European acre.

Successful soil management must rest on established facts. I wish to call your attention to four of these established facts, which appear to me to be essential to more efficient soil management.

(1) Soils must be drained in order to be most productive.

(2) The organic matter or humus of soils must be maintained.

(3) Soils must be kept sweet for maximum crop production.

(4) Plantfood must be abundant and properly balanced if best crops are to be produced.

Probably no subject has received so much attention as that of available plantfood or fertilizers. It is one of supreme importance. The plant may be provided with a perfect home. It may be the product of a strong seed, but if the food supply upon which it is to live and thrive is limited and unbalanced, the resulting crop cannot fail to be unsatisfactory. In answer to the question, "Can I make a reasonable profit by fertilizing my crops?" It is the experience of reliable experiment stations in this country and Europe and the experience of thousands of successful farmers, that great profit in increased crop yields and products of superior quality accrues to farmers when fertilizers of suitable analyses are properly used on soil in good physical condition. By good physical condition, I mean that the soils have been well drained, sufficiently supplied with organic matter, sweet in reaction, and properly tilled. Under such conditions fertilizers give maximum returns. By suitable analysis, I mean that the fertilizer has been chosen to make up for the characteristic weaknesses of the soil, and to meet the characteristic requirements of the crops. By "properly used," I mean that the available plantfood of fertilizers will do its greatest good if incorporated largely in the region of the seedbed where the tiny plant begins to feed. Frequently poor results are obtained from fertilizers because they are not worked into the soil properly, or because they are sown on sod and plowed under. Such an application places them too deep to help the young crop.

As to the profit accruing from the proper use of fertilizers, the findings of experiment stations are the best data to consult. Ohio Experiment Station found, as the result of 20 years' test of fertilizers on a three year rotation of potatoes, wheat and clover, that suitable fertilizers maintained and increased the crop yields consistently at a net gain per acre per rotation of $13.18 as an average for the first 12 years, and $20.98 per acre per rotation for the last 8 years. On the 5-year rotation of corn, oats, wheat, clover and timothy, Ohio Experiment Station obtained from an expenditure of $16.05 per rotation in fertilizer on one plot, the following net profits per rotation for each period of 5 years, 1—$5.32; 2—$15.86; 3—$21.28; and 4—$12.27. On another plot, for an expenditure in fertilizers of $17.60 per rotation, Ohio obtained for each period of 5 years a net gain of 1—$1.80; 2—$19.01; 3—$28.68; 4—$23.70.

To obtain these net gains, the produce was figured at exceedingly low prices,—prices which have in all cases ruled much higher during the last 10 years; in fact, nearly double during the past three years. The cost of fertilizer has increased also, but the balance of net profit at present valuations would be considerably larger than what has been quoted. An important point in refernce to these results is that the productive power of the soils has been not only maintained but materially increased on these plots during the 20 year test.

Now, as to the "mystery" or the difficulty of using fertilizers, there isn't such a thing. The fact has been established for nearly 100 years that crop yields can be maintained and greatly increased by adding available plantfood in connection with well tilled soil. When our farmers come to realize that it is a problem of feeding their crops, they will get an entirely different and clearer view of the subject. The secret of life processes in the plant has never been explained, but the reaction of plant life to treatment is common knowledge. True, the fertility problem is an individual one to a large extent, but the basic principles we have outlined have been established for a score of years at least.—Henry G. Bell, in an address before National Farmers' Congress.

By Old Jim Riley

One of them college professer fellers made a speech down at Possum Holler th' other day and sed if you ground up yer corn fer hogs they could digest it in half th' time. But after it was over old Zeke Smith sed he didn't think much of th' idee—that th' hogs didn't have nuthin' else t' do nohow. I heard a republican express hisself on th' election th' other day and if there had a bin a constable around he'd a got arrested.

BUCKSHOT BY THE PROFESSOR

It costs so much to live these days that a lot of people aren't worth the price.

* * *

Our troubles never seem to end—and thus in a few weeks we will have another Legislature on our hands.

* * *

It looks to me as if it was high time for Milwaukee to begin looking around for something else to make it famous.

* * *

I never have had much use for the fellow who prides himself on being "conservative." As a rule he isn't anything else.

* * *

The homes in which happiness really abides are the homes in which the man and the wife have never quit being sweethearts.

* * *

By the way women are on the war path these days, I wouldn't be surprised to see them go on a strike against "chawin' terbacker."

* * *

I see where some St. Louis politicians want to revise the road laws of Missouri—and maybe it might not be a bad idea for farmers to keep their eyes open.

* * *

Many counties in Missouri are becoming aroused on the great Farm Club movement—and if they are still "asleep at the switch" in your neck of the woods, why not start something?

* * *

Teddy's going away to some Island four or five thousand miles away—but you can't lose "Bill" Bryan. Bill would rather swat the "Demon Rum" than to have a quit claim deed to all the islands in the Universe.

* * *

I see where the foot and mouth disease has broken loose again—and this reminds me that that Jim Riley person has been afflicted with the last half of this disease all his life. But the only time anything gets wrong with his feet is when they get mixed up with the tanglefoot stuff.

This is a good time of year to do plowing for spring crops. Plowing now will turn up the insects hibernating in the soil and many of them will be killed by freezing. The land plowed now will become pulverized by spring and will take less work to get it ready for planting. It is a good practice to plow an inch or two deeper at this time of year than we do if plowing at planting time.

Hot Springs Waters Wonderfully Successful in the Treatment of Rheumatism

THE peculiar properties of the waters of the Hot Springs of Arkansas are due to radio activity, found in them to an exceptionally marked degree, and their equal has never been known in the treatment of rheumatism and all uric acid troubles. These springs are owned and controlled by the U. S. Government.

The cost of living at Hot Springs may be regulated to suit any purse, accommodations varying from moderate-priced boarding houses, up to the most fashionable hostelries.

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The Way There is Via the

Iron Mountain

LOW FARES — MISSOURI PACIFIC IRON MOUNTAIN — ALL YEAR

C. L. Stone, Passenger Traffic Manager, St. Louis

H. S. 1.

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Kills Lice — Cures Mange — Disinfects Pens and Yards — Prevents Disease

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Only Oiler made without valves, cylinders or wheels. Can't clog, stick, leak or get out of order. Guaranteed 5 years. Uses Crude or Medicated oil. Kills lice; keeps pens and yards disinfected. Order one or more on free trial today.

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I pay freight and send one gallon of Medicated Oil free with each post. Test them 30 days on your farm—then pay if pleased. If not, return at my expense. You take no risk. Order direct from this ad. Catalog Folder sent free on request. ALVIN V. ROWE, Pres't

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"Hatching Facts" biggest poultry book published, in colors, explains everything—tells about My World's Champion Belle City Incubator — my low price — My 10-year Money-Back Guarantee, also My $1000 in Gold Offers. Your chance to make Big Poultry Profits. Write me today for Free Book. Jim Rohan, Pres.

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For Sale or will Trade for Residence Property. Fine well, improved Stock and Grain Farm of 160 acres.

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(Owner) CAIRO, MISSOURI

OREGON PRUNES!

New crop Italian prunes, best quality, 9 lb. cartoon, $1.60,—25 lb. box $4.25. Express charges paid. Send us your order and get fresh stock direct from packer delivered cheaper than you can buy at home.

Pacific Packing & Supply Co.
6704 30th Ave. S. E., - Portland, Ore.

Classified Advertising

EARLY HATCHED S. C. WHITE LEGhorn cockerels for sale, $1.00 each or six for $5.00. R. J. Lambert, Laclede, Mo.

ANGORA GOATS FOR SALE.—Seventy-five head Angora goats. Reason for selling they have cleared my place. Robt. A. Holekamp, Hillsboro, Mo.

THE PUBLISHER'S CORNER

If you are going to ship to the Nat'l Stock Yards in the near future and are not tied up with any other firm, we suggest you get in touch with the Nat'l Live Stock Commission Co. which has one of the most powerful forces of practical live stock salesmen that can be found in the Country.

* * *

We have a chance to buy some high grade Alfalfa seed for our Farm Club friends direct from Kansas farmers at from $6 to $8 per bushel—and those who will need some should get busy right away, for this is better seed and cheaper than you will be able to buy from the seed dealers later on.

* * *

Have you got any stump land that needs clearing up? If so, I direct your attention to the advertisement of the Hercules Stump Puller Co. which appears on the last page of this issue. I have seen this stump puller tried and it does remarkable work. I also know this firm and vouch for its honesty without qualification.

* * *

Until the car shortage lets up we will be able to move very little more Illinois coal—and it is a regretable situation because we have been saving many Clubs from $75 to $100 per car. Our coal company has orders for fully 250 carloads on the waiting list at the present time and I trust the car situation will soon improve so we can begin moving it in larger quantities again.

* * *

We have succeeded in locating some more Northern potatoes at a price which will save a good deal of money—but the danger of freezing in transit is so great that we hardly think it advisable to order at this time. Should a car run into extreme cold weather a big part of the shipment might be lost. We therefore think it best to hold up on this matter until toward spring when we believe we will still be in position to affect a big saving over local prices. If the farmers of Missouri had been solidly organized six weeks or two months ago when we were in position to lay the finest Northern potatoes down in Missouri at from $1.10 to $1.15 per bushel, a pile of money could have been saved.

* * *

The Alfalfa hay question is another illustration of the potato proposition. Thirty days ago we sent word to the Farm Clubs that we had located several hundred car loads of fine No. 2 Alfalfa hay in the hands of Kansas growers at from $11.50 to $12 per ton, f. o. b. Kansas points. But only a few of them took prompt advantage of the opportunity. During the last ten days however they have waked up and we have been deluged with appeals for this hay—but in the meantime the big commission firms in Kansas City have gobbled it up—and now those who buy will have to pay a premium of all the way from $5 to $8 per ton for this same hay. Could you ask for a finer illustration of the crying need of farmer organization?

* * *

While the Farm Club movement is forging ahead by leaps and bounds all over Missouri, nowhere is it making such fine progress as in Lafayette and Saline Counties were squads of organizers are at work, bringing several new school house Farm Clubs into existence every night in the week. Four or five farmers who have gotten thoroughly into the work will send word to a certain school district and ask two or three men to call up every farmer over the telephone and ask him to attend a meeting that night—or maybe the next night—without fail. Then in the evening the "organizing squad" piles into an automobile and each man makes a little talk, urging the necessity for organization. In the meantime, they are armed with the Farm Club literature provided by THE MISSOURI FARMER which includes a suitable Constitution and By-Laws—and once this is read it is promptly adopted and a new Farm Club has been brought into being. The next night the performance is repeated in some other district. Many communities are already almost solidly organized and thus they are getting in position where carload shipments of commodities can be handled with ease. I want to appeal to every Farm Club in the state to follow this example. We have about 500 Farm Clubs in the state at the present time. If each of these Clubs would organize only one new adjoining district each week, in one month we would be able to bring 2000 new Clubs into existence. Can't you see what it means? As one of the Farm Club leaders remarked to me in Lafayette County the other day, "We have developed a half dozen farmer speakers who can make the rafters ring—and all of us enjoy the work. We haven't failed to organize in a single district where we have held meetings. My Club has saved about $500 during the last three months—and when we tell other farmers what we are doing they are glad to fall in line and help push things along."

LOAFIN' IN THE STABLE

When the day's too wet for plowin',
And the clouds are in the sky,
You'll be apt to find me loafin'
In the stable where it's dry;
Kinda tink'rin' with the harness,
Or a-bright'nin' up the plows,
Or a'plannin' out the stanchions
So they're handier for the cows.

Or maybe I'm just a-loafin'
In a lazy kind of way
In the stable loft, a-dreamin'
In the sweet alfalfa hay,
And the tinkle, drip and dribble
Of the raindrops runnin' down
Mossy shingles on the gable
Is a mighty soothin' sound.

Prop myself up by the winder
So's to watch the broad expanse
Of the cornfields and the medders
Where the raindrops splash and dance;
Watch the wheat fields dip and billow
As the breezes come and go
Jest lay back there in the shelter
Of the eaves and watch her grow.

—Jay B. Iden in Collier's Weekly.

THE COUNTRY TOWN AND THE COUNTRY AROUND

Does the country make the town or does the town make the country? Should the country town merchants be the benefactors of the farmers, the servants of the farmers, or co-operate with the farmers?

Farmers are not getting rich, the laborers of the cities are not getting rich, the country merchants are not getting rich, yet the country as a whole is becoming wonderfuly rich. Somebody is reaping a profit on the toil of the laborers of the country. Where is the leak? The toilers of the cities and the toilers of the farm turn the wheels of industry. They are entitled to an honest reward. Something is wrong, somewhere when it costs 54 cents to carry 66 cents worth of farm products to the consumer. Be the wrong at either end or in the middle, the wrong must be righted. The time has passed when the American people can afford such an extravagant system of distributing the products of the farms, factories, mines and mills to the consumers. We farmers must learn the selling end of marketing farm products. The consumers of the cities must learn the buying end. The toilers of the land at both ends of the line must work together to shake off the leaches of modern industry who are slowly sucking the life blood from the great middle class of people. When Adam was driven from the Garden of Eden, man was condemned to a life of work, but he was promised a reward.

Are the problems of the country town to be solved by the farmers with or without the co-operation of the country merchants? It is up to the merchants. If merchants make the claim that the country merchant is entitled to the support and loyalty of farmers (even when there are too many merchants in business conducted along unbusiness like lines) then it is idle to talk about co-operation between farmers and country merchants. True co-operation can not thrive on poor business. The country merchant must learn that the mission of the purely country town is to serve the country in the most efficient way possible, for the country town depends on the country around. The farmer has already registered his opinion that the country is not dependent on the country town. The growing mail order business tells this. It is up to the merchant. If he can see that the band wagon is coming and gets on board, he has a chance. However if he gets out in front of it after it has arrived and howls at farmers for taking in hand as a last resort their own business, he will be toppled over. A country with a dead town in the center of it is a calamity; but a country town with a dead country around it is oblivion. The thinking farmer wishes for neither. However if it comes to a choice, he will choose the live country with no town rather than the dead country and dead town. He is fair minded enough to want to co-operate with local merchants to eliminate local evils, but if local merchants maintain that there are no wrongs to be righted, then the question of co-operation between farmers and country merchants is vetoed. Sound and lasting co-operation between town and country must be based on something besides social, educational, and religious betterment. It must include actual financial benefits, plowing both ways.

B. P. Smoot.

ANSWERS UNCLE RUBE

Editor Missouri Farmer:

I simply can't let Uncle Rube and his wonderful flaying of the Land Bank Bill, with its possible good to the farmers of Missouri, go without some kind of an answer. Uncle Rube, as he signs himself, has spent the greater part of his life getting together his worldly possessions and now since he has all he used to think he would want, why here he is wanting more and still more. He says he works 14 hours a day, 300 days in the year. Wish he would tell us what he does the other 65 days. There are only 52 Sundays so I for one would like to know what he does with those other 13 days.

Well, gentlemen, I don't work 14 hours a day now or never did, and to be honest I don't believe any man who has real good sense will work that way. Now in just a very few instances Rube shows fairly good judgment, but in only a very few. Now for instance he seems to take pride in the fact that he never went on anyone's bond, that is indeed one of the saddest of his acts. He says he is a director in a small bank. I don't know the size of the bank, but it surely has at least one very small director. Rube must know, if he knows anything at all about business, that most of the business of the small bank is by men that borrow money from the bank and almost invariably they go on each others bond or note. Rube would have us believe that such banks as his don't charge more than 5% or 6%. But here again he is mistaken for most of the people of Missouri have been shown along that line. And then the idea of a first class Missouri farmer making an ideal out of some city banker. Say, brother farmers, what do you think of that? I am almost ashamed to go any further, but I will try and handle his case as easy as I can. (I will be like the ventriloquist when the colored men were taking the body of a departed brother from the hearse. Just for fun he threw his voice to the casket and said, "Let me down easy boys." Of course there was a scattering of colored pallbearers and the ventriloquist paid the damages.) The help Uncle Rube gave his own daughters was only what he should naturally do and the other help that he gave was very commendable indeed. Possibly he is like me in regard to automobiles. I would get one if I was not afraid it would make me do some unusual labor stunts. But no, that surely would not bother a man that works 14 hours every day, 300 days in the year.

Now about 1875 I was here too, but we did not have any plaster on our farm, and we raised about 1000 bushels of corn to boot. But as Rube says, times were very hard, but I don't think there were nearly as many farms mortgaged then as now. Possibly Rube will say, "Of course not, there were not nearly as many farms." That is so, too, but I mean in the same ratio. He seems to have a holy horror of the mere mention of that million for rock roads. Well, Uncle Rube, if you can't stand that and more, you had better get ready to move on for it is coming as sure as night follows day. If Uncle Rube is such a public spirited gentlemen, why did not he take a few of the many dollars he says he has and go and fix that bridge so close to him? That is the way us fellows here in old Johnson County do. I am inclined to think that learned attorney Rube speaks about is about as well informed as Uncle Rube himself. Say, brother farmers, what kind of a Farmers' Club man do you think Uncle Rube would make? Possibly we can convert him, but it looks as if it would be a job that we in this day and age don't have the time to spare to try to do, but there are plenty of us that are not so narrow minded that we will not help our brothers and sisters who are less fortunate financially than we are.

Now in conclusion I will just say, I by his hard work and other ways of by his hard work and others ways of accumulating property, but who were always hard on people that are in the same situation that he was when he started. Now I was never real poor, neither have I ever been very rich, but I have always been so situated so I did not need to work 14 hours, 300 days in the year. I have never seen a time that I would not help any one that I saw needed help. I am 57 years old and if such a thing is possible I enjoy each day as it comes just a little better than the day before it. Now Uncle Rube, try and take a good look at yourself from what I have written and I do hope the next time you write for us it will be something for the farmers to be proud of you. Also the next time you write please give us your name in full and the postoffice address. I am rather glad the former generation voted those bonds on you. It gives you something to think about the 10 hours you are not working. Say Rube, some of these people that have their autos bought on time see more real enjoyment on one of their automobile rides than you have experienced in all of your life.

T. E. Repp, Centerview, Mo.

IMPROVING THE LAWN

Did the hot, dry weather hurt your lawn? September is the month for repairing lawns in Ohio. While lawn repairing often presents many difficulties, most thin sods will be improved by fertilizing and reseeding.

Patches that have died should be scratched and made fine with a steel rake for seeding. Unless the soil is rich it should be made so by the use of manure or commercial fertilizer. The latter is preferable because it is easier to apply and carries no weed seeds. For such purposes the Ohio Experiment Station recommends the use of about four pounds of steamed bonemeal to the square rod. An application of 10 to 15 pounds per square rod of hydrated lime or of 20 to 30 pounds of finely ground raw limestone is also advised for soils deficient in this constituent. The lime should be worked into the soil before any fertilizer is added.

After this treatment a mixture of equal parts of Kentucky bluegrass and redtop, with a little white clover, should be sown broadcast at the rate of one pint to the square rod. The ground should then be raked over to cover the seed and to make a smooth surface. Lack of moisture will make seedings uncertain. Hence, sprinkling of laws is advisable in dry seasons.

Even those lawns having heavy sods will be improved by occasional dressings of manure or fertilizer. Such treatment will thicken up the grasses without reseeding.

Stable manure applied in the fall or winter will cause the lawn grasses to be thicker and of a darker green color in spring. Such material should rotted and fine. Coarse, strawy manure or lumps of such matter will kill out the grass beneath.

Tractor Free
SEND NO MONEY-JUST YOUR NAME
You can become the owner of this $645 BULL TRACTOR, without cost, as a result of a few weeks spare time work in your own community and I'll pay the freight. Don't delay, write today for my new, easy plan.

V. O. WESTPHAL, Sec'y., St. Paul, Minn.

Live Stock Notes

Bridges Bros. Second Sale of Poland China's a Big Success

One of the best sales of the season was held by Brides Bros., of Slater, Mo., on Friday, November 3. They sold 46 head for an average of $61.21. Last year their sale averaged $63 per head on bred sows. The top price for their gilts was $135 for a daughter of Long Big Bone. Their two herd boars, Bridges Bob Wonder and Long Wonder Timm, came in for a lot of deserved admiration by the visiting breeders. The feature of the sale was the purchase of the junior yearling boar, Model Big Bone 3rd, a son of the world's champion, Long Big Bone.

The high average price of the sales of these young breedrs shows that this firm is progressing in the production of high class breeding stock and is winning the esteem of their brother breeders.

Grand Champion Hampshires

The card ad of Mark Whittaker, Miami, Mo., is particularly worthy of notice to those interested in good Hampshires. The remarkable record established by the above breeder at the Missouri State Fair this year is certainly convincing evidence that he is producing the best the breed affords. Br. Whittaker offers you big husky spring boars and bred gilts of same breeding as his prize winners. If in the market for this class of breeding stock, why not write them? Kindly mention this paper when writing.

Jersey Dispersion Sale

A rare opportunity to buy some high class Jersey cows is offered in the dispersion sale of the herd of the late Col. W. H. Phelps of Carthage, Mo. The sale will be held on Monday Dec. 11 and if you are looking for something of real merit in the Jersey line either for single cows or for car lots better attend this sale. Some very fine cows are offered.

WEED OUT THE BOARDERS

Cow testing associations should command the interest of every dairyman for they help to make more money for the man who milks.

Progress and then success spring from dissatisfaction with present conditions. The 53 active cow testing associations in Wisconsin are made up of dissatisfied men.

A year ago a certain Waupaca county dairyman was dissatisfied. He wa milking eleven cows and getting a monthly cream check of $35. He joined the Waupaca and Butter Nut Ridge association. By weeding out the robber cows and replacing them with good producers and by giving the herd better feed and care he increased his monthly cream check from t cows to $110 a month. He has one cow less to milk and a cream check three times as large. Very many members of Wisconsin cow testing associations could tell somewhat similar experiences.

Oust "Robber" Cows

A cow testing association is simply a group of 25 or 30 dairymen who jointly hire a man to weigh and test the milk of each cow in their herds, to keep their production and feed records and to do whatever else he can to promote their interests. The movement is neither old nor new, yet it is old enough to have proved its worth in making dairying more interesting and profitable, but so new that your community is not getting the benefits of one.

During the past fifteen years the price of feed has increased about 50 per cent, while the price of dairy products has increased only about 30 per cent. Labor and land values have also risen, making it necessary to lower the cost of production in order to make a profit in the business. The low-producing or "robber" cow is undoubtedly the greatest factor in increasing the cost of production. To detect these "robber" cows is the first duty of the cow testing association.

"The poor ye have with ye always" is true of cows as it is of people, unless we detect and dispose of them. If we do not dispose of these poor cows, we become poor like they, and the more we have the poorer we get. The Stanley association sold 101 poor cows for one-fourth of the cows in the association before the year closed. Welcome association sold 28 unprofitable cows the first year and 92 the second year. Antigo association sold 54 "boarder" cows before the end of the year. The Sheboygan association, in one of the best dairy sections of the state, found 89 out of the 480 cows to be unprofitable and sold them during the year.

Uses Standard Tests

Last year records of 19,000 cows were kept and about 4,000 or more than one-fifth the number under test were sold as unprofitable. The time is past in Wisconsin when a man claims that he can tell, by looking at or even by milking, how much milk or fat a cow will give in a year. The Babcock test, the milk scale, and the yearly record are the only reliable judges of cow ability to convert feed into fat, and the cow testing association seems the best way to use these means for it insures the work being done accurately, promptly, impartially, and economically.

While the cow testing sssociation is locating the unprofitable cow, it is also locating the profitable cow—the cow that will return $1.50 to $3 worth of dairy products for every $1 worth of feed. To know what each cow produces during the month and the cost of the production stimulates interest in the cows as individuals and causes the whole family, and the hired man, too, to take new interest in the dairy business.—Noel Negley, Wisconsin.

PORK AND HIGH PRICED FEEDS

The higher the price of grain the more care is required in feeding operations. It is not profitable to feed corn alone. It should be supplemented with some feed like tankage or linseed oil meal.

Tankage has perhaps received more attention by Experiment Stations and by practical feeders during the last few years than any other protein supplement. Its composition makes it almost an ideal supplement to corn for hog feeding. The high protein content, derived from an animal source, along with a high mineral or ash content makes it particularly valuable when fed with corn, which is noticeably lacking in these nutrients. It would be impossible to discuss here in detail the enormous amount of experimental data upon this subject since most of the State Experiment Stations, including the Missouri Station, have published the results of trials made with tankage. The data reported, however, shows that tankage is in every way one of the best supplements to corn for hog feeding.

Experimental work shows that better results are obtained with the breeding herd when some tankage or meat meal is added to a corn ration. Not only are more pigs farrowed per litter but those farrowed are stronger. It has been found for example that gilts fed corn alone farrowed an average of 7.6 pigs per litter as compared with an average of 8.5 farrowed by the gilts fed a ration of corn 10 parts, tankage or meat meal 1 part. Sixty-eight per cent of the former were strong as compared with ninety-eight per cent of the latter.

Not only does the addition of some feed like tankage increase the efficiency of the breeding herd but it also materially decreases the time required to get the pig to a marketable weight. This is shown in a list at the Missouri Agricultural Experiment Station where one lot of hogs for 120 days on a ration of corn 10 parts, tankage 1 part gained on the average 1.15 pounds per head per day, while a similar lot fed on corn alone gained only 1.11 pounds. This would indicate that it would require about a month longer to make a 100-pound shoat weigh 250 pounds, if corn alone was used as the ration than when a ration of corn and tankage was used. In the trial mentioned above, it required 436.4 pounds of corn

POLAND CHINAS

Poland Chinas & Shorthorns
Bred sows and gilts. The real big kind with bone and quality. A few serviceable boars. Several extra good young bulls and heifers. Satisfaction guaranteed.
H. S. Williamson, Route 6 Centralia, Mo.

Spring Boars by the Grand Champion
A desirable lot of early spring boars by The Giant, acknowledged to be one of the greatest young Poland China boars of the breed. Prices within reach of all.
WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

BAKER'S REAL BIG-TYPE POLANDS
We have a number of extra good spring boars sired by Big Look that we are offering worth the money. Need the room and must sell.
W. A. BAKER & SONS, BUTLER, MO.

Linhardt's Polands
I have a choice lot of extra good fall gilts sired by outstanding boars. Customers in 26 states. GIANT MAMMOTH 68375 and CHIEF BIG BONE 75856 in service. Priced for farm trade.
H. O. LINHARDT, LOHMAN, MO.

DOOLEY'S SPOTTED POLANDS
Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pair and trios no relation. Also registry furnished. Send check with first letter.
EDGAR DOOLEY, - Ettervile, Mo.

SPOTTED POLAND BOAR
My fine herd boar, Spotted Lad, No. 74030 for sale. He's a fine one. Write for full particulars. Also some fine spring gilts bred or open, for sale.
E. J. YODER, - - LA TOUR, MO.

POLAND CHINA BOARS
I have a few extra good Boars for sale at Farmers prices. March farrow. The big boned type. Immune and well grown. Also any thing you want in Jersey Cattle.
J. B. SMITH, - Platte City, Mo.

CHERRY CHIEF'S PRIDE 187003
KING OF THE BREED
We have the best lot of spring boars and gilts to be offered for sale. They are royally bred and great individuals. All immune. Special sale on boars.
WILCOXIN & PORTER,
BOWLING GREEN, - - MISSOURI

MARSHALL'S POLAND CHINAS
We are offering exceptional values in early spring pigs. Also booking orders for fall pigs. Strictly big type breeding. Satisfaction guaranteed.
S. R. MARSHALL & SONS,
GLASGOW, - - - MISSOURI

BARGAINS IN POLANDS
I raise hogs to sell and must sell. March pigs either sex $25 each, May pigs $20, July $15. Older sows open, bred or with litters relatively low. You must be satisfied or your money back.
WM. J. BRITT, Owner of
Shady Glen Herd, - Rush Hill, Mo.

POLAND CHINA
Am offering you an opportunity to buy boars and gilts of outstanding individual merit and most popular blood lines. Sired by Big Bone Leader, Big Bob, Bridges' Bob Wonder, Crow's Extra, Big Black Orange, etc. Prices reasonable. Everything immune. Satisfaction guaranteed.
G. E. PETTY, - VERSAILLES, MO.

SPOTTED POLAND CHINA BOARS
I have a number of Spotted Poland China boars for sale that are descendents of Budweisser and out of such famous sires as Salisbury Lady and Milan Girl. Also, some Big Type Black Polands, sired by Missouri and Kansas State Fair prize winners. Price for quick sale $25 F. O. B. Rocheport, Mo.
HALL & RAPP, - Rocheport, Mo.

POLAND CHINAS
Am offering rare bargains in spring boars and gilts of strictly Big Type Breeding, everything immune. Write for information.
BEN FRANK, - Jefferson City, Mo.

Whittaker's Grand Champion Hampshires!!
My 1916 State Fair Record: 1st Junior boar pig; Senior sow pig; 1st, 2nd, 3rd, Junior sow pig; Grand Champion sow; 1st young herd; 1st on young herd bred by exhibitor; 1st on get of sire; 1st on produce of dam. Trophy Cup. Am offering spring boars and bred gilts of same breeding.
MARK WHITTAKER, - MIAMI, MO.

Boyd's Poland Chinas!
A few choice spring boars sired by the A Wonder and Boyd's Big Orange. Both of these boars are state fair winners. Also some good fall pigs, both sexes. Can furnish pairs and trios not related. In addition to this I am offering a few choice bred sows, all of which have had litters and raised them.
A. O. BOYD, Rfd. 6, COLUMBIA, MO.

DUROC JERSEYS

Thompson Bros. Early Spring Duroc Boars!
We are now offering the trade a Select lot of early spring Duroc boars. Bred by Col. Wonder II, and T's Cherry Chief. The big kind with quality. Everyone guaranteed.
THOMPSON BROTHERS, - (Box 25) - COLUMBIA, MISSOURI

Durocs With Size and Bone
I am offering a choice lot of early spring pigs with unusual size, bone and quality. Bred right and priced right. Visitors welcome.
A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

Big Duroc Fall Pigs With Quality
Farrowed in August and September, sired by Col. Wonder II., Rexall Col., and Cap't. Courtesy. These pigs are of the proper type, quality and conformation, decidedly well bred, and priced reasonably for foundation stock, single, in pairs or in trios. Satisfaction guaranteed.
R. L. (BOB) HILL, ADENHILL FARM, - - COLUMBIA, MO.

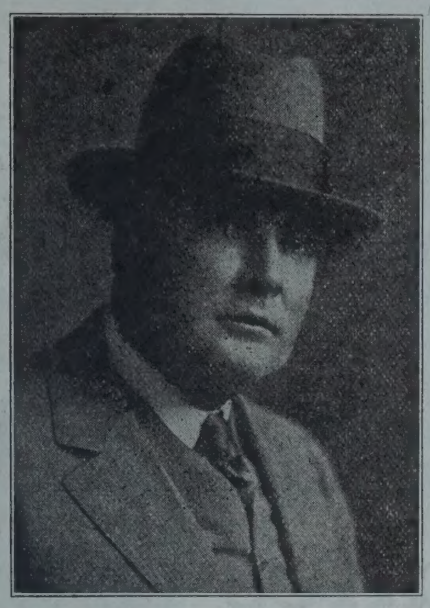
Top Notch Durocs
I have 100 late spring pigs weighing from 90 to 100 lbs. All good color and quality. No better Durocs anywhere. Write me what you want.
GARRARD & SON, - McBAINE, MO.

Taylor's Grand Champion Durocs!
Am offering choice boars and gilts, same breeding that won 6 champions, 26 Firsts, and a total of 63 prizes at Mo. State Fair and St. Louis Agricultural Show, at reasonable prices. Write for prices and descriptions.
CHAS. L. TAYLOR, - OLEAN, MO.

ANGUS CATTLE
Herd founded 1904
Young stock sired by Dean's Eric 139686. Also offer splendid herd bull for sale. Every one the right kind and priced to sell.
V. E. LAWRENCE, - Salisbury, Mo.

Aberdeen-Angus
I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good Poland China Hogs at moderate prices.
J. D. BLACKWELL, - Fayette, Mo.

Personality Counts in the Stock Yards!



W. R. Hensley, President National Live Stock Commission Co.

THE REASON the National Live Stock Commission Co. does an ever increasing business is because of the **Personality** back of this great organization—because it has built up the most powerful force of salesmen that can be found at any Live Stock market in the Country—men who know the value of a hog, steer or sheep as well as any men living and who fight for the "high dollar" from the minute the gong sounds in the morning until the curtain is rung down in the afternoon.

These men realize that they must "get the limit" for you if they are going to be able to hold your business. They know they **can** get the "high dollar" for you because they have been getting it for hundreds of other shippers who never think of consigning to any other firm. So give them a chance at your next shipment. Let them show you what they can do for you. They will realize that "its up to them" to "make good"—for there is no love lost in the stock yards and **results are the only things that count!** All they ask is a trial. If you expect to ship to the Nat'l Stock Yards soon, write them for any information you may want. **They are at your service.**

The National Live Stock Commission Co.

NATIONAL STOCK YARDS, - - ILLINOIS

plus 43.6 pounds of tankage to produce 100 pounds gain on the one hand as compared with 580 pounds of corn where corn alone was used.—L. A. Weaver, Mo. College of Agriculture.

Marketing to Save $1 Corn

Cattle receipts at the St. Louis National Stock Yards from January 1 up to today, November 22, totaled 1,044,682 head. This is more cattle than arrived at these yards during the entire year 1915.

Up to November 22, hog receipts at this market for the year 1916 totaled 2,592,255 head. During the entire year 1915 hog receipts at this market were only 2,591,768 head.

Above figures indicate satisfactory growth of the market, but the fact must not be overlooked that farmers are "cashing in" freely this fall to "get from under" feeding dollar corn. A world of cattle and hogs are coming to market now that should be kept at home and fed out, but the man who has to buy corn that is as costly as diamonds, comparatively speaking, is apparently going on the theory that a bird in the hand in the autumn is worth two in the bush next spring.—National Live Stock Reporter.

MAKING PORK ON FORAGE

It is evident that we will never again see very cheap corn in this country. Land is too high priced and it costs too much to keep up the fertility on our corn lands to make it possible to produce corn without considerable expense. The hog raiser must then find some substitute for corn in making pork. The Missouri hog raiser is more favorably situated in this respect than the farmers of more northern states because our mild climate permits the growing of crops that will furnish good grazing for 8 to 10 months in the year.

R. C. Ashby animal husbandman in charge of swine, fed a large number of hogs different rations of grain along with their pasture, with very satisfactory gains. One group of hogs, self-fed on shelled corn and alfalfa pasture, at a cost of $6.20 for each 100 pounds of gain, returned a gross profit of $168.09—not including labor, risk, interest or other overhead—per acre of pasture.

The farmer will be interested in knowing what the results were. The rations were as follows:

1. Three per cent of live weight in shelled corn, with alfalfa pasture.
2. Four per cent of live weight in shelled corn with alfalfa pasture.
3. Shelled corn, self-fed, with alfalfa pasture.
4. Four per cent of live weight in shelled corn with two pounds of buttermilk, per pig daily, and alfalfa pasture.
5. Four per cent of shelled corn with very light tankage ration and alfalfa pasture.
6. Three per cent of ground barley with rape pasture.
7. Three per cent of shelled corn with rape pasture.
8. Four per cent of shelled corn with rape pasture.
9. Shelled corn, self-fed, with rape pasture.
10. Shelled corn, self-fed, tankage and rape pasture.

The results of feeding these various rations including cost, profit, per acre, and profit per pig, appear in the following table:

Rations fed	Feed cost of 100 pounds gain	Profit per acre of pasture	Profit per pig
1.....	$5,922	$105.85	$3,599
2.....	5,885	157.44	4,920
3.....	6,203	168.09	4,387
4.....	5,981	144.21	.....
5.....	6,010	99.80	3,164
6.....	6,136	81.79	2,590
7.....	5,780	77.164	2,443
8.....	5,177	138.84	4,338
9.....	5,534	109.60	3,425
10.....	5,638	165.52	.....

The profits shown by ration 7 and 9 were reduced because one pig in each lot proved to be unthrifty and had to be removed.

Keep Hogs Free from Lice

The female hog louse deposits the eggs (nits) on the hair. The lice hatch out in from ten to fourteen days and are ready to reproduce in a few weeks. The favorite place for the lice is a crevice of the skin as is found back of the ears and in the flanks. In the summer time they may be found on any part of the body, but in cold weather they seek out these protected places. They can also live in the usual litter of hog pens, and when dislodged by scratching, or if they leave by preference they can easily find suitable quarters until another pig comes along. This is their method of spreading. Undoubtedly, when hogs pile up in their pens in cold weather, Mr. Louse can visit a new host by a less laborious journey.

Dipping is a sure method of eradicating hog lice. The dip may be a crude oil emulsion or a kerosene oil emulsion. The hog should be dipped every ten days for three or four successive times. There are many machines on the market called hog oilers, which overcome the difficulty, inconvenience and danger of dipping animals in winter. The hog oilers take advantage of the fact that all lousy hogs scratch.—S. C. Agricultural College.

BARGAINS IN JERSEY COWS!

From one to a car load of good, young registered Jersey cows, mostly fresh or soon due; offered at sacrifice prices because short of feed and cannot winter. Also, a few open heifers and young bulls. Write your wants or come and see this stock.

THE ENNIS STOCK AND DAIRY FARM,
(Just south of St. Louis.) HORINE, MISSOURI

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"Twelve Years on the Block"
Pure bred Sales a Specialty
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MACON, - MISSOURI

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LIVESTOCK AUCTIONEER
Selling for the foremost breeders. Address
Cameron, : Mo,

BROOKVIEW HAMPSHIRES

Herd headed by GEN. TIPTON and SIR BROOKVIEW, both grand champions. Spring boars and gilts of choice breeding and individuality. Prices reasonable.

ISOM J. MARTIN, - Kahoka, Mo.

RAMS Registered Shropshires—yrs. and twos. Bred for weight and wool. That's what you raise lambs for. The best go first. Come to the farm or write C. W. Chandler, Kellerton, Iowa 80 miles north of St. Joseph, Mo.

REGISTERED PERCHERONS,
39 heavy 3 and 4 year stallions, 68 rugged 2 yr. olds. Can spare 25 reg. mares, 24 reg. Belgian stallons. Priced worth the money. Near Kansas City.
OLD FRED CHANDLER RANCH,
Route 7 - - CHARITON, IOWA.

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Established 1889
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References
Stock Yards Nat'l Bank
S. W. Nat'l Bank of Commerce
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JERSEY CATTLE

REG. JERSEY BULLS

Choice Registered Jersey bulls at bargain prices. Grandsons of Noble of Oaklands and out of heavy producing dams. Yearlins, $50; Calves, $20.
BLUE CLIFF FARM,
BLUE SPRINGS, - - MISSOURI

JERSEY CATTLE

Bulls ready for service. They are sired by the Owl's Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.
Wm. H. Bruns & Son, Concordia, Mo.

RED POLLED

RED POLLED CATTLE

Herd established 16 Years
Young stock for sale. Young bulls sired by LOGAN 13500; Calves sired by KNOCKER 28791. Bred for milk and beef. Also offer spotted Poland China hogs and Rieds Yellow Dent seed corn.
M. L. SNYDER. - - POLO, MO.

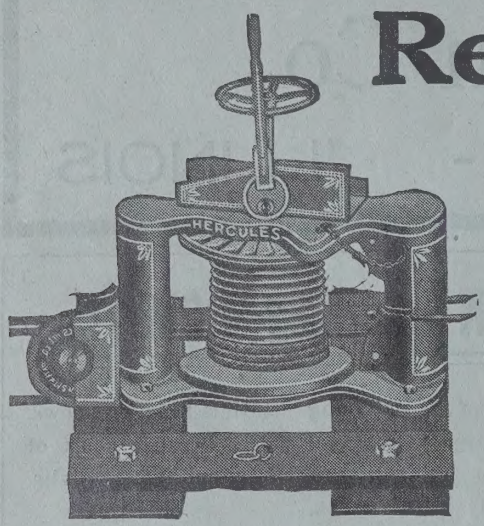
HEREFORD BULLS

Two registerd bulls, long yearlings, best of breeding and high class individuals. Not the cheap kind.
HUGH WHITEFORD,
GUILFORD, - - - MISSOURI

HOLSTEIN CATTLE

IN MISSOURI

Prince Segis Walker Pieterje 123955 heads herd. Dam 30.13 lbs. butter in 7 days, milk testing 5.07 per cent. A.R.O. of dam, grandam an ten nearest dams of sire, 29.75 lbs. Six of these are 30-lb. cows. His five nearest dams all test over 4 per cent. Bulls 2 to 8 months old, $150 to $350. Always have cows and bred heifers for sale. Everything registered Holsteins. Tuberculin-tested.
S. W. COOKE & SON,
Maysville, De Kalb Co., - - Mo.



Read How Fortunes Are Made Quick by Pulling Stumps

HERCULES Hand-Power Stump Puller
LOW PRICE
120,000 lbs. Pull
ASK US ABOUT IT

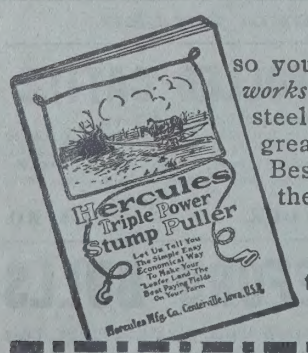
LET me send you my new, fine free book at once. I want to show you *proof* of how you can turn each acre of stump land into a double profit the first year, in extra crops and added value of land—by pulling stumps with the Hercules All-Steel Triple-Power Stump Puller—and how you can make *big money* in *your spare time* by pulling stumps for *your neighbors* or *by renting* your machine at a *nice fat profit.*

My book shows *actual photographs* and prints *actual letters* from many *owners*, telling of the remarkable feats of the Hercules—how it pulls *any size stump, green tree* or *hedge* in less than five minutes—how it easily pulls *an acre a day.* Read how one man increased his land value from $25.00 an acre to $125.00. Read why the Hercules is the *best investment* you can make now. The

Hercules Triple-Power Portable Stump Puller

is the puller that has the single, double and triple power features, giving you three machines in one. One man with a team can handle it and move it from place to place. No heavy lifting. The new portable is equipped with a solid steel bedplate and broad steel wheels. There isn't a stump, green tree or hedge grown that the Hercules won't pull out without straining or breaking any castings. It's the low-down constructed puller that has self-anchoring and stump-anchoring features—the one with double safety ratchets that insure the absolute safety of men and team. I want to send you a Hercules on

30 Days' Free Trial



so you can *see* how *powerful* it is and how *easy it works.* I want you to *know* for yourself that the all-steel construction means 60% less weight and 400% greater strength than cast-iron or "semi-steel." Besides that, I want to save you big money on the cost. I'm making a

Special Price Proposition

to the first buyer in 5000 different parts of the country. If I get *one* Hercules in each locality *more will surely follow* because of Hercules quality and efficiency. So I can easily afford to sacrifice my profit on the *first* machine in each locality. Take advantage of this big profit and big saving opportunity *now.* Besides my 30 days' free trial offer and money-saving price I give you a

3-Year Guaranty

that *means* something. The *all-steel construction, the triple-power* feature that saves your team and gives a tremendous increase of power, the *double safety ratchets* and the careful *turning and grinding of every part*—all these things make it *safe* for us to *guarantee the replacement of any casting of a Hercules that breaks any time within three years, whether it is the fault of the machine or your fault.*

This Free Book Tells All

Just simply send your name and address on the coupon or on a postal so I can send you the convincing facts about the superiority and efficiency and value of the Hercules Stump Puller. Only 5000 of these machines will be sold at this remarkable introductory price, so get your name in now. My new book is a beauty. See the real pictures of big stumps it has pulled out like you would pull weeds. Read the many interesting letters from farmers, lumbermen and land promoters. Stumps, stumps, stumps, pulled out quick, making fortunes for owners of Hercules Stump Pullers. I want you to know the facts. Just mail coupon or postal *now.* I'll send the book and price by return mail. I'll tell you the best crops to raise on virgin land where stumps were before. I simply want to get my free book to you at once, so that you can read the remarkable facts about the Hercules All-Steel Triple-Power Stump Puller and how it does such a splendid work making big profits for owners everywhere.

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Dear Mr. Fuller: Mail me your free book and special price offer on the Hercules All Steel Triple Power Stump Puller.

Name _____

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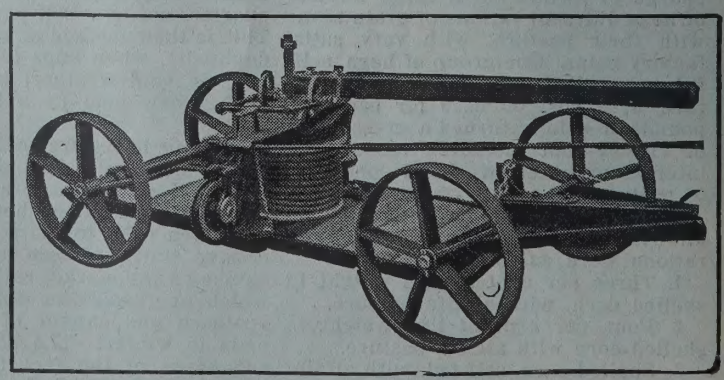
Mail Me the Coupon or Postal Right Now

before you forget, or take down the name and address and write me as soon as you get a postal card. Address me personally.

B. A. FULLER, President

Hercules Manufacturing Company

891 25th Street, Centerville, Ia.



HERCULES PORTABLE ONE-MAN PULLER FOR USE WITHOUT TEAM

The only portable one-man puller on the market. One man can develop a pull of 125,000 lbs. on the stump. When stumps are out a fourteen-year-old boy can move puller. No heavy lugging or dragging.

The Hercules Portable excels all other hand machines, because it is so light, stron and easy to handle. It develops more power with 6 ft. lever than any other machine with 10 ft. lever. The ideal machine for the man who has no horses. Write for particulars.

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COLUMBIA, MO.

THE HOME OF MISSOURI'S GREAT AGRICULTURAL COLLEGE
AND THE MISSOURI EXPERIMENTAL STATION

Illinois Agricultural
URBANA, ILL. C

Your Friend and Mine

In a few days the blessed Christmas time will be here once more and here's hoping that it may find the Love Lamp burning brightly in he myriad farm homes in which this paper is a constant visitor and in which it tries, as best t can, to render some slight service—to contribute its mite toward making life a little more cheerful and worth while—to lend the light of its poor flickering little lantern to the end that its friends may the better see the path ahead. If we succeed in this endeavor ever so slightly we will not have labored entirely in vain. And here's hoping that when your little ones kneel in prayer on Christmas Eve, that the heartfelt petition which they will address to Old Santa Claus at the end may be answered at least in part when bright eyes seek the lit le stockings on Christmas Morn—and also that the kindly Old Fellow will not entirely overlook sweet, patient, uncomplaining mother.

It is always with a sense of overwhelming unfitness that I try to write anything about this, the most sacred occasion in all human history—a feeling that somehow this beautiful story should not be touched by rough hands such as mine—hands which had hardly ceased to reach out after the baubles of childhood when they were compelled to take up the hard and harsh struggle of life which, with each passing year, seems to grow heavier. It is only when I think of Him as the friend of the uncouth and the lowly that I can bring myself to the task without a conviction of sacrilege. And is this not true of many others who will read these lines? Have not the polished orators of the pulpit surrounded His Personality with so much mystery and carried their deification to such extremes that, through a sense of overmastering unfitness, they are driving us away from from Him rather than leading us toward Him? As I think of the beautiful words of hope and encouragement He spoke to Mary Magdelene—as I hear Him plead, "Suffer little children to come unto Me"—as I hear Him chide in kindly accents the arrogant and the mighty and ever look for an oppotrunity to give aid or cheer to the poor and miserable ones—as in those last agonizing hours upon the Cross I hear Him murmur words of hope to the dying thief who had become resigned to his fate—when I see and think of Him in this way I know that He is your friend and mine, sinners in the vinyard though, we be—a Being vastly more noble, tender hearted and forgiving than those who act as His spokesmen would have us believe.

Could He come back to Earth for these brief Yuletide days, I know where we would find Him. Even now I see Him moving about amid the bloody trenches of Belgium and Poland and taking His gentle way beside the long rows of wounded in the hospitals—patting a fevered cheek here and stopping to murmur a little prayer with a dying one yonder. Then, in the midst of His ministrations, I hear Him dispatch hurried messengers to the mighty Emperor of the Germans—to Loyd-George of England—to Poincare of France—to Nicholas of Russia—to Ferdinand of Bulgaria—and once confronted by these, the mightiest gladiators of all time, I hear Him say to them with a kindly smile, " Now let us sit down and talk for a little while"—and do you, my good friend, doubt what the outcome would be? Can you not even now see them come out of such a conference with tear stained but happy faces and even now can you not hear a million church bells ringing out the glad tidings, "Peace on Earth, good will to men?"

I know little of Theology—for I toil in a spot where the gales of life blow fiercely and where there is little time for meditation. But I do know that the Savior still lives—that He walks with us through the shadows of the valley and amid the sunshine on the mountain tops—that even as the mighty are not beyond the pale of His beautiful philosophy which is as everlasting as the crags of the sea, so the humblest and poorest of us may sit with Him at the foot of the Cross and learn of the peace which passeth all human understanding.

—By the Author of After-Thoughts.

GEO. B. ELLIS
MANAGING EDITOR

VOL. VIII DECEMBER 15, 1916 NO. 24

WILLIAM HIRTH
PUBLISHER

LYONS PRACTICAL FARM PAPERS.

The Professor is hereby warned not to make any more uncomplimentary remarks about Jim Riley, for Jim has won my heart by his "It just means that old "Hez" Brown will read my postal cards for th' next four years instead of old Jim Smith."

As the old woman said, "That's all there are to it," cause if Jim Riley calls on me for a pound of tobacco to use in that cob of his why Jim is going to get it—that's all.

I know if a man who sold a good farm, and bought a "Hennery" and ten acres of land in a little town, so he could be postmaster—Ouch!!

We are getting along well with our corn and despite the damage by wind, will have a good big lot of fine corn, but in putting up seed corn, I find fewer high scoring ears than usual.

There are plenty of ears of good body and good tips, but well filled butts are very scarce.

One eleven inch ear of 24 rows of grains is lying in my desk, and if the butt half inch was a good as the rest of the ear, I would not fear to enter it in any contest I ever saw.

The shredder came into our neighborhood today, November 28, just ten days late, as it is going to rain some in the next day or two.

We are not intending to shred anyway but next year we want to shred 200-300 shocks, and I urged the purchase of a machine by a club of neighbors, six in number, offering to pay my share, even though I did not use the machine. The other men wanted to wait a year, then the custom shredder men made promises and lied a good deal, so if the weather brakes, they will not get their corn shredded, and the proposed club shredder seems to be a certainty for next year.

Butter fat has reached 39 cents per pound, and the creamery man says it will go to 45 cents.

Bran is $33 per ton, oil meal $46, cotton seed meal, not on the market and a "diary food" $37.50 per ton, 16 per cent protein claimed. Unless a man has clover or alfalfa hay, he cannot make much money out of butter fat, even at 37 to 40 cents per pound, if he has to pay such prices for concentrates and corn chop is worth $2 per cwt.

My son Arthur writes me from Kansas City, that he has just been to the beet sugar districts of Kansas and Colorado, and has bought 600 tons of beet feed, which his dairy company will furnish its patrons at cost and freight, near $23 per ton, I believe.

He is enthusiastic over the value of this feed, and says that it is the cheapest milk making concentrate on the market at this time.

So far we have not fed a pound of ground feed, excepting a few bags of bran, depending on clover hay and the sortings of corn, but as soon as the corn is all in, we will have a load or two of corn chop made.

With us, dairying has always been a side line, but when a five gallon can of cream brings $7.50, and we can sell a can every nine days from 6 cows, two of them heifers, it looks like we had better keep more cows. Just fifty years ago, one of the best agricultural authorities in the U. S. was asked, "do you not think there is grave danger of the dairy business being overdone?" and he answered, "I do not think that there is, for some years at least."

With the H. C. of L, (High Cost of Labor) as we have it now, and as it will continue to increase, there is less danger than ever of dairying becoming unprofitable

It amuses me to read about the kick beng made in Chicago and other big cities over the cost of eggs. The investigators of egg prices seem to have the idea that hens lay all the year round without any reference to weather conditions, molting or anything else.

Our 125 hen flock, is above an average one in regard to egg production, and is having above average feed and care, but the molt was later than usual, and we are getting from one to four eggs a day. We are not egg specialists, but a neighbor is, and reports from a flock of 150, ten eggs per day from November 17 to December 1.

It is costing us 50 to 65 cents per day just now to feed our flock, and the eggs are not worth ten cents per day and I wish that some of those intivestigating city folks would get a couple of dozen hens and try egg production. No, I believe that I will take that back, for I do not want to see a lot of innocent hens abused by the poor care and feed such folks would give them.

If the cold storage people are responsible for the high prices of eggs, please remember that the farmer is ot engaged in the cold storage business.

Some way I feel that there is danger of an embargo on the food stuffs of this country, and that feeling is strengthened by the fact that the officials of several National banks I know of, are selling all the live stock and grain on the farms they own or control.

If there is any danger of prices of anything going down from any cause, of course Washington would warn the banks and bankers if possible, so that these elect gentlemen could not lose money.

It would not make any difference how much money Bill and Bob and Tom, the farmers would lose, but the banker and speculator must be taken care of.

December 2. Still Indian summer weather after a good rain. Corn $1, wheat $1.75, hogs $9, eggs 40c, butter fat 40c, rabbits 12c.

Those of us who are beginning to be called "old," are apt to indulge in thoughts of the past, and, in many respects, I do not think that I can recall another year in fifty just like this one. To begin with, the winter of 1915-16, was unusually mild, little snowfall, muddy roads and wet months up to May, when we had a severe dry spell. Rain came again in June, then from perhaps June 15 to August 1, we had the most burning months it has ever been my ill fortune to see. The very last days of July rain came, and from that date until October we had rain two or three days in the week, real dry weather from that time on until November 27, when it began to rain again. On September 14 we had a sharp frost, followed by others at intervals of from a day or two to a week, none of them doing any real damage until in the first days of November when we had a hard freeze.

When the rains began the last days of July, you might have hunted the cultivated fields over for hours and not found a bucketful of weeds, but at seeding time there was a heavy crop of all fall weeds and grasses, seeding being a hard job.

The dry spell in May made the wheat crop the shortest in years, oats were a total failure, potatoes but little better and how the corn managed to make an average crop, with that May drouth, followed by another in July, is past my understanding.

A few people planted cabbage seed in the hill about July 15 after a light shower, still others, seeing that early potatoes were a failure planted late varieties, and those reaped an abundant harvest.

Our special crop, tobacco, is a peculiar one, in that if a tobacco plant is standing in rich soil and is well rooted on August 1, if the weather is seasonable for the next forty days it will make a full yield, and to this habit of the plant, is due the fact that we have one of the best tobacco crops in history.

Our first Sudan grass was grown in 1915, and this year we sowed two plats for hog pasture. A single trial of any new crop proves little if anything of the value of that crop, but we are inclined to think that the Sudan is the coming hog pasture grass.

It is not going to cost our readers much to make a test of Sudan grass for this use next year, and I wish that about 1000 of them would try a plat of say half an acre, seeding it in late May make at the rate of 8 or 10 pounds per acre.

In turning on this grass, we made a mistake, that of letting it get most too large, and unless too much stock is put on it I think that they should go in when it is about a foot high, as if eaten off it sprouts up again.

Clover and timothy sown last spring, are going into the winter in excellent condition, but the stand is irregular in many fields.

On these thin spots a light sprinkling of manure, even half rotted straw will help the coming crop.

Live stock is going into the winter in good shape, and as for roughage there is more than usual.

Perhaps 85 percent of the corn is cut here, and 75 per cent of the stover is fed without shredding, but the practice of shredding is gaining every year. The hay was practically all baled, none for sale, and one-third of the straw was baled for home use. The object in baling straw here, is to have it more convenient to use as bedding, as but few farmers have learned the bad habit of selling straw or hay.

With best wishes to all MISSOURI FARMER folks for 1917. C. D. Lyon.

BUY THE BEST AND STILL SAVE $25 TO $50!

Direct From Factory to User

I mean every word of it! You can own the best spreader built and save from $25 to $50 over prices usually paid for spreaders not as good—not as down to date in design, as light in draft, made of as fine materials nor covered by the eleven Galloway spreader patents found exclusively on the Galloway. These features and many others make the Galloway

WORTH $50 MORE THAN ANY OTHER SPREADER

Remember this spreader is **low down**—only 42 in. high to center of box. Easy to load. Lightest draft spreader of its capacity built. Two horses handle Galloway spreaders anywhere. The Galloway **wide-spreading, V-rake, worth $15 extra** on any spreader—costs you **nothing extra** on the **Galloway.** The **invincible, irresistible, patented roller-feed**—an **exclusive** Galloway feature—the secret of its **light draft,** alone **worth $25 extra** on any spreader—exclusive again on the Galloway—costs you **nothing extra. Patented automatic stop, uniform clean out, push board—worth $10 extra** on any spreader—exclusive on the Galloway—costs you nothing extra. These are only a few of the special features you will find on the Gallo way which are protected by Galloway patents. Don't buy a spreader of any make or kind until you have tried a genuine Galloway 1917 Model No. 8, No. 5. or No. 1A at our risk without obligating yourself in any way. Give my spreader

30 DAYS' ACTUAL FIELD TRIAL

and return to me within one year if not perfectly satisfactory. Remember we manufacture in our own factories and sell direct from factory to farm. Remember that no speader is as good as the Galloway that does not have these modern improvements, and remember again that other spreaders can't have them because they are patented Galloway features and can be found on no other spreader.

6 EASY SELLING PLANS

Pay for this spreader on your own terms. Buy it now, use it all winter and spring, pay for it next fall when it suits you. Complete particulars of these six easy selling plans in my new free book which tells all about Galloway spreaders, engines, separators, tractors and farm implements built in my own chain of factories right here in Waterloo.

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I am well satisfied in every way with spreader, and also with treatment accorded me by your Company, and must say I saved at least $40.00 by buying from you with interest figured in on the money. Yours very truly,
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The Missouri Farmer

VOLUME VIII DECEMBER 15, 1916 NUMBER 24

How Business Men Can Help the Farmer

By Geo. B. Ellis, Managing Editor

The other day a man came into my office and during a conversation about present conditions he said "I have lived on the same farm in Western Missouri for 40 years and in all that time—1876 to 1916—I have never before seen the conditions quite so hard and unpromising as they are right now. Most of my neighbors are buying corn now at $1.08 a bushel and other feeds at relatively high prices. With feed at such high prices and farmers having to buy it most of them can keep only their work teams and milk cows and if we should get a good crop next year we will have nothing to feed it to and I fear we will find a poor market for what we raise. So, what are we to do? In the language of Mr. Cleveland are we not 'facing a condition instead of a theory, in the farming game for the next few years?" It happened that soon after the above interview took place another farmer from Central Missouri came into our office and when he was asked what he thought of the business outlook for farmers replied "I have never seen a better time for farmers to make money. Everything they have to sell is high. Wheat has been selling for $1.50 and up per bushel, corn is selling for 80 to 85 cents and most farmers are holding for a dollar. I had a very good crop this year and with prices so high farmers all ought to be making money. Why," he continued, "I bought and sold three teams of horses this year at a clear profit of $140 and with some other trading and what I have produced I expect to make a net profit this year above all expenses and a living for my family of one thousand dollars."

Is the Fault with the Farmer?

The above are responsible men, both good farmers, each living in one of the best counties of his section of the state but giving such radically different reports of present conditions and their hopes for the future that we quote them here for comparison and analysis. Not a reader of THE MISSOURI FARMER who could not duplicate one or the other of the above reports. If we should take individual farmers only no doubt we could duplicate both conditions in most any section of the state. Then where is the fault and what is the remedy? If the fault is with the farmers themselves in the one instance and success in the other is due altogether to the better farming methods practiced we would have no further to go to find the remedy. But when we go into these respective counties and study the progress made in a period of say twenty or thirty years and find that the farmers as a whole in the first mentioned county built as good homes, have farms as well cultivated and improved and have in all material ways made as much progress as the farmers have in the Central part of the state we must look further than the farmers themselves for the difference.

No Account Taken of Fertility

For the past several years we have not had a really all round good season for farming in Missouri. Some years have been good for some of the crops but not for all. Some years have been too wet, others too dry, and still other years with rainfall sufficient in one county and deficient in another. These conditions account for the desert here and the oasis there—for the success in one instance and the failure in another for it is under such erratic conditions that one farmer's loss is another's gain. The man who has corn to sell at a dollar a bushel ought to be making money but the man who buys the corn at one dollar a bushel to feed 9 cent hogs will certainly lose money unless he can find a cheaper feed to mix with the corn. The farmer who has wheat to sell at $1.50 to $1.75 a bushel has no right to complain but the fellow who must pay $10 a barrel for flour finds it adding very much to the family expenses.

We do not subscribe altogether to the doctrine of unlimited production so loudly and persistently proclaimed by so many writers, for the experiences of the past in corn raising, wheat raising and cotton raising as well as most other crops that under normal conditions, we can produce so much that there is much waste and no profit to the farmer. When hogs and cattle sold at 3 cents a pound or less and corn at 15 to 20 cents a bushel and wheat at 50 cents a bushel there was an overproduction and the only thing that saved farmers from bankruptcy was that they had a rich virgin soil to draw upon to produce the crops and for the plant food nature had stored up no account was taken and no charge was made. But now that we must first put water in the well before we can draw it out again, so it is equally true that we must put fertility into the soil before we can grow profitable crops. Here then we have at least one reason for the difference in crop yields in the Western and Central sections of the state. But as the system of grain farming is not confined to Western Missouri, nor live stock farming solely to any other section we would say that the primary reason for failure on so many farms is exhaustive farming because of too much grain growing and on the other hand those farms that pay even in bad years are the ones where the soil fertility has been conserved by plowing fewer acres, keeping more of the land in patures, selling less grain, feeding more live stock on the farm and returning the manure to the land. The writer can say with good grace, "I told you so" for he has for 16 years in a public capacity been sounding a warning against the inevitable disaster of too much grain farming.

All Classes Interested in the Farmer

It makes little difference to the farmer to tell him prices are high when he has nothing to sell, but this condition ought to put the man who has failed to thinking. The scarcity of food and attendant high prices have put the business men, professional men, financiers and all consuming classes to thinking as never before and we believe they see now more clearly that the future welfare of this country and possibly its very existence depends absolutely on a prosperous and profitable agriculture. The time has come for co-operative thinking and we should all join hands—producer with consumer—to find the way to a greater prosperity and a permanent stable system of farming.

The desire to find the solution of the above mentioned problems, has caused more rapid expansion in Government and State activities in the past few years than was made in all the previous history of the Nation. The Congress has doubled and trebled its appropriations to the department of agriculture and there are now more than 16,000 men in that great division of the government working in the interest of the farmer. The states have kept pace with the Government and by appropriations for extending the teaching of agricultural subjects to public schools, the development of the

A FARM CLUB CONVENTION

Farmers Week at Columbia this year will be held from January 1st to the 5th inclusive. On Tuesday Jan. 2nd and Wednesday Jan. 3rd a great state wide Farm Club Convention will be held—and we sincerely trust that not merely every Farm Club but every community in the state will be represented at this, the most important meeting of the kind ever called in Missouri. In the first place, your Farm Club should be repesented by a strong delegation so that you can go back home and tell your members just what it is this great farm organization movement is trying to accomplish. Secondly, if the Farm Club movement has not yet gotten started in your section, it will give you the necessary information and enthusiasm to go back and tell your neighbors about it. To this end, delegations should be made up in every community from the Iowa line to Arkansas and from Kansas to the Mississippi River. Already a number of the wide-awake Farm Clubs are working on a Pullman car delegation—and elsewhere the cost and terms of these cars is explained.

At this meeting you will hear talks by the Farm Club leaders of the state. They will tell you first hand what they have accomplished thus far and what they expect to accomplish in the future—and what they will have to say will be worth going miles to hear. I want every reader of THE FARMER to realize that this great organization movement is different from any similar movement ever inaugurated before—that this time we are organizing by the thousands where formerly we organized only by scores—that it is designed to put a Farm Club into every school house in the state before we shall be satisfied with our efforts. At the outset it means supplying bran, shorts, flour, corn, hay, potatoes, cotton seed meal and cake, linseed oil meal, farm seeds, coal, salt, fertilizers, etc., to members at the first cost—and here alone is involved a possible saving of millions of dollars to the farmers of Missouri. But this is only the beginning. The real goal is not so much to "buy things cheap" as it is to compel a "square deal" for the farmer's wheat, corn, hogs, cattle, sheep, poultry and other farm products—to so band ourselves together that we shall have something to say about what the fruits of our sweat and toil shall bring in the market place and to shake ourselves loose from the gigantic parasites who have been plundering us for years and who are responsible for the tremendous increase in farm mortgages, land tenancy and the flocking of farmer boys and girls to the large cities.

For years these "leeches" have felt secure in the belief that the farmer wouldn't manifest enough enterprise to organize—but in hundreds of school houses all over Missouri the Farm Clubs are for the first time giving the lie to this sneer—and at this great forthcoming gathering let us sound a challenge which will bring glad tidings of hope and courage to the farmers of every state in the Union. To this end, see to it that your Club sends a strong delegation to Farmers Week for Tuesday and Wednesday when this great meeting will take place. But if you do not belong to a Farm Club, come anyway—and bring as many of your wide awake neighbors with you as possible. Don't say you haven't got the time, for nothing means so much to you as this great farm organization movement. Don't say you haven't got the money—because this fight involves tens of millions of dollars—and if we win, which we will—the few dollars of expense will come back to you a hundred fold.

WILLIAM HIRTH, Publisher.

experiment stations and the agricultural colleges, and the new line of work under the head of "extension service" going directly to farmers it would seem that about all that could be expected from the Government has been done and yet we all know there is still something lacking. If there is a "missing link" between Government aid and prosperity let us try to find it and turn the tide towards a Nation with all industries well balanced and prosperous.

The missing link, we believe to be, is more ready available capital for farmers to use in their business. The grain system of farming can be conducted with less capital than the live stock system and with all that has been done by the state and the National Govenment except the recently enacted rural credit legislation nothing has been done to supply this want. Gradually the Farm Loan Act of Congress supplemented by State Land Banks which are sure to come will help to fill this gap but will not do it completely until we have a system that will reach the tenant farmer and that will extend credit on personal security. But these must come by the slow process of legislation and the development of public opinion.

Business Men Should Co-operate Not Antagonize

The immediate filling of this need of capital among farmers can be supplied to a certain extent by the business and banking institutions of the country if they can be made to see their opportunity. It has been announced through the public press that the State Federation of Commercial Clubs of Missouri will endeavor to raise a fund of $150,000 to carry on an educational campaign for better farming. Among the projects they propose to inaugurate are these: To get every farmer to use the "rag-doll" test for his seed corn and to induce everyone of the 114 counties of Missouri to employ a county farm advisor. Both of these, are well meant but ill advised endeavors for a business organization to undertake. Among several very simple methods for testing seed corn the "rag-doll" test is about the last one to recommend and so that alone should convince a body of shrewd business men that it would be much better to leave all questions affecting farm practice to the agricultural college and the department of agriculture and to the farmers themselves. While THE MISSOURI FARMER has published much in favor of the farm advisor movement and we believe that with the right man on the job and with the farmers of the county organized and in sympathy with the work of an advisor much good can be accomplished, on the other hand we believe that incalculable harm could be done the cause of better farming by forcing a farm advisor on every county of the state. If the Legislature should provide an advisor for every county good men could not be found at once to fill all the places. This work will fail unless well trained men are put in these places and a failure not only injures the cause but wastes valuable money besides. Then where is the state to get the money just now when her finances are in such deplorable condition? We mention this matter here not in the nature of an unfriendly criticism of the State Federation of Commercial Clubs but to call attention to a line of work that will bring immediate and lasting results and which will not involve the risk of making some costly if not fatal blunder.

Co-operative Credit Needed

We have already pointed out that about all the educational work necessary for helping the farmers to better methods is now being done by the National and State governments. They may make mistakes, no doubt they are making many of them, but with all that these regularly organized institutions are better prepared to do this work than any business men's organization can possibly be. But these institutions are doing nothing to provide better markets, free from the restraint and oppression of monopoly and right here is a mighty good place for the business men to begin their work of bettering farm conditions. Then if the State Federation will use its development fund of $150,000 to inaugurate a few demonstrations in co-operative credit and also use their powerful influence with several hundred country bankers of the state to do the same thing we will soon see things begin to move in Missouri.

We recently published a report in these columns of a Trust Company at Carthage, Missouri, which had offered to finance without interest two boys and girls calf clubs of 40 members each. The object of the Trust Company is to arouse an interest in dairying and in the handling of a better quality of live stock and the management believes that if 80 boys and girls can be enlisted in this cause that it will be worth the amount of interest $2,000 or $3,000 would earn in a year. If the State Federation of Commercial Clubs in Missouri wants to render a valuable service where it is most needeed let them follow up this idea and make loans to members of Farm Clubs whose members will agree to handle dairy cows or some other line of the live stock business. We mention dairying first because that line can be made to pay its way from the start, because no other line of farming is so well adapted to a process of soil improvement; because Missouri climate, water and pasture facilities and diversity of crops make the conditions favorable for dairying; and finally because we are well located as to markets, our home market is not now nearly supplied by home dairy products. An investigation by these business men will prove to them that all highly developed dairy sections are prosperous and the farmers have a high purchasing rating and we know of no other way in which the Business Mens' League can so quickly develop the state's resources and bring back to themselves the profit they are looking for.

Developing the Dairy Business in Missouri

One reason dairy development has made such poor progress in Missouri has been the lack of good dairy cows. Men have tried dairying with scrub cows or with inferior individuals of the beef breeds and have failed, whereas had they started with well bred Holsteins, Jerseys or Guernseys, and had given them the proper care they would have a different story to tell. In times like these when feed is so scarce and high priced about the only man who can cheerfully fill up the feed boxes night and morning is the one who is feeding a good butter cow because he does not have to look farther ahead than the end of the week to see a check that will pay the feed bills and a little more. He looks ahead toward spring or towards an abundant crop season when his feed bills will grow less and his profits larger and hence it is that dairying is a more stable business than most other lines of live stock raising.

Let us now get down to "brass tacks" and develop a working plan. If the business men go ahead and spend their $150,000 fund under their present plan at the end of the year what will they have accomplished? Possibly a few more farmers will be testing their seed corn by the rag-doll or some other proces but probably they will not. Possibly a few more counties will have employed farm advisors but that is not certain either because obstacles are in the way that must be overcome and are being reduced by the regularly constituted authorities. But if this $150,000 should be spent for high grade, good producing dairy cows and a few pure bred bulls of the same breed and these animals sold to clubs of farmers who would agree to handle them under the general direction of the State Dairy Commissioner or the dairy department of the Agricultural College, the showing for both farmer and business man will be quite different. The kind of cows mentioned ought to be purchased for $75 to $100 a head and the bulls for $200 to $300. By putting 40 cows and one bull to the club there could be placed under this plan probably 40 of these cow clubs. If the cows were allotted to club members, not more than 4 to any one man we would start out with ten men in each community and with forty communities demonstrating the value of good cows and doing more to develop the dairy business in the state than 114 farm advisors could do without capital to introduce better dairy stock. Farmers are willing to pay for what they buy but they want to get all they pay for so these cows should be sold to cow club members at cost at the farmers railroad station at a low rate of interest, say 5 or 6 per cent. The cows

HOW YOU CAN HELP

Not since we started to publish THE MISSOURI FARMER have we received such splendid support from our readers as during the last three months—for never have our subscription receipts been so heavy. Again, we are receiving hundreds of letters from wide awake farmers from all over the state—commending in words of unstinted praise the great campaign for Farm Club organization which the paper is making as no other farm paper in the Country ever made a similar campaign before. As we have said for several years, THE MISSOURI FARMER regards the question of farm organization to be the overwhelming necessity of the hour—and through its incessant hammering fully 500 Farm Clubs have been brought into existence within the last year while, before the present winter is over we believe the number will reach fully one thousand. That the Farm Club movement is here to stay—that before long 100,000 progressive Missouri farmers will be solidly banded together and that they will take over the complete buying and selling of such commodities as feed, flour, farm seeds, potatoes, apples, coal, fertilizers, salt and other similar commodities and that it will involve for them the saving of millions of dollars there is not the slightest question. Nor do these items take into consideration the greater struggle for which we are girding up our loins in the meantime—the compelling of a "square deal" for the sale of our Pork, Beef, Wheat, Corn, Poultry and other staple farm products.

What other farm paper which is coming into your home has ever tried so hard to help you in a practical way? Don't the last one of them harp on "making two blades of grass grow where one grew before" without making the slightest effort to help you get a price for the first blade which leaves you some margin of profit for your years sweat and toil? THE MISSOURI FARMER fights as hard as any of them for better farming methods—but it doesn't believe in dealing in generalities when the house is on fire. And now don't you think that a paper which is making this kind of a fight deserves your hearty personal support? We have already saved thousands of dollars for the Farm Clubs of the state and we have hardly gotten started in this great fight. Furthermore, we have been supplying this help to our friends at our own expense—for we have not profited a penny's worth on a single carload of commodities which has been shipped—nor do we expect to in the future. We went into this great co-operative fight with clean hands and expect to come out of it in the same way.

And now, my good friend, don't you think we are entitled to your support in a heartfelt fashion? The least you can do is to send us a dollar and ask us to "mark you up" for a couple of years. If all our readers who are in arrears at this time would do this much for us—and do it at once—it would strengthen our hands tremendously. But why not go a step farther? Why not go to your neighbors who are not getting the paper now and ask them to give you a dollar? Why not make up a Club of a half dozen or a dozen new subscriptions? Not only will they get a full value of their money in splendid farm information but it will make the organization of a school house Farm Club an easy matter—once they become inoculated with the idea. Now that the farmers of Missouri have a farm paper which is not afraid to fight their battles, ought they not to stand by it and help to increase its power?. I want every reader of the paper to consider this appeal as personal to himself. I want my New Year's mail to be the heaviest in the history of the paper—and therefore I hope you will not only send me a dollar for your own renewal but see how many of your neighbors and friends you can bring into the fold as well. Then I will send you literature, Constitution and By-Laws for a Farm Club in your school district—and after your neighbors have read a few issues of the paper I am sure the work of organizing will be an easy task. THE MISSOURI FARMER is waging a fight for a "square deal" for you and your loved ones as no other farm paper ever waged it before—but remember that what it will be able to accomplish rests with individual farmers like you scattered from one end of this mighty state to the other. Trusting that you won't forget and with my best wishes for you and yours for a Merry Christmastime, I am your friend, WILLIAM HIRTH, Publisher.

will pay for themselves and the club members should be required to pay from $3 to $5 a head out of each monthly cream check until the debt is settled. With good cows such as we propose to buy this will leave the farmer enough balance to pay for the monthly feed bill even though he must buy much of his feed but as week by week he comes to know that he is paying for a better cow than he has ever owned he will begin to take a deeper interest in dairying and will begin to look forward to the time when he can own a high producing and profitable herd.

Can it be done? In a recent issue of Hoard's Dairyman, about the greatest dairy authority in this country we find the following:

"Trial over a period of two years has made it so certain that with good feeding, good housing, and ordinarily good attention in other respects, a good grade or pure-bred dairy cow will meet a payment of $3 per month and interest on the principal, and that the time seems not far off when in some cases it will be possible to risk sales on the credit plan without absolutely air-tight, six per cent security, such as the plan has been based up to date."

We need organization and we need co-operation and as it is agreed on all sides that the greatest need of farmers now is more capital to work with so that he can increase the size as well as the quality of his business we hope to see these far seeing business men and bankers move out in this new field of co-operation. We can think of no other endeavor where the country bank could do its community a greater service than to finance one or more of these co-operative cow improvement clubs.

Stop Walking Through Mud

From the road to the house and from the house to the barn, concrete walks mean that much less walking through mud, to be tracked into the house. Concrete walks are inexpensive and permanent. They add to the appearance and comfort of your home.

You can make a concrete walk in a few days' time. The materials necessary are Portland cement, sand and pebbles or broken stone. Cement can be bought from your local dealer. You may already have the sand and pebbles on your farm or they may be obtained nearby.

Concrete Feeding Floors and Barnyard Pavements

are really nothing more than several walks laid side by side. Concrete feeding floors are very profitable. They save feed, manure, and labor. Easily cleaned and disinfected; they are free from mud and filth, hence kept sanitary. Many diseases and consequent loss of stock are prevented.

Let us help you to improve your farm and add to your profits by sending you a free copy of Bulletin No. 137, "Concrete Feeding Floors, Barnyard Pavements and Concrete Walks." It tells how to build them.

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CONCRETE FOR PERMANENCE

FARM ORGANIZATION IN SULLIVAN COUNTY

To the Missouri Farmer:

I will try and give you a report of the work done by our Farm Club.

We organized October 1915, having 45 charter members, representing the greater part of four school districts.

November 29, to December 3, we held a rousing school of Agriculture in which our various farm problems were discussed and made plain to us by the following gentlemen, Professors Hughs, L. F. Childers, P. B. Barker, J. W. Henceroth and T. J. Talbert. Sullivan County being adapted to live stock production, much stress was paid to that subject, and an annual stock judging contest was inaugerated between the Harris, Boon Hill and Prairie Chapel Clubs, which was pulled off at the close of the school of Agriculture, conducted by Professors E. A. Trowbridge and S. T. Simpson. The Harris club winning the cup for the year.

The short course fully convinced the members that farmers should work together o nmany farm problems. So to begin with they swore vengence on orchard pests ,and accordingly purchased pruning saws and a spray-pump, and securing Prof. T. J. Talbert as general, the war started, with the result of having nice clean and profitable fruit.

Also two experiments with soybeans convinced us that they could be successfully grown in this locality, and will fit in well on crop rotation.

Our members realizing that farmers should and must work together for self protection, and bein inspired by the splendid effort made on that line by THE MISSOURI FARMER, got busy and organized several other clubs, which resulted in the organization of The Sullivan County Farm Bureau.

It is the purpose of this Bureau to encourage and foster every project that is for the general welfare of Sullivan County.

As stock and poultry raising are two of our chief industries, and believing that a thorough knowledge of these is the surest foundation, a stock and poultry judging contest between the pupils of our schools was arranged.

About 300 pupils enrolled for this contest, who received literature and instruction from the extention service department of the University. A stockman was sent who gave exhibitions of stock judging work in five different towns in the county. The prize list which amounted to $500, was mostly raised by subscription and goes to the winning schools for agriculture and stock husbandry club work.

This contest promises to be an annual feature, plans having been made for another year and baby beef and pig feeding contests being added to the project.

The first annual farmers picnic near Milan was well attended by enthusiastic farmers and friends from Milan. A. J. Meyer and Dr. Bullock of the extension service being the principal speakers.

We have with us at present Mr. W. H. Baker, from Columbia, who is discussing the local farm problems and organizing farm clubs in the different parts of the county. We feel sure that by spring our organization will be very much strengthened.

What one club has accomplished, others can do by using a little push and sticktuitiveness.

We would like to hear from others.

Sam Yos, Chairman,
Pearce Chapel Farmers Club.

Have You Any Stump Land?

A number of our friends who have used a Hercules Stump Puller say that they have no trouble in pulling out the biggest stumps by the roots—and that once a couple of men get used to handing this device, very rapid progres can be made. We see no reason why three or four farmers should not buy one of these stump pullers in partnership and thus, during the winter months when there isn't much else to do, clear up the stumpy ground and make it raise a good crop of corn next season. Anyway, it is worth investigating and we suggest that those of our friends who are interested, write to the Hercules Stump Puller Co., 891, 25th St., Centerville, Iowa, and have them send you full particulars as to prices, etc.

Ditching and Terracing Made Easy—$35 to $50 buys this wonderful

THE Martin Ditcher Terracer

Will prevent crop failures. Cuts V-shaped ditch, cleans old ditches, remarkable dirt mover. Does work of 50 to 100 men. All-steel. Reversible—throws dirt either side. Adjustable for narrow or wide cut.

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Owensboro Ditcher and Grader Co., Inc. Box 121 Owensboro, Ky.

Cuts 1200 Yards 2-Foot Ditch in One Day—Goes Down 4 Feet

Bargains in Holsteins

Elsewhere we refer the reader to the advertisements of E. L. Ensign of Cameron, Mo., and Orrie Coburn of Whitewater, Wis., who are offering some splendid bargains in Holsteins. The Dairy business is a coming industry in Missouri and the sooner farmers begin to build up a herd, the better.

Want to Make Some Money?

Young farmers who will have some idle time this winter will do well to look up the advertisement of the Harrah Mfg. Co., which appears on the last page. Here is a handy tool which every farmer needs—and dozens of them will buy it. Why not take the agency in your community?

TOM AT THE UNIVERSITY

By Tom

Dear Dad: The Christmas holidays will soon be here and I am looking forward anxiously to the time to come home and see you and mother. The University studies are hard and it will be a great relief to me to get them off my mind for a few days, and to have the opportunity to feast upon some of mother's good cooking once more. I am also anxious to talk over farm topics with you, as I can look upon these topics now with more interest than I did before I began to make a study of them. I also want to try to get you and mother to come down to Columbia for Farmer's Week and make me a short visit and see what a great institution the University is and listen to the fine talks that practical farmers and experts will make during the week.

I am glad that you were interested in what I had to say in my last letter about the rotation. You mentioned though, that you thought that a rotation could not be worked out so easily in practice as on paper. To be sure, I agree with you there. It is not always possible to have our cropping plans to work out as we want them. Disappointments like this will always be met with at some time. The next best thing to do is to be prepared to meet them as nearly as possible with some remedy. For instance, you asked, "What will you do in case one of the crops in the rotation fails? Also, will this break up the rotation?" It will make a rearrangement for the field having the failure for that year but whatever the outcome, it will be best to go ahead with the rotation order just the same the following year.

As you well know ,the chances are that the failures will most likely come with the clover in not making a stand—what are you going to do? Now, I mentioned in my previous letter we must have a legume in the rotation to keep the nitrogen supply in the soil and we must supply one to fill this need. The legume that is a promising one for the state as a whole at the present time is the soybean. Now the soybean may not be a paying crop in all parts of the state, but as a whole it is a better paying crop than many farmers think it is. The soybean has the advantage over clover in adding nitrogen as it will take it from the air and place it in the soil much faster than clover. Soubeans may be sown in drills about 30 inches apart and cultivated. The latter method is the one that is the best for seed production. The farmers who have grown them usually get an average of about 16 bushels of seed to the acre. Some farmers have gotten smaller yields, partly due to the soil not being adapted, but in many cases the low yield resulted because they were not properly handled, as the farmer did not understand the proper growing of them. In many instances, where they have been properly handled and grown on proper soil, they have yielded 30 bushels and even more. The seed usually sells for $2.50 or more per bushel. A yield of 15 bushels to acre may be reasonably counted upon which would net $37.-50 per acre. This is more than the average acre of corn produces over the state. Cowpeas could be used instead of soybeans in some places.

Another feature that may be looked upon here in connection with a clover failure is the use of rye as a winter cover crop. We have grown rye in small patches on our farm every year for a winter and early spring pasture. This could be done in the case under consideration. Now our soils must have organic matter added to them so that the plant food will be liebrated in the soil for the crops. If the rye is allowed to get a little more than knee high in the spring and then plowed under as a "green manure" crop it will be adding the organic matter to make the "humus" that is so needed in most all of our soils. I heard an Experiment Station expert say the other day that the farmer could afford to seed his fields in the fall to rye and then turn it under in the spring, and the increased crop returns that would be obtained in following years would make the cost of seed and labor a very profitable investment. I think that you remember neighbor Smith had a small patch of rye one winter in the field east of his house and when he put the field in corn that year he plowed under the rye that was in this corner and you remember how much better the crops appeared on the rye patch for the two or three years following it, which is proof in itself that it is a big aid to building up soil fetility.

Care must be taken that the rye does not get too nearly mature before being turned under. This might form a layer of material that would interefere with the rise of water in the soil, and if it were a dry year it would prove a detriment.

The only other chance where there may be a failure in the rotation of corn, oats, wheat, clover, will be in winter killing of the wheat. In this case we have a harder problem to face in getting another crop to place in. It may not be in accord with the proper idea of a crop rotation, but it looks as if we must seed it again to oats. This is not a good paying crop for Misouri but it is the only one that we have left that we could use as a nurse crop for the clover which must be seeded at this time in the rotation.

I have so far spoken only of crops. The College of Agriculture has many herds of fine live stock which we use in our classes in learning how to judge live stock and they are also used to carry on many experiments in feeding and breeding. Quite a bit of enthusiasm is stirred up among the students to see who can excel in judging. Each year contests are held in a special class and a team is picked from the best. This team visits the State Fair and goes to the International Live Stock Show at Chicago and enters contests with teams from other Agricultural colleges. The teams that have gone out from the University of Missouri have carried off more premiums since the contests have been held than any of the other schools. The boys who make the team are an earnest bunch of fellows who go into the ring for business and later usually make the men who later go to farms and make our most successful live stock men. In future letters I am going to tell you more about live stock. A farm is not a real farm unless it is a combination of good crops, good live stock and a good master to handle them. I will close. Love to all. Tom.

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FARM BUTCHERING

Many of our country folk go about this important part of family provision with fear and misgiving, that the meat may spoil, or their guess has not been exactly right as to amount of salt used in the curing process. It is often the case, we use too much salt, thereby producing a very poor quality of ham and bacon. If we would eliminate "guess and luck," and use the scales and judgment we can produce hams and bacon that will have the packing house products skinned a city block.

I will not discuss the killing and scalding process as so many farmers have different ways of doing this, handed down by tradition or otherwise that it is no use to argue the point, until some progressive farmer installs a small butchering plant, and blazes the way for others.

I prefer a hog weighing from 250 to 300 lbs. After the hogs have been cleanly dressed, the leaf, ribs and back bones hould be removed, while the carcas is warm and blocked into shoulders, hams and middlings to be laid out on boards to cool. In case the weather should be warm, cracked ice should be placed around the meat until it is thoroughly cooled, for the meat should not be put down in cure until it is thoroughly cooled.

The following day the trimming should be done. I believe in trimming close. I like to see a nice shaped ham, shoulder and bacon. The trimmings make excellent sausage and if left in will be a loss. I would like to show every reader of this article how to trim a ham, but as I cannot, the next best thing to do, get a picture of a ham and trim until your ham looks like the picture. After the meat has been trimmed, we are now ready to weigh and to commence the curing process.

To each 1000 lbs. of meat the following mixture should be used: 40 lbs. salt, 10 lbs. brown cane sugar, 4 lbs. black pepper, ½ lb. red pepper, 2 lbs. petre.

Rub the meat thoroughly using about one-half the mixture. Let the meat lie one week in a cool place. Rub in the remainder of the mixture and allow the meat to lie about 25 days longer. Brush off the excess of mixture and smoke slowly each day for two or three weeks. Do not let the meat get too warm by having the fire too close. If you have a good smokehouse, slip a heavy paper bag over the meat and tie tightly around the string from which the meat is hung. This will prevent insects from getting in. Borax should not be used.

A good formula for Dixie Sausage: 25 lbs. of meat, one measuring cup salt, one measuring cup ground sage, one half cup black pepper, ½ teaspoon red pepper, mix before grinding.

Every farmer that visits Columbia Farmers' week, should meet Dr. P. F. Trowbridge, Professor of Agricultural Chemistry. His practical demonstration on butchering, cutting and curing meat is worth a trip across the continent to any farmer. The information you receive from him is worth all the articles that have ever been written on butchering. He can even show you how to make a good piece of bacon out of the jowl. He can teach the country beef club butcher how to make his work easier and at the same time have the member's satisfied.

I do not believe a butchering plant on the farm would be a profitable business, unless operated by a good butcher; even then he must consider the freight and handling proposition. But every farmer should always butcher his own meat and more than he really needs. A few good hams left over is a mighty fine asset. When our friends visit us—My! how they do enjoy the fresh country air when a properly cured country ham is broiling in the kitchen!

Our good friend Mr. W. L. Nelson, Assistant Secretary of Missouri Board of Agriculture, conceived a fine idea in having a Ham and Bacon Show put on during Farmers' Week. We have seen this show grow from a few pieces of meat until now it looks like a big butcher shop. Scores of hams, shoulders, bacon and sausage, from the four corners of this great state, hung on the hooks to be judged by our expert. I must confess that all bacon looked alike to me, until I became interested in this show. The first year I viewed the show. Realizing its importance, the next year I entered a ham, and landed the 3rd ribbon; the next year the 2nd premium came to me and last year the 1st premium fell into my hat. I am so interested in this show and the good it is doing towards stimulating the farmer to produce more and a better quality of bacon, that I expect to show every year, even if I get "licked."

I trust the readers of The Missouri Farmer will take a greater interest in curing their meat and if they have a real good ham send it down to the Ham and Bacon show, Jan. 1st to 5th, 1917. H. G. Windsor, Cooper County.

THE DRY SALT MEAT CURE

Between December 1, and February 1, 90 per cent of all the meat packed for home use will be cured, and the simple method used in our family for over 100 years will be given here. I may say, that in the past fifty years we have never had a single pound or spoiled meat, while hams that weigh twenty eight pounds or more are kept in the finest possible condition from year to year.

Have the meat thoroughly cooled out before cuittng up, this being most successfully done by killing in cold weather and letting the hogs hang

over night, but in no case must they be allowed to freeze.

After the meat is cut and trimmed, it is laid down and salt sprinkled over it until it is fairly well whitened, and allowed to lay a full day, in the case of extra heavy meat two days.

At the end of this time the real salting is done, when each piece is rubbed all over with dry salt, using especial care to rub salt into the ends of joints, and to keep the work up until the entire surface of the meat is damp and salt covered.

As each piece is rubbed, it is packed down in a box or cask, ample drainage being provided to carry off the bloody brine, and plenty of salt scattered over and between the pieces.

This packing is done skin side down, shoulders first, hams next, sides on top, and the meat is allowed to lay in this first salt ten days to three weeks according to size; but as a rule fifteen days is usually long enough.

At the end of this time it is taken up, the old salt shaken or brushed off, and hams and shoulders resalted, exactly as the first time, excepting that less rubbing is required and less salt used, while it is not necessary to resalt the side meat, as it will keep well without salting.

We allow the meat to lay in second salt about as long as in the first, then take it up, brush off all adhering salt, hang and smoke.

There is no rule about smoking excepting that the meat is smoked until it is a golden brown, this depending upon the weather as much as anything else, as meat takes smoke better on damp, than in cold, windy weather.

Before fly time, the meat is smoked another day, then taken down, each piece wrapped in paper, sacked and hung up to be taken down for use.

Our smoke room is 8 by 10 feet, 9 feet high, and perfectly dark, as yours should be, and if it is not, it can be made so, by lining with cheap one ply roofing felt, or even with common building paper, at very low cost.

C. D. Lyon, Ohio.

TIME REQUIRED TO CURE MEAT

The Misouri Farmer,

I have just received your November 15th. issue of the Misouri Farmer and desire to call your attention to the article o nthe curing of meat by Mr. Ingwersen. It appears to me that the meat should cure much longer than the time given by the above gentleman. For instance small hams only fourteen days and large hams thirty days and bacon never longer than four days. I have had some experience in curing meat and a safe rule for the curing of hams is to multiply the number pounds the ham weighs by three and one half. For instance a small ham of twelve pounds should be allowed to cure 42 days. Bacon should be allowed to cure from 15 to 24 days depending on the size.

I don't mean to be critical regarding the gentleman's receipt but I fear there would be considerable spoiled meat if they were followed and thought you might investigate. Just the other day I heard a farmer say all his meat spoiled and he put it away according to a formula he saw in a farm paper. F. C. Streeter,

Marshall, Mo.

Reply by Mr. T. B. Ingwersen

(Our readers may know that Mr. Ingwersen has had much experience in curing and marketing meats and that what he has to say should be carefully considered—Editor).

"To determine the length of time, meat should be cured, a good many factors must be considered.

If the meat is to be sold to a high class of trade then the greatest mistake that can be made is getting it too salty. This trade demands a mildly salted ham and it will take no other. Then there is the great difference in the salt itself. High grade salt, like the good butter salt, works much quicker than the common cattle salt used by most farmers. We also must consider the temperature. If the meat is in a very cold place it will not cure so fast, if it is frozen it will take no salt at all.

The spoiling of meat is due to several reasons: Cuttin and curing it before it is thoroughly cooled, is one of the most frequent ones. Another one is extremely warm weather, as we sometimes have it in Missouri even in mid-winter In such weather cold storage is of great value, but the farmer of course cannot have this and therefore must resort to other means to save his meat. In the first place we let the carcasses hang longer than usual, sometimes for two days; then we hand the different pieces of meat and let them hang for a day before we put them in the cure. Fermentation and later decay always starts in at the bone, therefore in order to save the meat it is of the utmost importance to get the salt to the bone first. This can only be done through an injection of brine, by means of a syringe or a brine-pump. Curing the meat for a long time cannot save it, as decay will have set in at the bone, long before the salt can get there. A third reason is the use of old and poor salt. And then sometimes a piece of meat will spoil apparently for no reason at all, but this is not the case very often.

So if we consider the fact that meat always begins to spoil around the bone, it stands to reason that a quicker cure is safer. Better salt and the injection of a little brine at the bone make a quick cure and in consequence a safe one. Since we adopted this method we have lost only two hams and I account for this loss, that the animal was overheated when it was driven to my place. Bacon will take salt very quickly, and I have never heard of a piece of bacon having spoiled. If we study the results of the Ham and Bacon show at Columbia, we can readily see the difference between bacon cured 4 days and bacon cured 15 to 24 days.

T. B. Ingwersen, Walhalla Farm,

Pike County.

CHARITON COUNTY LEADS

Mr. William Hirth, Publisher of The Missouri Farmer:

"It gives me great pleasure to write this letter, as I certainly have a fine report to make. As you doubtless know, Newcomer and Davis Clubs have been holding booster meetings in order to organize new clubs; for we are working to get a county organization in Chariton county. Accordingly, we organized two new clubs last week, with a combined membership of 17 new members, 5 at Warden and 13 at Bluff Point.

Last night we held a meeting at Jordan School house, having a total attendance of about 80, of which there were about 20 club members from various adjoining clubs. Mr. B. C. Smutz of our Club presided at the meeting, and after a number of us had presented the Club proposition from different angles, an invitation was extended to the men present to get into the Club movement. Then came the big surprise for us boosters, for while we had expected to be able to start a pretty strong club, we had no idea so many would join the first night. To be brief, we were able to enroll 36 new members, who proceeded to hold an election at once, electing Mr. J. S. Littrell, President; Mr. Ed Grotjan, Vice President and Mr. J. E. Lewis, Secretary. I believe you can expect some great things from this Club, as there are still lots of men in that district who are not Club members. The Club starts with a larger membership than any other Club around here that has been organized for several months. So I believe it will be in the interest of the Club movement for you to mention it in THE MISSOURI FARMER, as we feel that it will be a help for other Clubs to know what we are doing, and thus get them into these booster meetings in other districts. We intend to keep right on as long as good weather lasts, because we want to do our share in getting the county organized by school districts.

Much of the success of our meetings so far is due to Mr. B. C. Smutz and to Mr. Bachtel and the Heisel Brothers from Newcomer, who came about 8 miles and who are very helpful in getting the Clubs started.

And now I want to ask you what the Clubs in other parts of this county are doing? Are there any Clubs over near Keytesville and Salisbury, and are they doing anything to organize other Clubs? What is the number of Clubs in this County and what is the total membership? How many Clubs will be necessary before we get a county organization?

Now, Mr. Hirth, I know I have taken up lots of your space, but I think you will agree with me that such results as we secured last night are enough to make one enthusiastic, even in writing about it. You will find enclosed a list of members of the Jordan Farm Club, also a draft for $36. Enter their names as soon as convenient, and start a bunch of Discussions to them at once, since their next meeting will be next Friday.

I trust that our booster meetings will continue to get results, as we have done so far. With best wishes for "THE MISSOURI FARMER" I am, Your friend. C. R. Myers, Secy,

Davis Farm Club.

Note—The above letter from Mr. Myers is so inspiring we couldn't resist the temptation to publish it in full. Now why don't the farmers of a lot of other counties follow this fine example?—Publisher.

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THE MISSOURI FARMER

Devoted to Better Farming, Better Farm Homes and Better Citizenship.

Vol. VIII December 15, 1916 No. 24

William Hirth, - - - Publisher
Geo. B. Ellis, - - Managing Editor

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REMEMBER FARMERS' WEEK

Those of our readers who have ever had the pleasure of attending one of the annual Farmers' Week Conventions held in the Agricultural College at Columbia know of both the pleasure and profit that a farmer can get out of one short week. The next meeting will begin on New Year's Day, 1917, and we know of no better way that a farmer can spend a week than to visit Columbia at that time and get some inspiration and perhaps a lot of information that will be helpful in his farm work or business management during the year.

About twenty different associations will hold their annual meetings during the week and a call has been issued for a state convention of Missouri Farm Clubs that should be attended by one or two delegates at least, from every local club in the state.

During each day from early morning to 3 p. m. lectures will be given in a number of courses of interest to farmers and farm women and every afternoon from 3 to 5 the various associations will meet. The evening meetings will consist of addresses interspersed by music. Among those from outside the state who will speak at the evening meetings the State Board of Agriculture announces will be Dr. H. J. Waters, President, Kansas Agricultural College; Assistant Secretary Carl Vrooman, U. S. Department of Agriculture; Dr. P. G. Holden, Chicago; Chas. S. Barrett, President National Farmers' Union; Jno. A. McSparran, representing the National Grange; Dr. Clarence J. Owens, Washington, D. C.; others have been invited including some distinguished women speakers.

The week's exercises will close with a big banquet given by the College of Agriculture and no farmer will regret the expense if he will come and bring his wife and if convenient the son and daughter for there will be something on the program every day of interest to every member of the family.

FOOD BOYCOTT

The boycott against butter, eggs and potatoes in some of our large cities may have been about the only means the city consumer could use effectively to break excessive prices on these necessities but unless the consumers can unite with the producers to get at the real cause of high prices very little good will be accomplished. There is no doubt but what the present shortage of crops and the European war together with a car shortage have given brokers, cold-storage and commission men an unusual opportunity to boost prices and they seem to have boosted to the limit. The margin between what the farmer received and what the consumer paid was entirely too great but with all that, city people can not expect normal prices under present condtions.

Some very cold facts confront us when we look into this matter. During ten years the land more than doubled in value in the Middle West and all that the farmer must buy including hired labor has increased very materially. Just now when on account of crop shortage most farmers are milking cows at an actual daily loss, the city family should not consider butter at 50 cents a pound or eggs at 35 cents a dozen an exhorbitant price. With corn at $1 to $1.10 a bushel and hay $18 to $22 a ton with all other feeds in proportion the only reason the farmer can have for milking cows now is that he hopes to get through the winter in good condition and with a fair price next summer he may make up the loss on cheaper feed.

The right thing to do is for consumer and producer both to organize and meet each other at midway and either by law regulate these combinations or to find a direct way of marketing under their own management.

It can be done and must be done if everyone is to get a square deal.

FOR BETTER LAND TITLES

How many of our readers who own a farm or any real estate whatever who feel absolutely secure in their title? You may have a warrantee deed, you may have paid in good money, every dollar the land is worth, you may hold an abstract of title furnished by a responsible abstractor but it is quite possible that sometime in the past some one held a claim against your land which has never been properly relinquished and which may show up some of these days and cause you a lot of worry and expense. Any one familiar with what is going on in the courts of his county knows that litigation over land titles is quite common. Most every term of court there is one or more suits to quiet the title to some one's home who had thought that he held a perfectly good title until some one discovered that there was a flaw in the record and before he could sell or borrow money on his land there was but one way open and that was to quiet the title by a suit in court and this is not only annoying but it is expensive.

Every one who has ever sold a piece of land or obtained a loan on it knows how expensive it is to have an abstract of title or if he buys the land or makes the loan he must have some competent person examine the abstract to be sure it is all right. The expenses in the transfer of land for both parties will run anywhere from $10 to $50 and when suit must be brought to quiet title that will cost anywhere from $50 to $200 and then you are never absolutely certain that your title is perfectly good. The older a county gets the more trouble there is in maintaining perfect titles to land because of the increased numbers of transfers and subdivisions of the tract. In some of the older and more populous states it is now a problem to find vault room in the public buildings for the thousands of volumns necessary to show the record of titles to the land. A more serious objection, however, is the length of time and the difficulty of examining so many thousand volumes in the investigations of titles.

If there is a simpler, less expensive and safer system for keeping land titles why not have it in Missouri? A number of states and foreign countries have adopted what is known as the Torrens system of registration which does away with all the needless expense we now have except a small fee for transfer and an assurance fund is provided which forever guarantees the owner against all claims forever. This system was first introduced in Australia in 1857 by an Englishman, Sir Robert Richard Torrens. The matter has been before the Missouri Legislature a number of times but owing to the opposition of those who profit by the present system it has not become a law.

We are informed by the Secretary of the Torrens System Land Title Registration League, Mr. J. F. Kern, that a bill will be introduced again this winter by state Senator Baldwin and in the House of Representatives, by Representative C. S. Nelson, of Cass County. In introducing this system no new offices will be necessary as the recorder of deeds can be made registrar ex-officio. Also it will be left optional for any land owner to preserve his title under the old system or to choose the new as he may desire.

The cost of getting a tract of land registered is estimated to be about the same ordinarily as the present cost of getting up an abstract of title and other transfer papers but when the title is once registered there is no further expense except a small fee for issuing a nw certificate of title. The greater security the owner possesses will be worth more than the first cost of registration. The guarantee fund is provided by assessing each tract registered a normal fee—one-tenth to one-fifth of one per cent on the value of the land. The experience of those countries where the Torrens System has been tried proves that this small fee is more than sufficient to cover all claims and make good all mistakes that may occur. Is it not more desirable to pay this small fee and have the state guarantee your title than it would be to pay possibly the same fee to an attorney to examine your title and have nothing but the attorney's opinion to protect you?

In California the Torrens Land Title Law was put into effect by the use of the Initiative in the year 1914 by a majority of 125,000. If the owners of real estate want to save to themselves the enormous waste that is now necessary in keeping our records, and would keep this amount of money in their pockets they should urge the present Legislature to pass a bill this winter giving us the safe, simple and inexpensive plan of land titles—the Torrens Registration System.

BANK VS. FARM PROSPERITY

One of the many excellent local papers which comes to our desk every week is the Maitland Herald. The Herald is a fine local newspaper but we are sorry to see the editor go so far wrong when discussing an important economic question. In commenting on the showing made by the banks of Holt County in their recent published statement an edtorial says: "We have examined reports of the various financial institutions in Holt County, and so far as we can note, every one of them show a good growth in deposits and business transacted. The Maitland banks are way up in the list, and it must be very gratifying to the stock holders and patrons in general to note their healthy condition. Right here an idea occurs to us, that has been on our minds all during the campaign. You all remember there was a lot of talk about a land bill, etc. The idea occurs to the Herald that a man who has 160 acres, more or less of Holt County land, does not need land bills or a land bank; if he wants any money he can go to any of these home banks and get it and on as good terms as any merchant or business man can get it."

It is gratifying to know that the banks are prospering and that deposits are increasing. There are few counties, if any, in the state with richer soil than Holt County is blessed with and so we agree with the Herald that a man who owns 160 acres of Holt County land is in postion to command pretty good credit anywhere. But we are afraid the Herald has overlooked some facts about Holt County farms and particularly about the operation and ownership of those farms that does not make very pleasant reading. May be that is why the editor of the Herald does not care to print this information so we will do that unpleasant duty. And by explanation let us say that what we are going to say about conditions in Holt County are true of practically every county in the Middle West, either in or outside Missouri.

The Census reports of the United States may not be very interesting reading but they furnish facts that a lot of editors as well as farmers and banks ought to know. In 1900 Holt County had 17,083 people but ten years later there were only 14,539 or a loss of 14.9 out of every 100 people. The county has more wealth, more rich people and more poor people. The land is getting into the hands of fewer people and there are not so many farms as there were 10 years ago and as a matter of course, the farms are getting larger, so are the mortgages. In 1900 there were 2,256 farms in Holt County but ten years later there were 321 fewer farms, or almost exactly the same percentage of loss in the number of farms there were in total population. Suppose this rate keeps up what will the condition be in fifty years from now? Is it not about time we were giving some thought to the future?

In 1910 only 1,180 of the farms of Holt County were operated by owners —about 61 out of each 100, the other 39 were run by tenants or hired managers. But that is not all for out of those operated by the owners 51 per cent, or more than half were mortgaged. If the farms operated by tenants are so heavily mortgaged as those operated by owners, and it is reasonable to assume that they are, then Holt County had 986 farms encumbered with a mortgaged indebtedness in 1910 and perhaps a great many more by this time. On the farms reporting mortgages it was found that the amount of debt represented 30.8 per cent of the value of the land and farm buildings. This means that the farms of Holt County now have a total debt hanging over them of more than $3,500,000 besides the personal debt which is not included.

Let the Herald put on another pair of glasses and scrutinize the prosperity of the mortgaged farmer, the tenant farmer, and the hired man on the farm, and tell us what the condition of the county will be in 50 years from now unless the present tendency is arrested?

Our banking system is not organized for the purpose of taking care of this great business of farm loans and the Holt County banks however prosperous they may be are no exception to the rule. Already several hundred thousand farmers have made inquiries concerning loans of the National Farm Loan Board before the farm loan banks were organized. Prejudice and lack of information are pretty hard to overcome but we hope they will both vanish before there are many more tenants and mortgaged farms in Missouri.

KEEP A RECORD OF YOUR BUSINESS

When we came to the farm eight years ago, we began to keep an itemized account of expenditures and income. But this required daily attention. And some days were too full without adding the duty of recording the doings so we soon felt that our records were not very reliable, and finally dropped it. But one thing we do, is to invoice every New Year's Day.

We begin with the live stock, giving number and a fair value, then the grain at market price, all hay and other feed, on down to household stuff. Then make note of all debts, bills payable and bills due us, etc.

This affords a means of comparing one year with another and knowing whether we are losing or gaining on all, but we are not able to say just where the bigger gains are made or where we have lost.

Two years ago our house burned and our yearly records were lost along with a great many other things. The shock and loss nealy paralyzed us mentally for several months, so no farm notes were kept.

But at the beginning of 1916 we made our invoice again, then began a somewhat detailed record of expense and saving in a very simple way.

The largest calendar we could secure was hung in a convenient place in the kitchen and each day note was made in the space for that day on the calendar of work done, purchases made, stock bred, born or sold. At the end of the month it was an easy matter to glance over this day book and figure up the time for the hand, transfer the necessary dates to reference books, etc. Then that leaf, without being torn off was pinned up over the face of the calendar and saved for further reference, until now we have a daily record for the year. We know what work was done to put in the several crops, and to harvest them; how many days were spent hauling manure; how many days work were hired; and a great many other things that before we could only guess at.

Blank sheets of paper, one marked Groceries, one Poultry, and another Cream, were tacked on the side of the kitchen cabinet and a pencil hung by them. When the cream and egg checks and groceriy bills were brought home they were easily recorded here without the busy wife having to move out of her tracks, much less opening a desk, pulling a set of books and hunting up a separate page for each, and no one missed the time given to this. When 1916 lies behind in the cold, cold ground and 1917 beckons us alluringly we shall take down the old sheets, add up the columns and enter intelligible figures on our permanent records, and with some reliable knowledge of this year's work, hang up our new calendar and clean sheets for another year.

The New Portable—A Real One-Man Stump Puller

Proven a most economical device for clearing stump land. Pulls stumps *faster*, *cheaper* and with less work. Your fifteen-year-old boy can drive it around, load and unload it alone. The

Hercules Triple Power Portable Stump Puller

Comes equipped complete, ready for work. The new portable is the greatest development in stump pullers of today. One man handles the job alone, no extra help needed. Think of the tremendous saving of two extra men at $2.25 per day. **Hercules Beats Hand-Power Machine.** In Minnesota State Experimental Farm test the Hercules pulled more stumps than a hand-power machine and pulled the stumps at **61% less cost.** Think of it, 61% cheaper for you to operate the Hercules. The Hercules, at another State Experimental Farm test, pulled stumps at 70% less cost than dynamite. Write me your stump pulling problems today. Tell me just how much land you have to clear. I'll tell you how to get stumps out for the least money. The stump puller that **will save you money** and **do the work faster** and **safer** is the puller you want. A card from you today brings my special low price, the most remarkable stump puller offer ever made—all facts and proof, with full particulars also information regarding **Hercules Hand-Power Machine with 120,000 lbs. pull.** My book contains a fund of practical, useful information. Write for it today. B. A. Fuller, Pres. **HERCULES MFG. CO.,** 591 24th St., Centerville, Ia.

However, this year, I think, we shall hang up two calendars, one for recording the farm work and one for the live stock. My wife always keeps a record of hatches and other events in connection with her poultry on a calendar. A. D. L., Lynn Co., Mo.

SAM JORDAN'S COLUMN

One of the perplexing problems in matters relative to Farm Clubs, is the want of a program that will appeal to those in attendance, and something that will be of most worth.

A Farm Club will live just so long as there is work to do, but "death" ensues with lack of action.

At this time I desire to outline at least a part of a program that should be of great interest as well as of great value.

This is the Farm Survey of the school district. A few of the many items in such a survey will give some idea of the extent to which it may be carried. A few questions to each person who reads this article may serve to make the reasons for a survey more apparent. First, do you know the lines of your district? Are you acquainted with all the people of your district? and do you know where they live? Do you know how many farmers in your district are farm owners and how many are tenants? Do you know how many miles of highway in your district, and how many miles of road are dragged and who does the dragging? Do you know how many head of cattle, sheep, horses and hogs your district has? How many purebred sires are used in the herds? How many acres of corn, wheat, oats, alfalfa, timothy and clover, and what are the yields? How many cattle are fed for the market and how many silos in the district? How does your district compare in all these things as compared with the districts that join you?

Some farmer grew the biggest yield of corn in your district this year, and more than likely it is the same one who has for several years been growing the largest yields. Do you know who he is, and how he does it? How many plant tested seed corn that has been field selected? How many hogs did your district lose last year from cholera? What means are your people taking to prevent cholera? How many acres of pasture lands, and how many acres of waste land in your district?

I wonder how many of us can answer six or more of the foregoing questions? I believe that such information in the hands of all the district would be of untold value in many ways. It would let us know more of ourselves, and until we have that information we are not in a position to know whether or not we are making any headway. Suppose these comparisons were made in a union meeting of several districts, do you not think it would bring out some interesting things to talk about?

But let us get an outline of the survey and how to make it. Have the work done as a part of the work of the school, by the school children. First make an outline map of the district, showing where each person in the district lives, writing in the name of the person or family, and whether farm owner or tenant. This item alone will be an eye-opener to many, since few know how many farmers are tilling the land of somebody else, really a sad situation in this country. On the map there should be such other matters as would suggest themselves, such as the location of streams, roads, wheat fields, etc. This can be done the first month of school. October should show the number of acres of wheat sown, how many acres of corn put into the shock, how many silos were filled, and such other information as would naturally come at such a season. November could sum up the hogs on full feed, the yields of hay crops, and reports on orchards, then the December report could make the final estimate on the corn crop, also what was the situation with reference to Hessian fly in the wheat? January could go over the prices that prevailed for farm products from September first. In February we could find out how many persons would have to buy seed corn, and how many had their own seed, how it was selected and cared for. A report also, as to the spring pig crop.

March should show how many have tested seed corn, or how many expect to test their seed. Further reports on the pig and calf crop, how the wheat has stood the winter up to that time, and such other data as would be of interest. April can make final reports on the crop of young stock, the seeding of oats up to that time, and such matter as would naturally suggest itself. A record of prices that prevail through the season should be kept also some weather data. At the end of the year a complete report of the season's activities will have been made, one that is reliable, and done by the school children (corrected as may be necessary at club meetings).

What do you think would be the effect if it should be shown at a union meeting of four or five districts that your district made the poorest showing of any? Suppose you had but ten purebred sires in your district, and the one just south of you had twenty-five? How would the other fellow feel if the corn in your district averaged forty bushels and his only twenty-nine? Suppose your district shows twenty miles of road kept dragged, and that measly district east of you does not drag at all?

Suppose your district by "knowing itself" as you would know by such a survey, and kept on record and display at all times, that in ten years you had doubled the number of purebred sires, increased your yield of corn per acre ten bushels, and that at the end of ten years, every foot of road is kept well dragged, that instead of hiring the cheapest teacher you could find, you hire the best one you can get, in other words, instead of apologizing for your district and its people you just brag about them to beat the band? Now, that would be worth while, wouldn't it? But in the final analysis, who would be the real beneficiaries? I guess, that it would be your children who did this "farm" work, that lets us see ourselves. This work would create a vital interest among the children making them know more of the farm and of farmers.

It is certainly true that the more one knows of his work the better he will like it and the better he will succeed at it.

Those who desire their children to remain on the farm would do well, it would seem, to take such means as may be at hand to have the children know the most of the farm and its affairs. Since the children are doing this work they should have full credit as a part of their school work.

Why should not a farm boy, who has to stay at home a day or two to select seed corn, or to help butcher the hogs, or to put up a crop of alfalfa, or to help build a hen house, be given as much credit as he would be given for spending a week or two studying the map of Asia, and learning to spell the names of the capitals of oriental countries—especially when that boy will have to make most of his living with his hands on the farm? I, perhaps, am wandering just a little from my text, but maybe the digression will not hurt much.

Now, would it not be fine to discuss the final summing up of the report for the month at some time during the last week of the month, then in two weeks hold a union meeting of at least four adjoining districts and make comparisons? A rivalry for the common good would, no doubt, be the result. This plan carried out in all the districts of the state would beat any statistical law, and not only not cost the state any thing, but help the children who would do the work, and when finally passed upon by the farmers' themselves would be reliable.

If your Farm Club is to live and become a permanent success, individual members must use a little common sense and patience. The other fellows commenced to organize 40 years ago and we therefore cannot hope to turn things upside down in 60 or 90 days. I have no patience with the fellow who looks for a chance to "knock" the minute a Club is organized and who, after it has been in existence for a month or two, grumbles and growls and says "It hasn't accomplished anything." Simply come to the meetings with a smile and resolve to push instead of pull back. It doesn't make any difference if your Club doesn't save you a dollar for the first six months. If you will "sit tight" there isn't a particle of question but what results will soon begin to come. I have in mind a certain Farm Club which was slow in getting started. Soon the "knockers" were busy and some of them dropped out—but during the last 90 days this Club has saved its members over $1,500—and now these fellows are sneaking back in. Of course we are going to succeed despite these wooden headed ones—but why should we have to carry this dead weight? When men are striving to better the condition of themselves and their neighbors they deserve smiles and an occasional friendly pat on the back—not kicks, growls and sour faces.

The Code of the Mountains

By CHARLES NEVILLE BUCK

A STORY OF A MOUNTAINEER WHO BECAME CIVILIZED

CHAPTER VI

When Newt Spooner had begun his search for Henry Falkins that afternoon he had not been so unobserved as he thought himself. Not very far behind him had walked Red Newton. He had not left Cawsler's with any intention of spying upon the boy and had seen him only by chance, yet when the latter halted in front of the hotel and stood there with the telltale expression which the recognition of Falkins brought to his face, Red Newton observed it and slipped silently into the door of a convenient store. When Newt went running excitedly back to Cawsler's place, the brain of the older clansman began to work rapidly. To his memory recurred the tirade that had broken so tempestuously from the boy's lips.

"I knows what I'm atter. I knows a feller I'm ergwine ter kill." The unforgiving malice in the boy's eyes, the rigid posture of his whole body as he stood contemplating his enemy, told Red Newton the whole story. This, then, was the man Newt meant to kill. It was logical enough. This was the witness who had riddled the alibi.

At first, Red Newton shrugged his shoulders in the fashion of one who has no call to meddle in the affairs of others, but as fresh aspects of the matter presented themselves to his consideration, a very real danger to all his family arose to confront him.

If Newt should shoot Henry Falkins on the streets of Winchester before the speaking of this afternoon ,it would stir into action such a tidal wave of public indignation against the mountaineers that the more vital conspiracy would be thwarted. He surmised that Newt was rushing back to Cawsler's place to arm himself, and his first instinct was to follow. Then he remembered that the place was now empty save for the drunken Dode, and Cawsler himself, whose discretion could be trusted. So, he took no action, and, when later the same buggy passed the court-house and within it on foot ,the disappointed face of the boy told the other that he had failed. Red Newton rubbed his stubbled chin reflectively, bit off a large chew of tobacco ,and withdrew into his inner consciousness for reflection. As the result of those cogitations he strolled over to the hitching rack where he found a lowland farmer with whom he had spent a part of the morning talking cattle.

"Stranger," he suggested, "I 'lowed I'd love to ride out the road a piece, an' I figgered I'd ask ye ter lend me yore horse fer about a half-hour. I hain't ergwine fur, an ' I won't ride him hard. I'll do es much fer you when you come up my way."

With ready assent, the farmer went over and untied his plug, and Red Newton swung himself to the saddle. Then he rode slowly and casually after the boy. He did not try to overtake him, satisfying himself with keeping him in sight, while he himself remained too far back to be recognizable. But Red Newton had affairs of consequence in town, so, as soon as he was satisfied that Newt had lost sight of the buggy, he turned back. He intended to mention the circumstance to Black Pete, but Black Pete was keeping discreetly out of sight, and so he found no opportunity for speech with him.

Meantime, the throng about the court-house was thickening, and Red Newton caught sight of Jake Falerin making his way to a place near the stand. That was his own cue for action, so, forgetting minor things, and keeping as inconspicuous as possible, he began edging toward a position of proximity in Falerin's rear. He signalled with a nod to one of his kinsmen, who was standing silently, but alertly, a little way off, and who at once began working forward in answer to the sign. The plan worked with well-oiled smoothness. Red Newton came so close that he almost brushed shoulders with his intended victim, and even when he stood at Jake Falerin's back, chewing his tobacco with as little expression as a cow chewing its cud, Falerin did not turn around or suspect his presence.

As the speaking went forward, Red Newton cast his eyes about, and placed those of his kinsmen who were present. It had not been deemed advisable to have the clan largely represented, and it gave him pleasure to recognize that Falerins largely out-numbered Spooners. Later, when the question of self-defense and placing the responsibility arose, it would appear that the Falkins element had come en masse, and from this circumstance would arise a presumption of malice aforethought on their part, that would materially strengthen the Spooner defense. In dividing the mountain men into the two factions of Spooner and Falkins, Red followed the classification of the feud. The Falerins and Hulburts and their kindred were "Falkinses," though they bore other names, just as he himself, though a Newton, was nevertheless a Spooner.

At the physcological moment, Red Newton stepped forward and violently dug his elbow into Jake Falerin's midriff. Falerin wheeled to see who was crowding him, and the eyes of the two mountaineers met in a glance which escaped the generality of upturned faces. So well did each understand what a quarrel between them must mean that Jake did not hedge an inch nor attempt to evade the issue. He planted his left fist on Red Newton's jaw, while he drew with his right. But Red Newton was the more prepared, though, as he reeled back under the blow, he would have fallen, had there been room to fall. As it was he leaned against the crowd, and fired from that position, just a fraction of a second before Falerin's weapon came free of the holster. It was only those directly at Red's back who saw the swift play, and to their eyes it bore the seeming of self-defense. In the same instant, the kinsman at Red Newton's shoulder fired on the attorney so suddenly that it looked as if he too were aiming at Falerin's head, instead of just to its side.

Later in the afternoon, Black Pete, whose name had been mentioned to the commonwealth attorney by several of the Falerins, walked voluntarily into the office of that functionary. His face was grieved. Moreover, it was characterized by a show of frankness that was disarming. He said he would be glad to submit to a search—that he never went armed. He feared that in an indirect way, though entirely without his intent, he had been instrumental in bringing on the afternoon's deplorable tragedy. The commonwealth's attorney was astounded at this unsolicited statement, verging so closely on a confession, and felt impelled to warn the Deacon that he might yet find himself a defendant, and that whatever he said would be used against him. Had the Deacon been addicted to smiling he would have smiled then. As it was, he only nodded his head gravely, half sadly, as he stood there, his hands in his pockets, and his steady gray eyes unwaveringly holding those of his inquisitor.

"I reckon that's right, an' I'm obliged to you." he answered respectfully, "but I find as I go 'long that a man gets just as far by tellin' the full truth."

"Just as you like. What part did you have in this affair?" demanded the state prosecutor—a little too eagerly.

"Maby you'd better let me tell it my own way." suggested Black Pete imperturbably. "I haven't got much education and I may ramble a little, but I'll do my best. You know all about the feud, I reckon? I went West years ago and out there I got to see that these things are foolish. A sort of truce was patched up finally, and it was agreed that I must stay West, and Jake Falerin must leave the mountains, too. I got a little money saved up, and sent word that I was coming home to settle up a mortgage on my sister's farm, and attend to some other family business. I didn't aim to stay, and I havn't been any closer to the mountains than right here. I wasn't goin' any closer till everybody agreed to it. I didn't think these fellers would fight right here in Winchester."

The Deacon stood with the regretful air of one who has been disappointed in his confidence as to the worthiness of others. At last, he continued in a conscious-stricken tone:

"I've been studying' about it considerable since it happened. I'm afraid the Falerins saw me, and figured I'd broke the truce by comin' back, and, when Jake met Red in the crowd, they both got panicky, and begun to shoot.'

That was all the Deacon had to state except his promise to remain in Winchester, subject to the call of the commonwealth. He knew that no one, save a handful whom he could trust, could implicate him in the conspiracy, which he had devised and engineered. His claws and fangs were well-tucked under his sheep's hide of innocence. While he was in the law-office, the jailer arrived with news that Red Newton and his other prisoner had asked to see Black Pete Spooner, with a view to employing counsel for the defense. The Deacon turned to the commonwealth's attorney.

"What do you think?" he said. "I reckon these boys have that privilege, haven't they? I want to be fair all round. If they did shoot in self-defense, I want them to have their rights, but I'll be here if you need me."

So, late in the afternoon, in the privacy of the cell which the two mountaineers complacently shared, the Deacon heard from Red how the boy, Newt, fresh from the penitentiary, was already on the trail of a marked-down" victim. It was news that disconcerted the master assassin to a degree which he would not have cared to admit. These men depended upon making a case of self-defense, and looked to him to see them through. The gravest element that confronted them was the violent dislike of the bluegrass, where they must face trial, for the murderous tendencies of the mountains. If there should occur on the heels of the first tragedy a second, traceable to a mountain man, the fat would be in the fire. At all costs, young Newt must for the present hold his hand. Above all else, that was imperative. Black Pete questioned the prisoner searchingly and learned that Newt had gone out Main street, and Red had followed him for some distance. Therefore, that was the road upon which young Newt must be watched. Cawsler later reported the manner in which the boy had come demanding arms, and the Deacon bitterly regretted having surrendered to him his own pistol.

And Newt had disappeared. Of each Spooner he met, the Deacon demanded news of his whereabouts. Finally, near the court-house, he met a man who had seen the sought-for one sauntering slowly out the road near the edge of town. Since it was only a few minutes before, he could not have gone far.

The Deacon hurried forward, and from a party of incoming negroes he learned of the dance, which explained the procession of buggies and gave reason that his intended victim would be there. At least, it would be worth investigating. But of Newt himself he saw nothing, for when he reached the spot where the boy had climbed the fense to kill time behind the hedge, he unwittingly passed him by. At the beginning of the stone fence, where he caught first the music and the light of the festivities, his eye took in the growth of locusts and his mountain mind reckoned by swift processes. Here was such natural cover as a man would be likely to seek in working his way surreptitiously rearward. He had begun to fear he might be too late in which event his coming at all would be more fatal than staying away. That haste prevented his using the most exhaustive caution, and so he did not explore to the far side of the woodland, but crossed the fence at the nearest corner and went swiftly back, skulking in the shadow. In point of fact, instead of being later than the boy, he arrived first, but on the opposite side of the broad lawn. When he had gone back as far as the house level, his painstaking search commenced. He was not only endeavoring to remain concealed, important as that was, but also to penetrate the shadows and find the other hidden man. It was the thing that would have been sheer impossibility but for his splendid woodcraft and the catlike focus of his eyes in the night. So, when he had exhausted the possibilities on that side of the house to his full satisfaction, he recognized his mistake, and knew that he had wasted precious time. He should be on the far side, and, taking a long detour which carried him far to the rear of the barns and led him behind the fence line of the paddock lots, he worked his way up again to the front until he reached the edge of the lilac bushes, and could see the summer-house. To that spot he began crawling noislessly, and, led by a sure instinct and while still some fifty yards away, his trained eye caught a stealthy shadow also hitching forward at his front. There still lay between him and Newt Spooner the matter of some thirty yards, and, even if he rose to his feet and ran for it, he would overtake the boy so close to the vine-covered retreat that any sound of interference would result in the discovery of both. He did not personally know that the summer-house was occupied, but he argued it from the movements of the other skulker. Newt was so engrossed in his hate that at this particular moment he had eyes and ears only for the front. Between the lilac thicket where Black Pete crouched and the vine shadows where Newt knelt, lay an open space of flooding radiance, but it was directly behind the summer-house, and, unless Newt saw him crossing it, no one was apt to see. The Deacon rose to his feet and ran for it.

As Newt thrust the revolver behind him to cock it, Black Pete's hand closed silently around his, and Black Pete's thumb was jammed between the backdrawn hammer and the firing pin.

CHAPTER VII.

Henry Falkins and Lucinda Merton had not kept close count on the flying moments since they had entered the summer-house. The girl had promised to sit out two consecutive dances with him, since to-morrow morning he must go back to the mountains. So, having only a little while and much to say, he had plunged in, and, though his voice was low, his words came tumuluously. Of course, she knew that he was in love with her, but until to-night it had been a thing which had been given no concrete declaration. Except for a glow of confession in her eyes ,she had said nothing of love to him. Yet now, when he wished to claim every moment for himself, she had asked him to tell her about the hills and their people, of whom she and her world knew so little.

"I want you to understand the life and conditions there," he told her, and yet I don't want to talk of that to-night. I would like to paint for you true picture of my mountains just as they look under this moon, as they will look when to-morrow's sun comes up over the peaks and begins to drive away the lingering mists; of the elder bushes and rhododendron and wild roses that bloom on the tangled slopes; but to-night I want to talk only of you and me."

He paused, and her voice carried a responsive thrill as she said:

"I should love your mountains; it must all be very beautiful—but so diferent from this." Her eyes traveled out with native pride over the smooth opulence of the country, which had seemed the Promised Land to the eyes of its pioneer discoverers.

"Yes," he admitted; "it is very different. We have rugged fields and rugged people. Down here you spring from Cavalier stock. But to-night there are in the world only ourselves. Let's talk of our private universe." His voice was feverishly eager. "Until I can in some way improve my fortunes, God knows I ought to be silent as to love." He leaned forward and added desperately: "But I can't be

silent. After all, what is the use? You know I love you. If I never spoke a syllable of it, you would still know it. You can feel it in the tremor of my hand when I take yours in greeting. And if I lock my lips, my eyes give them the lie. You know I love you, but you will never know how much."

He leaned forward and his breath came fast while his heart pounded with great anxiety of putting his fortunes to the touch. He had knowledge of other lovers who had come and gone; gone very reluctantly, from the quest of her heart.

He had known her a year ,and friendship had grown into that intimacy which tacitly admits something deeper than the casual. In her house he had been accepted almost as a member of the family—but that need not mean that he was accepted as a lover. In his mountains such an association would have been tantamount to an engagement, but here in the bluegrass it was different.

There had been sometimes a quality in her smile which he had never seen on her lips or in her eyes for other men, and she must know of his love. Still, he had heretofore been content to hope without certainty—and now the moment had come when, if he had builded on false dreams, he must wake to a reality of which he could think only with terror.

For his own crude land, he was a rich man, whose status was the status of a baron; but down here in the counties of aristocracy and wealth, he was poor and a mountaineer.

"I suppose," he went on, with a voice that came from a taut throat, which he forced into measured syllables, "I suppose that until I can offer you a home like this, I should not ask you to confess a love for me, even if you could feel it. I can't even ask you to marry me yet, and still because you must know it, because you have a heart that must tell you, it seems to me that it is only hypocritical to lock my lips. My heart is too full to be dammed up. It must have utterance. It must say, 'I love you.' I can't go on any longer being just a friend." He paused a moment and wiped the moisture of his anxiety from his brow, and his voice was tensely even in its control. "It means too much now, for that. If I am living in a fool's paradise I must know it before it is too late. They say we men of the Cumberlands have somber natures that take things seriously. To hope too long—and then fail—" He broke off again and added quietly—" that would be a thing that would utterly ruin me. I love you."

The girl did not at once speak. He saw that her face was downcast and that her breast rose and fell, in an emotion which might be pity. Perhaps she, too, found speech difficult because she was merciful. A man and a girl were coming toward the summer-house, and Henry Falkins watched them with a fascination of fear lest they interrupt. The seconds seemed to stretch into an interminable suspense. Slowly he put out his hand, and took hers. Her fingers trembled in his grasp and slowly he bent and kissed her lowered head.

"I am waiting," he whispered; but something in the voice said more and told her of the torture of his doubt.

At last, very slowly, her face came up and her eyes met his. They were misty eyes, but smiling, and as he bent with a wild leaping of his pulses and took her in his arms, her lips, too, met his, responsive to his kisses.

Finally he rose, and now it was his own hands that trembled and his own senses that swam with the intoxication of a happiness which seemed to him miraculous.

"I suppose," laughed the girl, "I ought to be ashamed to surrender so quickly—butI'm not. I'm very proud. proud."

For a moment after that they sat silent and across the moonlight came the band music and the softened laughter of the dancers. And it was at that moment that Newt Spooner, so close that they could almost have heard their breathing, was reaching into his pocket for his borrowed revolver. The pause was brief, or the girl, looking into her lover's eyes, became suddenly beset by a new thought—perhaps some subtle premonition—and in its wake came panic. She laid her hands on his shoulders and bent so close that he could feel the play of her breath on his forehead.

"But you are going back there," she exclaimed; "back to the mountains, and I'm afraid. Are you in any danger, because, if you are, you shan't go! I won't let you go. Why, only today, there in Winchester, think what happened!"

The man laughed.

"I sha'n't be hurt," he assured her. "Your love will be my talisman."

"If my love has such power," she exclaimed, "you will go on living to the end of time."

He took her two hands in his.

"Let's have no thought of danger tonight," he said. "To-night belongs to love, dearest: to love and to us."

And that was the exact moment at which Black Pete Spooner closed his hand over the pistol, thrusting his thumb between hammer and pin, and his fore-finger between trigger and guard.

So suddenly interrupted at the threshold of his attainment, a man from the lowlands would have betrayed himself with oath or explanation, or at least have struggled noisily in the grip that thwarted him. Newt Spooner was a mountaineer. Ambuscading caution was to him as instinctive as to the fox or weasel. He felt his hand drawn down at his back so forcibly that, crouching with his weight on one knee and one foot, he could not rise—yet he remained utterly noiseless. He carefully turned his head, and at the distance of a few inches recognized, even in the darkness, the drooping mustache and square jaw of the Deacon. The Deacon was holding a finger of the disengaged hand to his lips in an imperative command for silence. Black Pete was always a diplomat. He regarded this moment as one of rather desperate crisis, calling for extreme finesse.

No word of explanation could be spoken; the slightest sound of scuffling would give the alarm fatal to both. He knew that the implacable hatred of this single-idead boy was not a thing to yield readily. So he continued to put into his manner and touch something of subtle and friendly reassurance, lest Newt flare into reckless and needless antagonism. And Newt felt at the moment a wave of relief in recognizing one of his own people.

The strategist gently shook the hand which held the weapon in hint that Newt should surrender it, while he nodded and laid the other hand conciliatingly on the boy's shoulder. But Newt, although he made no sound or motion, held tightly to the pistol, and so for a moment while Henry Falkins was boasting of his safety with the confidence of youth and love, his intended assassin crouched not six feet away while the man who sought to prevent his act bent over him, holding his hand, and the wills of the two wrestled in utter silence.

There is in all leaders, good or bad, a phychological, almost hyponotic element of power which can, at need, act without words. Black Pete was recognized so thoroughly as a man of leadership that the enemy talked peace only on the basis of his exile. Newt Spooner had always regarded him with awe as the leader of his clan. Moreover, the Deacon's attitude just now was rather that of a friend than that of an enemy. The hypnotism of his masterful quiet was telling on the infuriated boy and yet there flared anew in his breast a dangerous resentment against the balking of his purpose. How it might have ended is problematical, but as they held their strained pose, and as Henry Falkins talked on in false security, a second couple came strolling to the summer-house. Finding it occupied, they banteringly apologized for intrusion, while Miss Merton and her escort blushingly declared themselves on the point of departure, and went back to the dance. So the chance was gone. Slowly, Newt surrendered his pistol, and the Deacon silently rose to his feet and pointed off through the bushes. The boy strode sullenly on ahead and neither he nor his captor made a sound or spoke a word until they had progressed so far into the shadow that they were safe from overhearing. Then and then only Newt wheeled. His voice was almost a sob in its bitter and vibrant passion, as, with blazing eyes and snarling teeth, he demanded:

"What in hell did ye do thet fur? Damn ye, he b'longs ter me. Ye didn't hev no call ter interfere." He threw himself prone on the ground, clawing into it with his lean fingers as a frenzied animal might claw, and his thin body racked itself with silent sobs of anger and frustration. It ended in a fit of coughing which he could not control, and which he mothered in his two hands until the paroxysm passed.

The Deacon sought to sooth him. Most mountaineers speak with a nasal harshness, but this man had the exceptional quality that gave to his words an ingratiating and velvety smoothness.

"Don't worry, son. I wouldn't have interfered, only I was obliged to. He's your enemy, and he did you wrong, but this ain't the moment to kill him. Go back home and bide your time. If you need help, call on me after a little."

"Hits as fitten a time es any," blurted Newt tensely. "They hain't no manner of use puttin' hit off. I tells ye I'm ergwine ter git him. Hit hain't ergwine ter do no good to argify with me. Nothin' hain't ergwine ter change me none."

"Son," insisted the other calmly, "I ain't aimin' to change you. I've never let men change me, have I? But there's a time for everything, an' just now you must hearken to me." He sketched briefly and forcibly his interviews in the office of the commonwealth attorney and at the jail. He enlarged on the fatality of having another shooting by a mountaineer tread so close on the heels of the first tragedy.

"You ain't aimin 'to put these boys' necks into ropes, son?" he suggested chidingly at the end. "You can get your man without makin' your own kin pay such a steep price. All I ask of you is to pass me your word that you won't do anything until you get back to the hills. Seems to me that's fair enough."

Newt sat silent for a time, scowling blackly, but at last he rose and nodded.

"I gives ye my hand on thet—because I don't see no way ter help myself," he capitulated. It is the mountain's formula of oath and though the men who use it rarely shake hands, its utterance is a recognized bond.

"Come along to town with me," suggested the Deacon. "You can sleep at my boarding' place, and in the morning you can start out."

But to that proposition Newt shook his head.

"I aims ter start right now, es soon es I kin buy a snack ter put in my pocket," he announced decisively. "Which road goes towards Jackson?" When at last he did lie down for sleep that night, it was under the lee of a last year's straw stack and surrounded by the rustling spears of this year's corn, where he could look up at the stars and call defiantly upon them all to bear witness that he had no intention of being deterred by the interference of any man.

(To be continued.)

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CANDY MAKING

By Bab Bell, University of Missouri.

Candy-making in the home is a source of great pleasure during the long winter evenings, especially for the youthful members of the family. While much improvement has been made in the commercial candies, a vast amount of cheap candy is sold. These cheap candies are handled in a dirty manner, exposed on counters and bought by many children. It is far better to teach the children to make good, clean, wholesome candy. Then, too, home-made candy is an economy.

The basis of all candy is plain sugar —the kind we have on our tables. This is called cane sugar or sucrose. Cane sugar and beet sugar are identical in composition — contrary to popular opinion. The differences which have been noted are probably due to the degree of purification in their manufacture.

Candy may be divided into several classes, but the underlying principles are always the same.

Fondant—Fondant is probably the most inexpensive and the most easily made. If every step in fondant making were understood thoroughly, other candy making would be much easier.

Recipe for fondant:—5 cups sugar, 2½ cups water, ¼ teaspoon cream of tartar.

Place in a smooth pan as one with a rough interior tends to collect crystals. Cook slowly, without stirring, to the soft ball stage. Remove the crystals from side of pan by means of a moist cloth, wrapped around a fork. Pour into a platter which has been moistened with cold water. Let stand until cool enough to hold the hand on the underside of the dish. Then stir until creamy. Afterwards knead with the hands.

Important Points in Fondant Making

1. The cream of tatar is added to split up the cane sugar into simpler sugars—glucose and fructose. Mixtures of equal amounts of glucose and fructose are called invert sugar. Fondant can be made without the addition of an acid as moist heat and slow cooking accomplish the same result as the acid.

2. Long, slow cooking is required in order to change cane sugar into invert sugar.

3. If the syrup refuses to cream when beaten, it is because too much acid has been added. Add more sugar and water and cool rapidly.

4. Do not stir the candy when cooking as this causes crystals to form.

Fondant may be kept weeks or months and then made into different kinds of candy.

After kneading place in a bowl and cover with moist cloth. Often fondant with crystals will become smooth with long standing.

Using fondant as a foundation, the following candies are possible:

Chocolate (dip fondant into melted chocolate); Stuffed dates (add nuts); Cocoanut balls; Fondant and figs; Cinnamon balls, etc.

Fondant may also be flavored with maple, carmel or coffee and shaped in any way desired.

Tutti-frutti also is made from fondant. Butter a dip dish or pan. Fill with three layers of fondant. Have the bottom layer maple, well mixed with English walnut meat; the second layer colored pink, flavored with rose, and mixed with candied cherries cut in quarters and figs finely chopped; the third layer white flavored with vanilla, mixed with nuts, candied cherries cut in quarters, and candied pineapple cut in small pieces. Cover mould with oiled paper and let stand over night. Remove from mould and cut.

After-dinner Mints

Melt fondant in a double boiler. Add essence of peppermint and fruit coloring (a delicate pink or green is very attractive.) Drop on oiled paper with spoon—let harden. From melted fondant various fruit and nut candies may also be made. Drop fruit and nuts into melted fondant. Remove and place on oiled paper. White grapes are especially attractive when dipped in fondant.

Fudge:—An easy and successful way of making fudge is as follows: Make fondant and pour into platter to cool. While hot break up piece of chocolate and drop on top of the fondant. Also butter and nuts may be added. When cool, stir and knead all together. It is easier to add nuts after most of the stirring has been done.

Brittle Candies:—Melt sugar, stirring constantly with a metal spoon (wooden spoon will burn). Pour into buttered pans in which nuts or cocoanut have been placed. These brittle candies are delicious as well as wholesome and nutritious, and so easy to make!

Candy for the Children

Children naturally crave sweets which is probably due to a physiological need. There is no necessity of depriving children of the pleasure of eating candy, if it is given in a judicious manner. However, no child should be allowed to eat candy at any or all hours of the day, because it lessens the desire for wholesome foods. Children need food for the growth and repair of tissues, and candy furnishes only energy. Therefore candy should be given after a meal. Many mothers try to eliminate candy from the diet of their children, claiming that it injures their teeth. Candy does not injure the teeth by direct contact as is generally supposed. The teeth decay owing to the lack of mineral salts in the diet. These mineral salts are supplied by wholesome foods given at the various meals. Now when candy is allowed between meals the children have no appetite for these wholesome foods, so the folly of the indiscriminate use of candy may be readily seen.

Sugar as a food.

Sugar is a very valuable article of diet. It furnishes the body with fuel for heat and energy. Sugar can be readily assimilated and its effects in case of fatigue or starvation can be felt in one-half hour. It should not be used in large quantities as it is likely to ferment in the stomach. Sugar contains but little moisture and must draw on the lining of the stomach for water. This is the reason we are thirsty after eating candy.

The 1916 Thanksgiving is past and Christmas will soon be here and, dear reader, what have you done to make the life of some unfortunate one more happy? Remember it is more blessed to give than to receive.

By Old Jim Riley

I know you all don't expect much from an old duffer like me—but here's wishin' all of you a Merry Christmas anyway. 'Th' World gets to believin' that th' hearts of us old codgers is all shriveled up—but its because th' World don't know. Just because we are old and wrinkled and because our faces are covered with whiskers—well, its alright but th' World don't know how we sometimes hanker for a little tenderness—for just a word or a smile —cause haven't we all bin boys in our time and don't you spose that once in a while we hear th' slay bells of th' moonlight nights of long ago and th' merry shouts of those whose voices are asleep on th' hill up yonder? No, th' World don't know. It doesn't think —and so sometimes when we get out our old bandanas it ain't because we'v got a cold. Its because somebody has stepped on an old man's heart—and we kind a gulp and make out as if th' tobacco smoke had got in our eyes. And so when I smoke my old cob pipe back of th' stove down at old "Hez" Browns on Christmas Eve—why I am goin' to be thinkin' about all of you and wishin' you well.

BUCKSHOT BY THE PROFESSOR

If some men should change dispositions with their dogs the dogs would get mighty badly cheated.

* * *

The egg nog bunch had better "make hay while the sun shines"—for the stuff that puts the "kick" in it is on skids and the skids are greased.

* * *

The only way some fellows believe in celebrating Christmas is to fill up with old "red eye." But never mind. There's a powerful dry spell a-comin'.

* * *

Once more I rise to make a motion —and my motion is that the regular Army get out of the way while the Anti Horse Thief Association attends to Mr. Villa.

* * *

When you murmur your Christmas prayer, don't forget the sad ones across the sea—the homes from which "Daddy" has gone forth to return nevermore.

* * *

The World has got some mighty mean men in it—but none is meaner than he who takes the sunshine out of a child's heart by telling it that there is no Santa Claus.

* * *

It doesn't make so much difference what Santa Claus brings to your little ones. The important thing is that he doesn't forget them. And then there is Mother—sweet, patient, uncomplaining Mother.

* * *

There are a thousand and one things that are "higher than a cats back"—but you don't hear of anybody proposing an embargo on them. And all this goes to show that the farmer has become the great National "goat."

* * *

Here's wishing all of you a Merry Christmas. And now try to get all the meanness out of your soul during these blessed Yuletide days. Try to get up with a smile each morning and contribute your share toward making everybody happy.

* * *

Get a half dozen of your good neighbors to join you and attend the big Farm Club Convention which meets in Columbia on January 2nd and 3rd. It will be mighty well worth your while —for it should prove the greatest gathering of farmers that ever met in the history of the state.

* * *

That Jim Riley person went to the city the other day to "see the sights." You see Christmas is close at hand and I guess he figured he had to lay in some "supplies." Well, the funny thing about it was that he stumbled over one of those "Safety First" signs on the street corner and came mighty near breaking his neck.

* * *

If you like old Jim Riley and me, won't you please send "the paper" a dollar on subscription as a sort of New Years remembrance?

You see with the high cost of paper and other things it costs more money than ever to keep it going—and if it should stop Old Jim and me would be out of a job. And would you miss us just a little bit? Here's hoping you will not only send a dollar for yourself but make up a Club of new ones among your neighbors. My best wishes are for you and yours.

PULLMAN AND TOURIST CAR RATES TO THE FARM CLUB CONVENTION

As most of the Farm Clubs of Missouri already know, a statewide Farm Club Convention will be held in Columbia during "Farmers' Week" on January 2nd and 3rd—and surely every Farm Club in the state should be represented by a strong delegation at this great gathering which will mark the beginning of the greatest farm organizaton movement ever attempted in any state in the Union.

Wherever possible, we suggest that a Tourist or Pullman Car Delegation be made up, for which the charges will be as follows: The cost of a Tourist Sleeper will be $25 per day with the understanding that it must be used **for not less than three days** and that **at least twenty persons** will purchase railroad tickets for the round trip. Your local railroad agent will make application for the car and have it ready for you on the evening of January 1st—or for use upon such regular train as your party desires to use in order that it may reach Columbia not later than the morning of Tuesday, January 2nd. It is necessary therefore that the local railroad agent be given plenty of time to order the car so that it will be at your station on time. These cars will run straight through from the starting point to Columbia—thus making it unnecessary for your party to change trains. When the car arrives in Columbia it will be parked in the local railroad yards and a porter will remain in constant charge. Thus your party will sleep in the car at night and not be compelled to look for hotels or prviate rooming houses—a source of great annoyance, especially in the winter time at gatherings of this kind when the local hotel accommodations cannot take care of the crowds. Again, your luggage can remain in the car in charge of the porter—and you will be free to eat at any hotel or restaurant you please.

A 16 section Tourist car contains 32 upper and lower berths—one person to the berth. At a cost of $25 per day therefore, these sleeping quarters and other comforts will cost less than $1 per day, per person, should your car contain as many as 32 passengers. If it only contains the minimum of 20 passengers the cost will be $1.25 per person. A Standard Pullman Sleeper can be gotten under the same conditions at a cost of $35 per day—but since the Tourist Cars are heated by oil stoves at night and cost $10 less per day, we feel sure delegations will be well pleased with the latter service.

A "manager" for your delegation should be appointed the moment the delegation is made up and such manager should look after ordering the car, buying the tickets, etc. While in Columbia, your delegation can take in as much of the splendid "Farmers' Week" program as it desires—starting on the journey home when you get ready. There is no reason why farmers should not bring their wives—for they are certain to enjoy the trip and the "Farmers' Week" program immensely. Already a lot of Farm Clubs are planning delegations—but there is no time to lose and all it needs is one or two "leaders". That every farmer who attends the great Farm Club Convention will feel repaid a hundredfold there is little doubt—for the trip will be like a big, pleasant "house party" and when you get back home the last one of you will feel like pulling off your coat for the great Farm Club movement. THE MISSOURI FARMER.

Stock Farm For Sale

280-acre farm belonging to the estate of Samuel Morton, located 10 miles west of Columbia, Mo., and 2 miles north of Huntsdale, consisting of 280 acres of good hill and creek bottom land all in splendid state of cultivation and mostly in grass, plenty of stock water the year around furnished by living springs. Improvements consist of good 4 room frame dwelling, 2 tenant houses, 2 barns and other necessary outbuildings. This is one of the best stock farms in Boone County and must be sold in order to make a division of the estate. I also have for sale splendid 80-acre farm near Columbia. Very respectfully, L. T. Proctor, Adm'r, Columbia, Mo.

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THE PUBLISHER'S CORNER

I have a number of requests for good farm hands and wish that those who read this paragraph would get in touch with me at once. I will have no difficulty in getting a good place for you.

* * *

A friend of mine in Chicago who owns a fine 340 acre Indiana farm wants to employ a young married german to help run it and he will offer the right man a good lay out. Write me when I will put you in touch with him.

* * *

As stated in our last issue, we have quotations on excellent Alflafa seed from Kansas farmers at all the way from $6 to $9 per bushel and if Farm Club Secretaries will get in touch with us we will put them in direct communication with these Kansas farmers. I am satisfied that this is more reliable seed than you can buy from the average seed dealer.

* * *

We have made arrangements with a big Michigan Salt Co. to supply the Farm Clubs with wholesale prices on carload shipments of salt—and generally speaking it means a saving of about 35c per barrel. Where Clubs can handle a carload the local dealer should be given a chance to bid, as he might be glad to turn the salt he has on hand into cash at a close price.

* * *

And now the politicians are considering an embargo on food stuffs—but you don't hear anything about an embargo on hundreds of other items upon which the price has increased over 100 per cent. Thus when a victim is needed the farmer always becomes the "goat"—and do you think this would be true if farmers were thoroughly organized? Isn't it high time we placed ourselves in position where we can defend ourselves?

* * *

I want every Farm Club member in Missouri to realize that the great fight ahead of us is not so much to "buy things cheap" as it is to get a "square deal" for what we have to sell. One reason why the farm organization movements of the past have amounted to so little is because they went gunning for rabbits and ground squirrels while the big beasts of the jungle were left unmolested. It is "big game" that we are after this time.

* * *

"Dollars are scarce" wrote a farmer from Vernon County the other day—"but I rustled around and found one and here it is to help you continue the great fight you are making for the farmers of this state. Wish I could make it a $10 bill. But I'll see if I can't scare up some new subscriptions among my neighbors." This is the kind of sentiment that counts. If we had 10,000 farmer friends like this in Missouri we'd "set the woods on fire."

* * *

The pitiful lack of farmer organization was never more vividly illustrated than in the Alfalfa hay which we succeeded in locating in the hands of Kansas farmers and which, less than 30 days ago could have been bought at from $11.50 to $12 per ton F. O. B. Kansas points. By the time our friends woke up, however, it had been gobbled up by the commission men—and now we will have to pay a premium of $4 or $5 per ton for it. How much longer will we remain "asleep at the switch?"

* * *

Our coal company, despite the car shortage has shipped about 25 car loads of coal to Farm Clubs during the last two weeks and as against present retail prices this has meant an average saving of close around $100 per car—or $2,500 on the whole bunch. In the near future we trust that each one of these Clubs will try and send us at least $20 in subscriptions which will still leave them a clear profit of $2,000. As the car shortage relaxes we trust to be able to move the coal out faster.

* * *

The National Live Stock Commission Co. does the biggest business at the National Stock Yards—and since it has been doing this for a number of years it indicates that it must give splendid satisfaction to the hundreds of shippers and feeders who consigners—and every one of them is a to it. I know every man in this great "wheel horse." concern personally and have no hesitancy in recommending them to the feeder and shipper friends of THE MISSOURI FARMER. If you expect to ship to the National Stock Yards this winter, get in touch with them.

* * *

If you believe in the fight which THE MISSOURI FARMER is making, why not send us a dollar to renew your subscription so it will reach us on New Year's Day? This is the best way to show us that you are with us. Now that the farmers of Missouri have a farm paper which is willing to fight their battles, ought they not to stand by it? The other fellows always stand by their friends. That's why they always win. With the help of every thinking farmer in the state there is no question about what we will be able to accomplish—but if only a farmer here and there gets up behind us the fight we are making in your behalf will fall short of the fullest measure of success.

* * *

We have made a strenuous effort to locate corn in the hands of Missouri farmers who have some to sell—and while we have been able to locate a quantity which the Farm Clubs have promptly gobbled up, we find that most farmers who have a surplus a holding it for higher prices. However, we will be glad to furnish wholesale prices at the hands of a big Kansas City Commission Co. and in this way we will be able to save at least the local dealers margin to our farmer friends. The first step to take is to organize several school house Farm Clubs so that carload shipments can be handled—and those in the drouth stricken sections should lose no time in doing this. Once we get a lot of Farmers Co-Operative Elevators scattered over the state this matter will be much simplified—and it will mean an enormous saving to the farmer.

* * *

I want every reader to read the fine letter of Mr. Myers, sec'y of the Davis Farm Club in Chariton County which appears elsewhere. Also the article from Mr. Gray of Vernon County—as these things show what farmers can do when they wake up. The Chariton County fight is being led by Messrs. Bachtel, Smutz, Heisel Bros. and Mr. Dryer, Ernest Schowengert, S. R. Schmutz, J. B. Hagood, Mr. Williamson, Mr. Gray, Mr. Graham, Mr. Winkler, Mr. Schumacher and Mr. Fitzpatrick are doing the same. Over in Saline, Messrs. Rea, Brownfield, Pence and a lot of other "wide awakes" are lighting up the school houses in every direction. In the near future the Farm Bureau of Marion County will hold a big farm organization convention and thus the good work goes on.

* * *

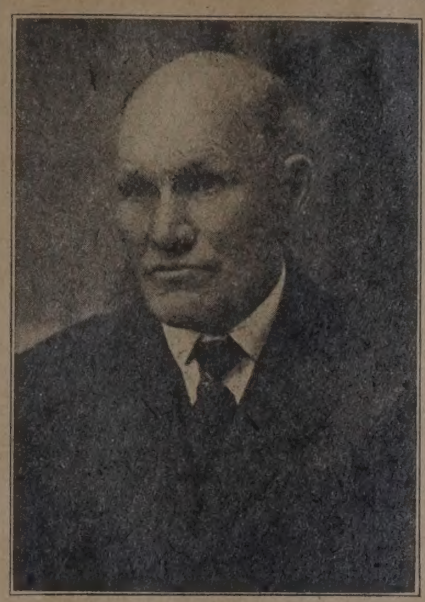
We regret to be compelled to change to a poorer quality of paper with this issue and the reader can get an idea of the advance in the cost of paper when I tell you that this car load of stock which has just arrived costs $1100 more than the same car would have cost 14 months ago. I trust our friends will help us to bear this heavy increased burden by sending us a dollar on subscription so it will reach us not later than New Years. Or better still, make up a Club of a half dozen subscriptions among your friends and neighbors—for upon this kind of support largely depends our ability to continue the fight which we, among all the other farm papers, are makin' single handed and alone. Again, is not this support a mere bagatelle after all when we offer to save ten times this amount in a few months to the farmers of any school district who w get together and form a Farm Club?

* * *

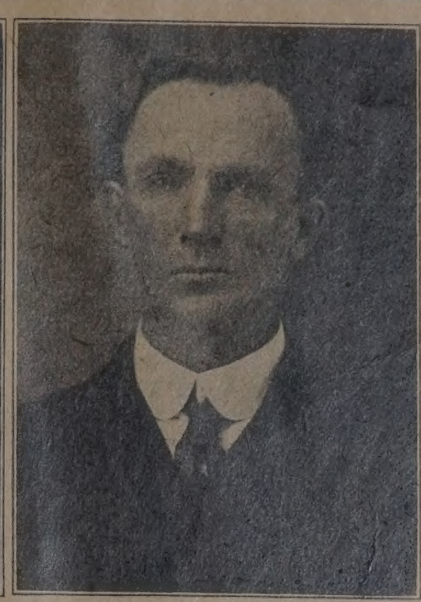
I hope that the women folks and the young folks in whose homes THE MISSOURI FARMER is a visitor will take immediate advantage of the splendid Free Library offer which we made some weeks ago. All you need to do to get a dozen of the finest books going is to make up a Club of a dozen two year subscriptions to THE MISSOURI FARMER at a dollar each. Then the dozen books can be passed around until each member of the club has read them. When this has been done, each club member will become the permanent owner of a book which would cost you 75c or a dollar at any book store. In the meantime, you also have two years subscription to the paper—and you have been permitted to read a dozen of the best books published. Now isn't this an easy way to get a fine winters reading? We will supply you with a list of 100 books out of which to make your selections. So get busy and make up your Club at once.

* * *

Here is a new idea for our Farm Club friends: If your Club will get busy at once and make up $20 in subscriptions for our splendid series of Farm Club Dissusions, we will give you a "Bulletin Board Service"— that is, once each month we will allow your members to list the things they have for sale or the things they want to buy—and this Bulletin will be mailed to each Club once per month and I feel sure it will provide a useful and much needed service. It is intended as a supplement to our regular Farmers Market Club Bulletin which was designed for individual farmers—a special service for the Farm Clubs which have qualified for the Farm Club Discussions which every Club should have any way because it means they will have a live topic for discussion on each meeting night. I feel that this free "Bulletin Board" will appeal strongly to every wide awake Farm Club in the state and officers should therefore get busy on the necessary subscriptions without delay.



Aaron Bachtel, Brunswick, Mo.



B. C. Smutz, President Davis Farm Club, Brunswick, Mo.

C. B. Myers, Secretary Davis Farm Club, Brunswick, Mo.

THREE FARM CLUB LEADERS IN OLD CHARITON

Above we print the pictures of three of the Farm Club Leaders of Chariton County—and our only regret is that we are not able to accompany them with the likenesses of Heisel Brothers who richly deserve a place in this litle gallery of "live ones." The first is the picture of Aaron Bachtel—the man who "set the ball rolling" in old Chariton. Mr. Bachtel is a splendid type of the successful farmer and fine citizen of which every community has its share—only, unlike Mr. Bachtel, many of them are "asleep at the switch." Mr. Bachtel is a farmer who believes that farmers "can do something"—and some months ago he organized the first Farm Club in Chariton County and "proved it." Mr. B. C. Smutz, successful farmer and President of the Davis Farm Club has not only built up a successful organization of his own, but together with Mr. Bachtel, Heisel Brothers and Mr. Myers he has perfected an "organization squad" which is lighting up the school houses far and near and soon Chariton will be ready for a County Farmers Ass'n. Mr. Myers, Sec'y of the Davis Farm Club is a splendid example of the young farmer who is "awake"—and he is contributing his full share toward the great Farm Club movement. And now why can't every county in the state follow the splendid example of these men? Don't you see that with such aggressiveness we could soon have 100,000 farmers banded together? These men don't stand around in a blue funk of doubt. They don't ask for speakers. They simply send word that they will be at such and such a school house on a certain night—and when they get through telling about what they are doing and what other farmers can do every man in the house is ready and anxious to form a new Farm Club. With 1000 such men we could literally set Missouri "on fire" in 60 days and we commend what these men are doing to our friends throughout the state.

Classified Advertising

ANGORA GOATS FOR SALE.—Seventy-five head Angora goats. Reason for selling they have cleared my place. Robt. A. Holekamp, Hillsboro, Mo.

SKIM MILK WANTED.—We are in the market for skim milk, quote delivered price and daily quantity you can offer in your own cans. Armour and Co., Kansas City, Kans.

FOR SALE: Some good recleaned timothy seed at two dollars and twenty-five cents a bushel ($2.25) laid down at Shelbyville, Mo., in ten bushel lots or more. In seamless sacks twenty-two cents extra. A sample of this seed took first prize at Shelby and Knox County Fairs. Geo. Burkhardt, Epworth, Mo.

SPLENDID HOLSTEIN BARGAINS!

HOLSTEIN CALVES, 10 heifers, and 2 bulls 15-16ths pure, elegantly marked and from heavy milkers, 5 weeks old, $20.00 each, crated for shipment anywhere. Send orders or write.

EDGEWOOD FARMS,
WHITEWATER, - - WISCONSIN

Live Stock Notes

Shetland Ponies

Nothing makes a boy or girl more happy and contented than to have a fine Shetland Pony. This gives them a great pleasure and a recreation and will make them more contented with farm life. You could not give your children a better Christmas gift than a good pony. Elsewhere in this paper will be found the ad of J. B. Smith of Platte City who has some fine ones for sale.

Angus Sales

J. D. Blackwell, Fayette, Mo., reports the following sales in the past few weeks on registered Aberdeen-Angus cattle.

W. F. Gray of Trenton, Tenn. 4 head of yearling heifers.

W. W. Pierce of Trimble, Tenn. 10 head of cows and heifers.

T. H. Underwood of Kossuth, Miss. A fine yearling bull.

Chas. W. Weiss of Jackson, Mo. 4 head yearling heifers.

G. W. Helms of Eldon, Mo. 2 head of yearling heifers.

Watson's Durocs

Look up the ad of W. C. Watson, New London, Mo., who comes before the readers of THE MISSOURI FARMER with a superb offering of Durocs. He offers choice spring boars and bred gilts that are sure to please the most exacting. Most of spring crop is sired by Baxter's Cherry Chief, out of dams of the most popular blood lines. Mr. Watson has priced everything to move and ships only good individuals. Write for information and mention THE MISSOURI FARMER.

A Chance to Get Good Angus Cows

J. D. Blackwell of Fayette, Mo., offers well bred, registered Aberdeen-Angus cows that will calve in early spring, also two year old heifers, that will calve next summer, bred to fine Erica and Barbara bulls. Good individuals and well bred. Also, some yearling heifers, and calves from 9 months old up. Registered bulls from 18 to 22 months old, weights from 1000 to 1100 lbs., and several coming yearling bulls that will be ready for service in early spring.

Williamson's Polands and Shorthorns

Mr. H. S. Williamson, proprietor of the "Oakwoods" Herds, at Centralia, Missouri, writes that he now has 32 spring boars, big lusty fellows, for service now, and 21 summer and fall boars 160 to 100 lbs. "These spring boars are litter mates to the 60 head of good gilts I sold last June to the University of Missouri. Will also sell 15 to 20 tried sows, bred for early farrow. These are my herd sows, and are sold for no fault.. I also have some late fall yearling gilts 300 to 350 lbs. as good as walk in Missouri, and that means anywhere. Hogs immune from cholera.

"In Shorthorn's I have some real bargains in bull calves, young bulls of all ages, heifers, calves, yearlings, and some 2 year olds bred, and a few cows some with calves by side. Prices reasonable. Guaranteed as represented and to please you in value and quality, or money back on return of same to me."

Dryden's Choice O. I. C's

Mr. J. M. Dryden of Phelps City presents an exceptional lot of gilts for sale. These gilts are of March farrow sired by "Ohio Chief" by "Trade Winner." These gilts are out of aged sows and are bred to "Wonders Climax" by Wonder the grandsire of the Grand champion boar at the Omaha and International this fall. Wonder has more prize winners and grand champions to his credit than any Chester White sire living today. Wonder Climax crossed on these gilts will no doubt produce something worthy a place in any herd, as in this cross we have the blending of the blood of two grand chamion sires. Wonder and White Eagle are first prize winning blood on the dams side also.

Bargains in Boars

C. L. Conaway, Nelson, Mo., starts a card adv. in this issue that is of great interest to those in the market for boars. Mr. Conaway offers the choice of six fall yearling boars for $40. These boars are big, husky, stately fellows with high backs, big bone and quality. They are sired by Big Leader and Successful. Five growthy spring boars; one sired by Bridges' Bob Wonder, a bargain at $30, one by Big Leader and three by Columbus Defender at $25 each. Mr. Conaway needs the room and offers unusual values for immediate shipment. Why not enclose check with first letter and get choice. Mention THE MISSOURI FARMER when writing.

WHY NOT RAISE MORE SHEEP?

The weeds, the briars, the brush and the poor hillsides all over Missouri need more sheep and these may be added to the slim pocket books of thousands of hard working farmers. The increased demand for mutton and wool insures prices for many years to come, at least that will give a reasonable profit to the man who will give a little intelligent effort to the raising of sheep.

We have often stated but it will bear repeating that Missouri is better adapted to profitable sheep raising than any of the Middle Western states. This state already has a greater number of sheep than any state bordering on it but the number could be increased several times without interfering with any other branch of the live stock industry.

Sheep raising should be attractive to the poor man because he can get into the business on very little capital and because the returns will come in twice a year—when the wool is sold and when the lambs are ready for market. On most hill farms in Missouri a small flock of sheep can be kept at so little real expense that the wool will pay all costs of keeping and the farmer will have for his profit whatever he can get for the lambs and the added fertility left on the soil. It is not only advisable to keep sheep on our poorer lands but the best of our upland farms should have a flock of sheep to be used as gleaners, soil improvers and not the least important profit makers. If the farmers of England can make sheep raising profitable on land worth several times what our best lands are worth then why can we not do it with so many advantages in our favor?

We print below a few paragraphs on this subject from a bulltin of the Pennsylvania Agricultural College written by B. O. Severson which are worthy of careful consideration:

"The demand for mutton and wool is greater than the supply. The value of mutton is higher than it has ever been. Wool prices advanced even before the European war began, and the latter has created abnormal wool values. In spite of this increase in value, there has been a decrease in wool production in the United States. There were 328,000,000 pounds of wool grown in the United States in 1909, and 288,000,000 pounds in 1915, a decrease of 40,000,000 pounds in six years. The total number of sheep in the United States decreased from 52,447,861 in 1909 to 49,162,000 in 1915. The average increase in value of sheep in the United States has been gradual since 1910, when they were worth $4.12 per head, while on Jan. 1, 1916, they were worth $5.17 per head.

"Even with the decrease in numbers of sheep, their value has increased, due to a growing appreciation of mutton as food. The average value on the world's greatest market (Chicago), for 1915, was $6.40 per cwt. for sheep and $9.05 for lambs, an increase of 80 cents per cwt. for sheep and $1.15 per cwt. for lambs, over 1914 average. The question may properly be asked, "Why have mutton and wool production decreased?" The decrease has been largely due in the west to the "gradual encroachment of agriculture" on grazing lands, "and the consequent increase in the cost of sheep raising."

POLAND CHINAS

Poland Chinas & Shorthorns
Bred sows and gilts. The real big kind with bone and quality. A few serviceable boars. Several extra good young bulls and heifers. Satisfaction guaranteed.
H. S. Williamson, Route 6 Centralia, Mo.

Spring Boars by the Grand Champion
A desirable lot of early spring boars by The Giant, acknowledged to be one of the greatest young Poland China boars of the breed. Prices within reach of all.
WILL G. LOCKRIDGE - - - - - - Fayette, Mo.

BAKER'S REAL BIG-TYPE POLANDS
We have a number of extra good spring boars sired by Big Look that we are offering worth the money. Need the room and must sell.
W. A. BAKER & SONS, BUTLER, MO.

Linhardt's Polands
I have a choice lot of extra good fall gilts sired by outstanding boars. Customers in 26 states. GIANT MAMMOTH 68375 and CHIEF BIG BONE 75856 in service. Priced for farm trade.
H. O. LINHARDT, LOHMAN, MO.

DOOLEY'S SPOTTED POLANDS
Big bone, spotted pigs now ready to ship —$25 single pig, $45 pair, $65 trio. Pair and trios no relation. Also registry furnished. Send check with first letter.
EDGAR DOOLEY, - Etterville, Mo.

POLAND CHINAS!
—BOAR BARGAINS—
Six choice 1915 fall boars, first choice $40; choice of five spring boars $30. A few late spring and summer boars at relatively low prices. Choice lot of fall pigs now ready to ship. Write or come. Cholera Immune—Satisfaction guaranteed
C. L. CONAWAY, - NELSON, MO.

MARSHALL'S POLAND CHINAS
We are offering exceptional values in early spring pigs. Also booking orders for fall pigs. Strictly big type breeding. Satisfaction guaranteed.
S. R. MARSHALL & SONS,
GLASGOW, - - - MISSOURI

BARGAINS IN POLANDS
I raise hogs to sell and must sell. March pigs either sex $25 each, May pigs $20, July $15. Older sows open, bred or with litters relatively low. You must be satisfied or your money back.
WM. J. BRITT, Owner of
Shady Glen Herd, - Rush Hill, Mo.

POLAND CHINA
Am offering you an opportunity to buy boars and gilts of outstanding individual merit and most popular blood lines. Sired by Big Bone Leader, Big Bob, Bridges' Bob Wonder, Crow's Extra, Big Black Orange, etc. Prices reasonable. Everything immune. Satisfaction guaranteed.
G. E. PETTY, - VERSAILLES, MO.

SPOTTED POLAND CHINA BOARS
I have a number of Spotted Poland China boars for sale that are descendents of Budweisser and out of such famous sires as Salisbury Lady and Milan Girl. Also, some Big Type Black Polands, sired by Missouri and Kansas State Fair prize winners. Price for quick sale $25 F. O. B. Rocheport, Mo.
HALL & RAPP, - Rocheport, Mo.

POLAND CHINAS
Am offering rare bargains in spring boars and gilts of strictly Big Type Breeding, everything immune. Write for information. Also Scotch Collie dogs for Sale.
BEN FRANK, - Jefferson City, Mo.

FOR CHRISTMAS!
What can you buy for the children that will give them much pleasure and do them as much good as a SHETLAND PONY. For prices and description write,
J. B. SMITH, PLATTE CITY, MO.
I also have anything in the lines of Jersey Cattle.

Boyd's Poland Chinas!
A few choice spring boars sired by the A Wonder and Boyd's Big Orange. Both of these boars are state fair winners. Also some good fall pigs, both sexes. Can furnish pairs and trios not related. In addition to this I am offering a few choice bred sows, all of which have had litters and raised them.
A. O. BOYD, Rfd. 6, COLUMBIA, MO.

Whittaker's Grand Champion Hampshires!!
My 1916 State Fair Record: 1st Junior boar pig; Senior sow pig; 1st, 2nd, 3rd, Junior sow pig; Grand Champion sow; 1st young herd; 1st on young herd bred by exhibitor; 1st on get of sire; 1st on produce of dam. Trophy Cup. Am offering spring boars and bred gilts of same breeding.
MARK WHITTAKER, - MIAMI, MO.

O. I. C. Bred Gilts
We offer ten choice gilts of March farrow sired by "Ohio Chief" by "Trade Winner" and out of aged sows, bred to "Wonder's Climax" by "Wonder," for April farrow. Also a few September pigs by "Ohio Chief." Everything guaranteed as represented and priced reasonable.
J. M. DRYDEN, PHELPS CITY, MO.

DUROC JERSEYS

Thompson Bros. Early Spring Duroc Boars!
We are now offering the trade a Select lot of early spring Duroc boars. Bred by Col. Wonder II, and T's Cherry Chief. The big kind with quality. Everyone guaranteed.
THOMPSON BROTHERS, - (Box 25) - COLUMBIA, MISSOURI

Durocs With Size and Bone
I am offering a choice lot of early spring pigs with unusual size, bone and quality. Bred right and priced right. Visitors welcome.
A. C. BROCKMAN, R. F. D. 2, Centralia, Mo.

Big Duroc Fall Pigs With Quality
Farrowed in August and September, sired by Col. Wonder II., Rexall Col., and Cap't. Courtesy. These pigs are of the proper type, quality and conformation, decidedly well bred, and priced reasonably for foundation stock, single, in pairs or in trios. Satisfaction guaranteed.
R. L. (BOB) HILL, ADENHILL FARM, - - COLUMBIA, MO.

Top Notch Durocs
I have 100 late spring pigs weighing from 90 to 100 lbs. All good color and quality. No better Durocs anywhere. Write me what you want.
GARRARD & SON, - McBAINE, MO.

Taylor's Grand Champion Durocs!
Am offering choice boars and gilts, same breeding that won 6 champions, 26 Firsts, and a total of 63 prizes at Mo. State Fair and St. Louis Agricultural Show, at reasonable prices. Write for prices and descriptions.
CHAS. L. TAYLOR, - OLEAN, MO.

DUROC-JERSEY

CHERRY CHIEF'S PRIDE 187003
KING OF THE BREED
We have the best of herd gilts and fall pigs to be offered for sale. They are royalls bred and gread individuals. All immune. WILCOXIN & PORTER,
BOWLING GREEN, - - MISSOURI

DUROC JERSEYS
Big spring boars and bred gilts priced to move. If you want royally bred Durocs with lots of stretch, bone and quality, write.
W. C. WATSON, NEW LONDON, MO.

Why the "National" Leads Them All

THERE ARE SEVERAL REASONS why the **National Live Stock Commission Co.** does the biggest business at the **National Stock Yards.** First and foremost is the reason that we have built up the most powerful force of salesmen that ever fought the selling battles of any Live Stock Commission Co. in the Country—it matters not where located—men who know what a hog, steer or sheep is worth and who go the limit of their splendid ability in trying to get the **"high dollar"** for it. **It is because hundreds of shippers in the 18 states which embrace our territory have come to have the utmost faith in us that we do the biggest business at the National Yards—and since "nothing succeeds like success," this is why our volume grows bigger each year!**

But, after all, there is another reason: It is because we pay just as much attention to the welfare of the small shipper as to the big one. In other words, we realize that, comparatively speaking, what a small shipper receives for one load of hogs, cattle or sheep means just as **much to him** as what a big shipper receives for a dozen loads—**and thus we have built up hundreds of friends among the smaller feeders and shippers who know that their interests will be painstakingly looked after in our hands!** If you expect to ship to the Nat'l Yards this winter, let us hear from you. We will be glad to give you any helpful suggestion in our power. In the meantime, we wish you and yours a Merry Christmas.

The National Live Stock Commission Co.

NATIONAL STOCK YARDS, - - ILLINOIS

"The fact that the United States imported 263,928,000 pounds of raw wool in 1910, and 308,083,000 pounds of raw wool in 1915, demonstrates that there is a great demand for wool. Pennsylvania ranks second to Massachusetts in the United States in the production of woolen goods. There were 104 establishments, employing 7,207 persons, and the industry was capitalized at $15,811,911, in Pennsylvania, in 1909.

"As a demonstration of the demand for wool in the United States at the present time, the following resolution was passed on January 31, 1916, by one of the largest wool and textile associations in the United States:

"'The Philadelphia Wool and Textile Association, being intimately acquainted by their trade requirements with the sheep industry of the world and especially of the United States, feel it to be their duty to arouse the attention of the people of the United States to the decrease in the number of sheep in the United States, and in consequence thereof, to the decreased supply of wool and meat available f the need of our population. From the facts regarding this matter, which come to our knowledge, we not only have evidence of decreased production, but it appears to us that this decrease will continue unless effective efforts are made to interest and encourage our farming population to engage more generally in the maintenance of sheep. Moreover, we a aware that these supplies available from foreign sources are evidently also on the decline, and we have seen what serious effect a foreign war can produce on such sources of supply.'

Aberdeen-Angus

I am offering a number of young bulls, cows and heifers—good individuals and well bred. Also some extra good **Poland China Hogs** at moderate prices.

J. D. BLACKWELL, - Fayette, Mo.

ANGUS CATTLE

Herd founded 1904

Young stock sired by Dean's Eric 139686. Also offer splendid herd bull for sale. Every one the right kind and priced to sell.

V. E. LAWRENCE, - Salisbury, Mo.

High Grade Holstein

Holstein cattle for sale. High grades and pure breds. Registered bulls $50.00 up to $150.00. The kind that please. Tuberculin tested.

E. L. ENSIGN, - CAMERON, MO.

Relation to Soil Fertility

"The 'golden hoof' explains the relation between sheep and soil fertility. The high nitrogen and potassium content of sheep manure, which is readily available as plant food, and the tendency of sheep to spread their excrement uniformly are the factors which increase soil fertility. When sheep graze too closely they may injure grass land, but this should not be mistaken for depleting the soil of its fertility. The following table gives the relative value of manure from various classes of live stock.

Weight and Value of Manure from Farm Animals

	Total Excrement in one year	Value per ton
Horses	15,877 lbs.	$2.56
Cattle	26,061 lbs.	2.00
Sheep	1,367 lbs.	4.45
Swine	2,375 lbs.	3.38

Based on nitrogen 15.84 cents per lb., phosphoric acid 8.25 cents per lb., and potash 5.3 cents per lb.

"Although the value of sheep manure per head, annually, is not as great as that of cattle, horses or swine, its value per ton is greater because of its higher nitrogen and potassium content, and its lower moisture content.

Sheep as Weed Destroyers

"Sheep consume more weeds than any other class of live stock, except goats. It is estimated that sheep will eat 90 per cent of all troublesome weeds. They will destroy weeds in pastures, in grain fields and corn fields after harvesting, and clear the fence rows. However, sheep are not scavengers to the extent that they can thrive on refuse and weeds alone. In order to get sheep to consume leaves on shrubs, the tenderer grasses must be scarce. Goats are better adapted to clearing brush land than are sheep. Some farmers consider sheep necessary as an economical means of controlling weeds.

The Sheep's Place on the Farm

"It is the specialist only who would engage in sheep raising as his main farming enterprise, but a medium-sized flock is invariably suited to conditions on an average farm. Sheep require relatively little labor, the greatest amount being required during lambing time, which is generally in March, a month when the average farmer wants employment for his labor. Buildings may be erected cheaper than for any other class of live stock. Rough feeds that are wasted and weeds that are a nuisance are utilized and made into marketable products of mutton and wool, and sheep may be slaughtered so as to provide fresh meat at any season of the year."

BARGAINS IN JERSEY COWS!

From one to a car load of good, young registered Jersey cows, mostly fresh or soon due; offered at sacrifice prices because short of feed and cannot winter. Also, a few open heifers and young bulls. Write your wants or come and see this stock.

THE ENNIS STOCK AND DAIRY FARM,

(Just south of St. Louis.) HORINE, MISSOURI

P. M. GROSS
Live Stock Auctioneer
"Twelve Years on the Block"
Pure bred Sales a Specialty
Sales Made Anywhere
MACON, - MISSOURI

Thos. E. Deem
LIVESTOCK AUCTIONEER
Selling for the foremost breeders. Address
Cameron, : Mo,

BROOKVIEW HAMPSHIRES

Herd headed by GEN. TIPTON and SIR BROOKVIEW, both grand champions. Spring boars and gilts of choice breeding and individuality. Prices reasonable.

ISOM J. MARTIN, - Kahoka, Mo.

RAMS Registered Shropshires—yrls. and twos. Bred for weight and wool. That's what you raise lambs for. The best go first. Come to the farm or write C. W. Chandler, Kellerton, Iowa 80 miles north of St. Joseph, Mo.

REGISTERED PERCHERONS, 39 heavy 3 and 4 year stallions, 68 rugged 2 yr. olds. Can spare 25 reg. mares, 24 reg. Belgian stallons. Priced worth the money. Near Kansas City.
OLD FRED CHANDLER RANCH,
Route 7 - - CHARITON, IOWA.

HAY AND CORN

CARLISLE COM. CO.
Established 1889
Rooms 736-746 Live Stock Exchange
KANSAS CITY, MO.
References
Stock Yards Nat'l Bank
S. W. Nat'l Bank of Commerce
Commercial Agencies
GRAIN

JERSEY CATTLE

REG. JERSEY BULLS

Choice Registered Jersey bulls at bargain prices. Grandsons of Noble of Oaklands and out of heavy producing dams. Yearlins, $50; Calves, $20.
BLUE CLIFF FARM,
BLUE SPRINGS, - - MISSOURI

JERSEY CATTLE

Bulls ready for service. They are sired by the Owl's Champion 85990. His grand dam on dam's side, Rubano's Fancy, has a record of 21 lb. 10 oz. in 7 days. We have these young bulls for sale at a price that ought to move them. Also a few heifers.

Wm. H. Bruns & Son, Concordia, Mo.

RED POLLED

RED POLLED CATTLE

Herd established 16 Years
Young stock for sale. Young bulls sired by LOGAN 13500; Calves sired by KNOCKER 28791. Bred for milk and beef. Also offer spotted Poland China hogs and Rieds Yellow Dent seed corn.

H. L. SNYDER, - - POLO, MO.

HEREFORD BULLS

Two registerd bulls, long yearlings, best of breeding and high class individuals. Not the cheap kind.
HUGH WHITEFORD,
GUILFORD, - - - MISSOURI

HOLSTEIN CATTLE

IN MISSOURI

Prince Segis Walker Pieterje 123955 heads herd. Dam 30.13 lbs. butter in 7 days, milk testing 5.07 per cent. A.R.O. of dam, grandam an ten nearest dams of sire, 29.75 lbs. Six of these are 30-lb. cows. His five nearest dams all test over 4 per cent. Bulls 2 to 8 months old, $150 to $350. Always have cows and bred heifers for sale. Everything registered Holsteins. Tuberculin-tested.
S. W. COOKE & SON,
Maysville, De Kalb Co., - - Mo.

SHOULD FARMERS ORGANIZE?

Some months ago, 400,000 railroad employees demanded the eight hour law. They gave Congress an ultimatum to pass such a law within a certain number of hours. The law was promptly passed.

But when 6,000,000 farmers demanded an investigation into the affairs of the Beef Trust, furnishing sufficient proof that this Trust was violating the laws of the country, their demand was ignored. Why is it that the one demand was immediately complied with and the other denied?

The answer is easy. The railroad men are organized and have the power to enforce their demands. The farmers are not organized and are therefore helpless. The Beef Trust has made in recent years an annual profit of about 50% on its common stock, including water and all. The farmer has fed these same years, his hogs and cattle, just for the philanthropic purpose of feeding the world and enriching this Trust. For this noble work he has not alone donated his own sweat and toil, but most of his feed and grain too, and few cattle and hogs have realized for him more than the purchase price. In order to accomplish this, he had to spend all his savings and borrow all the money he could on his farm and otherwise.

Now in these times of greatest prosperity, of which the farmer has created the major part himself, he is actually facing the greatest calamity that can befall a farmer—that of losing the old homestead. It is hard to understand why the Packers are killing the goose that is laying the golden eggs for them. But these predatory trust magnates have never shown the least regard for their fellow-men, the future welfare of their own country and their own enterprises. The Lumber-kings have devastated whole states. The timber was acquired by them mostly for a mere song. The beautiful forests and the valuable timber which once belonged to all the people are gone forever—then, although these men paid little or nothing for all these millions of trees which they cut down they never went to the trouble and expense to replant a single one.

Just as our great forests have been destroyed for the benefit of a few greedy men, exactly so our once rich and fertile prairies were quickly robbed of their fertility for the sole benefit of the Grain and Beef Trusts. The poor farmer, like the slave he is has to do this miserable work and according to Government Statistics receives the pittance of one dollar for a day consisting of 16 hours of toil and about 3% on his invested capital. All profit goes to the Trust and even the fertility which is taken out of the soil by the crop goes without compensation, just as our beautiful trees did, as a gift to a few greedy milionaires. But what do these men care? They have no country which they love and in which they take any pride. As soon as they have skimmed the cream from one section, they move to another. The Lumber kings have moved to Canada and the Grain and Beef Barons have already begun their nefarious business in Argentine and Brazil. What is the distress of the American people to them, so long as there are other countries to plunder? Of all the modern highwaymen the Beef Barons certainly do the greatest damage. They have discouraged and ruined the Live Stock industry which is so indispensable to permanent Agriculture as only with it, it is possible to maintain the fertility of the soil. At the same time they exact a heavy toll from the city dweller on his daily bread and this hits the poorest classe the hardest.

A railroad man told me the other day that he was earning $150 a month. "If it was not for our union, I would be earning $1.50 per day," said he. We farmers are earning only one dollar a day. Would we work 16 hours for one dollar if we were organized? Would Congress have turned us down if we had as strong an organization as the railroad men? Would our State Legislature deny us a reasonable Co-operative and Corporation Law? Would it deny us a law that would protect our herds against vagrant dogs? Would it deny us any reasonable law we want, if we were thoroughly organized?

Why is it then that the American farmer is still holding back? Why is it that he is still selling his wheat to the Trust at a little over two cents a lb. and buying his flour from the same trust at almost five cents a pound? Why does he frequently sell his cattle at six cents to the trust and buy his meat back at 20 cents? Why does he pay from six to eight per cent interest when his own capital earns only three per cent? Why does he earn in sixteen hours only one dollar when his railroad brother earns five dollars in eight hours? Why does he allow the stray vagrant dogs to harass his cattle, and kill his sheep year after year? Why does he pay two and three and more profits for the implements, the machinery, the wire, the twine, and the necessities of life which he has to buy? Why is he still looking on, when the mortgage grows at an alarming rate and the remedy is within such easy reach?

Is he such a fatalist that he believes he cannot change his fate no matter what he does? A good many farmers have told me "What is the use, we cannot help it, the trusts are too strong for us, they've got all the money and they own the Government too—so they are bound to get us." Let me say that "faint heart never won fair lady," and that the man who never tries will certainly never get there. If 400,000 railroad men can dictate to Congress, what could six million farmers do?

I can tell you what one hundred united farmers did, in old Pike in the "Show Me State." In the dry year of 1913 they set the price of bran from $1.50 down to $1.00; of ship stuff from $1.65 to $1.10; of potatoes from $2.50 to $0.85. Woven wire bought by the carload was reduced over 50 cents a hundred. Salt, corn, oats, oil-meal and every thing was handled to great advantage to the farmers. Today these very same farmers own their own warehouse on the railroad tract and employ from three to five men continually doing the farmer's business for the benefit of the farmer instead for the benefit of the trusts, and saving their patrons a princely sum annually. What a hundred farmers have done and are doing in one poor county, certainly can be done in any community. If all farmers would organize in their respective school districts and buy and sell together they would reap an immediate benefit not only in dollars and cents but in pleasure as well.

All these clubs united in the state would possess a big stick that if wielded right could do wonders and united under a national head they would be the greatest power on Earth. Under such an organization all trusts would melt away like snow under a summers sun. Then there could be happy farm homes once more, relieved of the ever threatening mortgage. Farming would become a safe business and the city dweller would have his daily bread untaxed by the insatiable greed of useless middlemen. Every farmer in this fair land of ours owes it not only to himself and his family but also to his country to join the ranks of the fighters who fight for their homes and for their country against the meanest and mightiest enemies this country ever has had, or ever will have.

Your country needs you! ! !

Join your School District Farm Club without delay. If there is no start one. Become a leader. Leaders are needed, and many of them. Lead your fellow farmers in this great fight, for the battle is now on. It will be no sham battle either. It is in dead earnest.

It is either the Trusts will get us or we must get them. The old General said, "The battle is always won by the party who gets there firstest with the mostest men." So time and numbers are the greatest factors. Why then wait? You may be able to hold your own for a while yet. But remember, while you wait your weaker brother is falling by the wayside. His mortgage will be foreclosed and he will be a dead soldier—no longer able to help us fight the big battle. Don't say you are "too busy" with other things. What will it profit you to save one pig in the feed lot while the Packers steal two? If we will use our heads we will be able to save all three pigs. There isn't another thing in the world as important to the farmer at this hour as this great farm organization fight.

T. B. Ingwersen.

Forget Everything Else Think of Money-Making for a Minute!

Here is a Secret

ARE you making money? No? What's the matter? You want to, don't you? But wait. I know. I've been discouraged a thousand times. I've walked around with my hands in my pockets, thinking and thinking and getting nowhere.

Now things are different with me. I'm making money and I'm organizing the greatest crowd of money-makers the world has ever known. Want to get in? Listen. One man without training, just my instructions, made $45.00 in one day—another $1000 in one month.

You and Your Family Can Have the GOOD Things of Life

I am not sentimental. I like to make money. I am running this ad to make money. But when I slam down my desk at night and ride home under the maple trees of my Indiana town I like to think that I have helped a dozen or more fellows to make more money that day. Helped them to a happier life and to the good things we all want. Don't you want to write and find out what I mean and how I do it?

Did You See My Big Ad? It appeared in farm papers a little while ago. Probably you did. If you didn't read it—all right—but don't pass this up. Read it—read every word—think about it and first of all write and get the facts.

My Automatic Combination Tool is a Mechanical Marvel

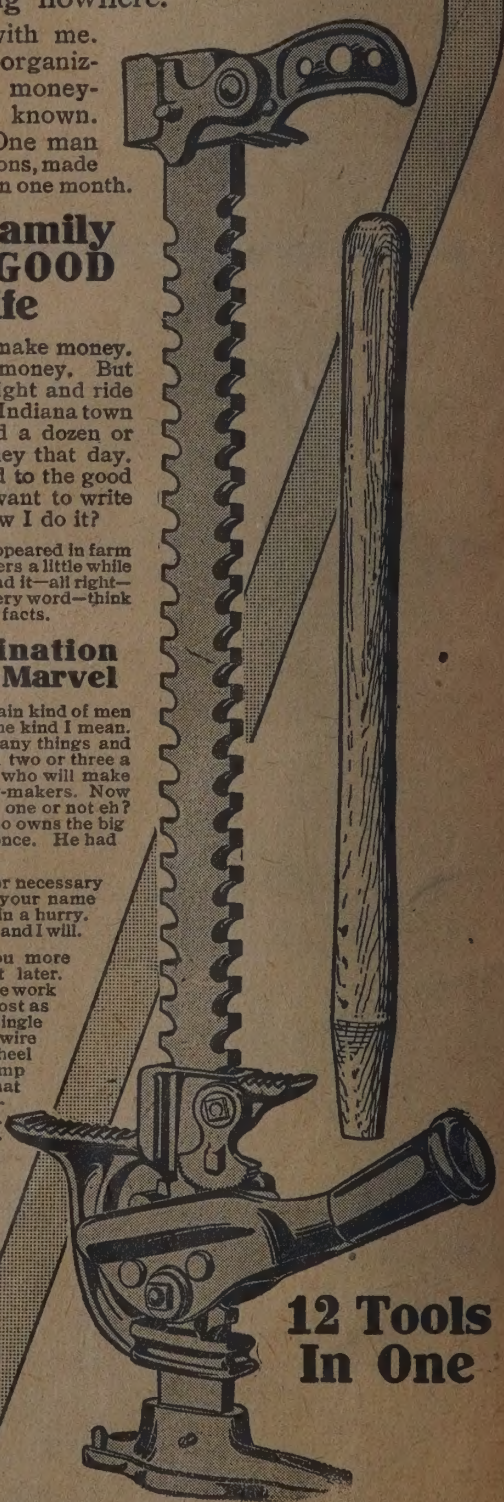
I could get a hundred thousand of a certain kind of men to work for me tomorrow. You know the kind I mean. The tool is such a wonder, it does so many things and does them so well that any man can sell two or three a day and make $5 or $10. I want fellows who will make $100 to $200 a week. I want the big money-makers. Now think. You don't know whether you are one or not eh? Of course you don't. That rich fellow who owns the big house and the touring car didn't know, once. He had to find it out. I want to show you.

First of All—Write No long letter necessary at all. Just your name and address on a postal card if you are in a hurry. That puts it up to me. I've got to show you and I will.

What the Tool Does I'll tell you more about that later. But just to give you an idea—it does all the work of the old-fashioned jack, that costs almost as much, and eleven other tools besides—single wire stretcher, woven wire stretcher, wire mender, post puller, rail fence repairer, wheel repairer, press, hoist, vice and clamp, stump rooter and alligator wrench. It's a tool that farmers, teamsters, auto owners, contractors and builders have simply got to have. Once they know its merits they want it.

Let's Get Together I'll tell you the whole story in all its details as soon as I get your name. That's what I want now. I want you to put it up to me. Just address me or the company. I'll get the letter or the card. And please don't put it off.

Address P. J. HARRAH, Pres.
The Harrah Mfg. Company
122 Main Street
Bloomfield, Ind.



12 Tools In One

Look over the advertisements and write for their catalogues. None but reliable advertising is permitted in THE MISSOURI FARMER.

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